

Final Report for VISION ZERO FOR UNIVERSITY OF ILLINOIS CAMPUS

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Executive Summary

Transportation safety is an important concern for all users of the UI campus. This Vision Zero for University of Illinois Campus study was an initial effort to start a comprehensive plan on improving traffic safety on the campus. It attempts to identify the critical safety points on campus and proposes example of reasonable solutions for them. This is achieved by gaining an in depth understanding of the type of crashes that happen and an attempt to gather data on the perception of risk by campus users. To do this, the following three tasks were carried out.

1. Collection and analysis of survey data to identify locations with problems, near-misses, and crashes
2. Analysis of recorded crash data for the years 2014-2018
3. Conducting focus group meetings.

The participants of the survey reported 349 problem locations, 85 near miss locations and 42 crash locations. The responses were analyzed at an intersection level as well as at a corridor level. The five most frequently mentioned problems at intersections are: a) vehicles not yielding to pedestrians and bicycles, b) bicycles not yielding to pedestrians, c) pedestrians not using the marked pedestrian crosswalks and crossing the street mid-block, d) lack of adequate lighting, and e) vehicles and bicycles not stopping at stop signs. The five most frequently reported reasons for near miss are: a) motor vehicle not stopping at stop sign/red light, b) lack of adequate lighting, c) speeding motor vehicle, d) turning motor vehicle violating the 'WALK/DON'T' sign, and e) obstructed visibility due to fixed object on road or corner of building. The five most frequently reported reasons for collision are: a) location was not well lit, b) motor vehicle didn't stop at stop sign or ran the red light at intersection, c) vehicle(s) was (were) following too closely, d) turning motor vehicle didn't yield to bicycle, e) speeding vehicle collided into another vehicle. While analyzing at a corridor, the Lincoln Ave. corridor was the one with the highest number of responses in all three categories (problem locations, near misses and crashes). Other highly reported corridors include, 6th St, 4th St, Wright St, Green St, and Pennsylvania Ave.

Analysis of spatial distribution of the recorded crashes for 2014-2018 revealed that over 88% of all crashes happened at intersections. The five most common types of collisions that resulted in injury are rear-end, angle, turning, pedalcyclist, and pedestrian collisions. They collectively account for 89% of all injury crashes. Pedestrian collisions and pedalcyclist (bicycle) collisions constitute more than a quarter of injury crashes within campus. Among 41 intersections with four or more injury crashes, at 21 intersections the most frequent crash type was rear end crashes. However, at 45 intersections with less than four injury crashes, crashes involving peds or bikes was the most frequent crash type.

Two focus group meetings were conducted which included members from campus as well as various transportation organizations in the Champaign-Urbana area.

This report highlights specific areas of concern and builds a foundation for future studies and safety initiatives to decrease the crash risk and maintain a safer and more sustainable campus environment. Vision Zero for UI aims to initiate further discussion on how to increase the transportation safety of the campus community while increasing the safe and equitable mobility for all users (pedestrian, bicyclists, transit users and divers)).

Acknowledgements

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Chapter 1: Introduction

In the past two decades, motor vehicle deaths in the U.S. reached its lowest point in 2011 with 32,479 fatalities (1). However, as shown in Figure 1.1, in the recent years, the trend seems to be reversed and there were 37,133 fatalities in 2017.

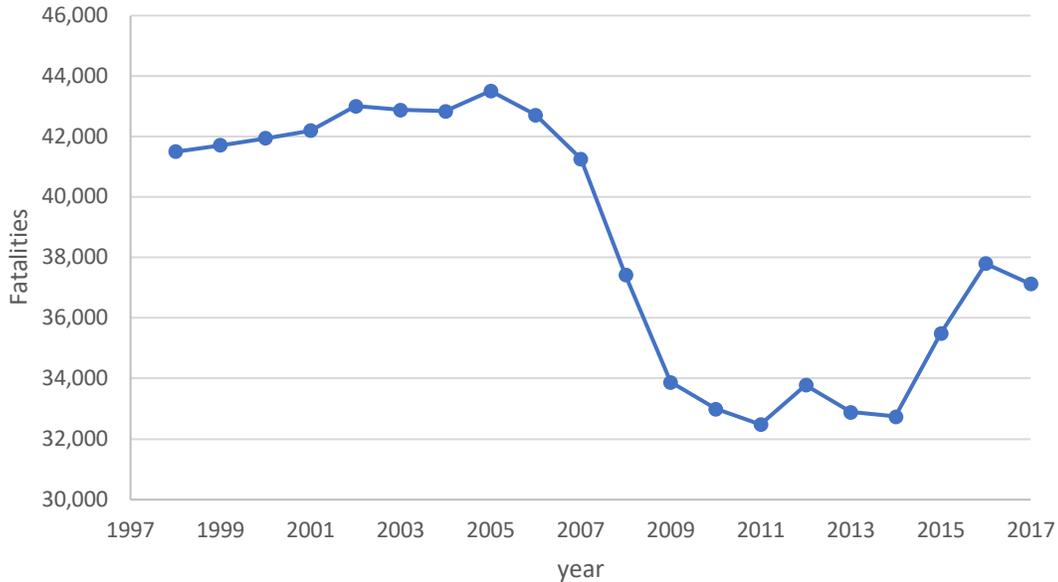


Figure 1.1: Traffic fatalities trend in United States from 1975 to 2017:

A similar trend was observed for Illinois, as shown in Figure 1.2. It is important to note that while fatalities have been increasing since 2011, the Vehicle Miles Traveled (VMT) have also had an increasing trend since 2011 (2).

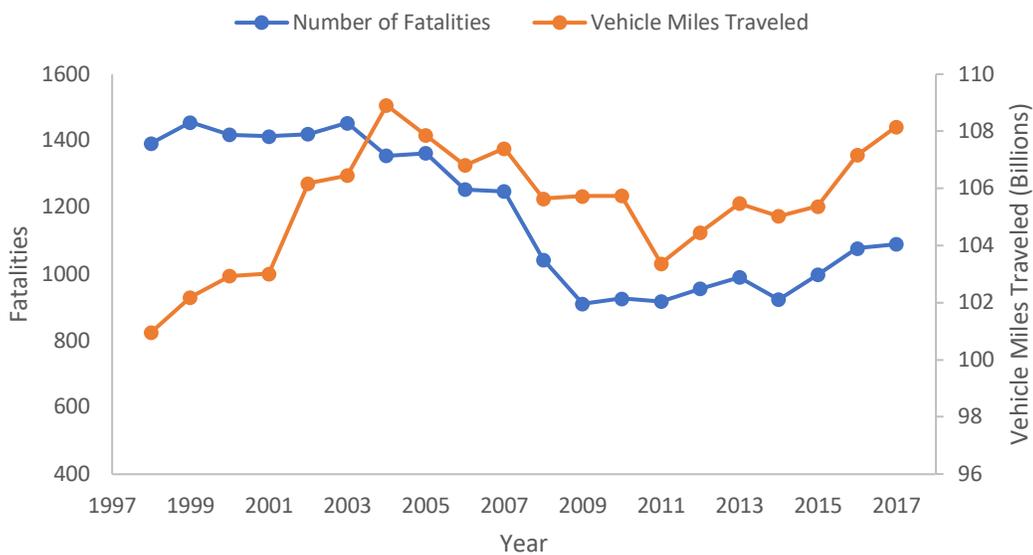


Figure 1.2: Vehicular crash fatalities in Illinois from 1998 to 2017

Nationwide, for pedestrian and bicyclist crashes, a similar increasing trend is observed in the past several years. For pedestrian crashes, the all-time low was on 2009 and has had an increasing trend until 2016 where it reached a maximum of 6,080 pedestrian fatalities. Similarly, the bicyclist fatalities had an increasing trend starting in 2010 and having an all-time high of 848 bicyclist fatalities in 2016 (3,4), as shown in Figure 1.3. Both pedestrian and bicyclist crashes had a slight decrease from 2016 to 2017 of 2% and 8%, respectively.

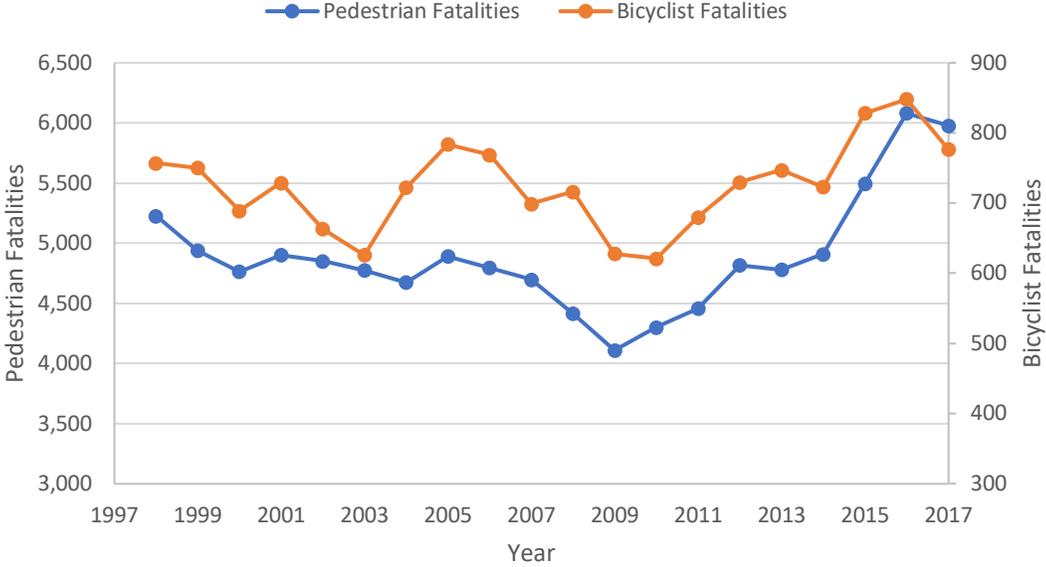


Figure 1.3: Bicyclist and pedestrian fatalities in United States from 1998 to 2017

In Illinois, the number of pedestrian and bicyclist fatal crashes have fluctuated from year to year, as presented in Figure 1.4. Pedestrian crashes have had a slight increasing trend since 2010, while the bicyclist fatalities have had a decreasing trend since 2013 when it reached its highest value of 30 fatalities.

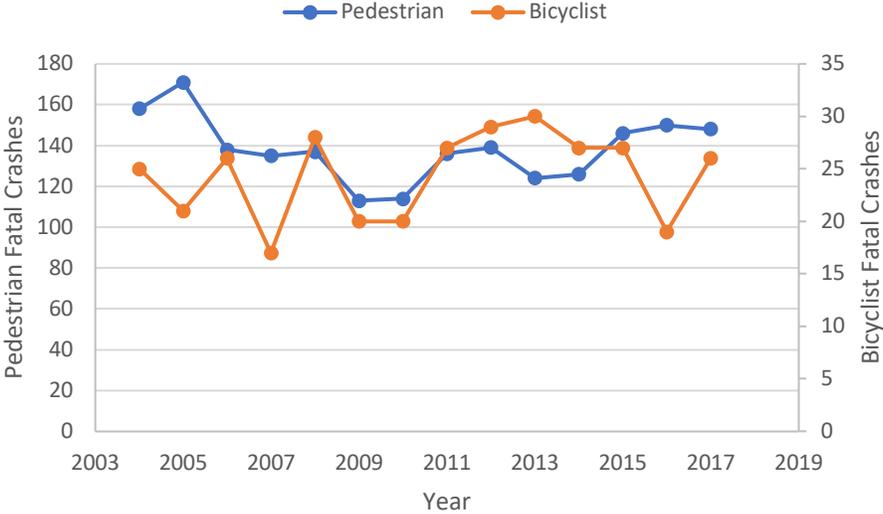


Figure 1.4: Pedestrian and bicyclist fatal crashes in the state of Illinois from 2004 to 2017

With the aforementioned increasing trends in traffic fatalities in Illinois and nationwide, many initiatives have been launched to reverse the fatality trends in United States. Among these initiatives, the three most remarkable ones are *Road to Zero*, *Towards Zero Deaths*, and *Vision Zero*. They have become the leading forces of systematically promoting and applying traffic safety principles in order to progressively improve transportation safety in the US. A brief description of these initiatives is provided.

Road to Zero (RTZ) Initiative

Transportation safety is a major concern in the United States. In 2016, over 37,000 people die in car crashes, nearly 5,000 people more than in 2011 (5). This is a concerning statistics because the downward trend set since 1985 reversed from the years 2011 to 2016. The Road to Zero (RTZ) Coalition was launched in 2016 to intensify the safety efforts and unify hundreds of professional associations, businesses, industry associations, safety groups, government agencies, and nonprofit organizations (6). The RTZ Coalition has the primary goal of bringing the road fatalities to zero by the year 2050. The RTZ released a comprehensive report in 2018 outlining the key findings of the fatalities nationwide, recommendations guidance on how to act, and a hypothetical future on how the road safety could look like in 2050 if actions are taken now. The key recommendations are the following (7):

- Double down on what works: The RTZ Coalition envisions to engaging the political leaders and decision makers with the well established community of experts who work with already scientifically proven countermeasures.
- Accelerate advanced technologies: The rate of new detection technology penetration is increasing rapidly and the RTZ coalition envisions partnerships among manufacturers, technology providers, emergency medical and trauma systems, public safety groups, and the public sector in order to maximize their potential in the 30-year timeframe leading up to 2050.
- Prioritize safety: This approach focuses on how to facilitate the change through the creation of a safety culture by implementing the Safe Systems approach. This can be done through engaging with citizens, corporations, governments and changing social norms to promote that safety is a shared responsibility among all. The Safe Systems approach recognizes that people will inevitably make mistakes. This allows stakeholders to design a transportation system to be forgiving of these mistakes so that, when they occur, they do not result on a fatality or serious injury. The Safe systems approach also involves selecting the most efficient countermeasures in terms of investment and focuses on the idea that fatalities and injuries are preventable.

Among these efforts the RTZ Coalition emphasizes the application of other safety initiatives already established, namely *Towards Zero Deaths National Strategy* (8) and in local *Vision Zero* (9) efforts.

Towards Zero Deaths (TZD) Initiative

Towards Zero Deaths National Strategy (TZD) began in 2009 when traffic safety stakeholders began a dialogue on having a nationwide aspiration of achieving zero road fatalities, even if at the time it was not clear how the goal could be realized. Then, after dozens of workshops nationwide led by the TZD Steering Committee, the core document *Toward Zero Deaths: A National Strategy on Highway Safety* (10) was published. This document sets a common

platform for state agencies, private industry, and national or local organizations to develop safety plans and promote the TZD vision. The National Strategy document discusses the following key areas of transportation safety:

- Safer drivers and passengers: the strategy emphasizes the increase seat belt use, reduction of speeding-related fatalities, reduction of impaired driving, reduction of driver distractions, and increasing safety of younger and older drivers. The key strategies are a combination of legislation, enforcement, and technology.
- Safer vulnerable users: protecting the users more susceptible of severe injuries or fatalities relies on the combination of improving infrastructure, enforcing legislation, and educating all road users. These road users include pedestrians and bicyclist, motorcyclists, and highway workers.
- Safer vehicles: the increasing deployment of new detection technologies in vehicles provides the opportunity for increasing safety. TZD National Strategy emphasizes the use of this technology to alert drivers to risks, assist drivers who are at risk of crash, protect vehicle occupants during crashes, enable communication with other vehicles and the roadway, and ensure vehicles continue to perform as designed. Emerging technologies are continually being researched and tested to ensure their deployment that would help with prevention of risky scenarios and would enhance driver's response to such situations.
- Safer infrastructure: The primary challenge is the numerous agencies in charge of maintaining and upgrading the transportation network and their different goals. The upgrade of infrastructure must aim to mitigate crashes and reduce the risk of injury, improve design practices to maximize safety benefits, and ensure agency policies and procedures incorporate safety considerations throughout the highway project development process.
- Enhanced Emergency Medical Services (EMS): EMS provides the last opportunity to save lives once a severe crash occurs. The TZD National Strategy emphasizes the improvement of incident detection, on-scene medical care, and access to higher-level trauma centers.

Vision Zero (VZ)

Vision Zero (VZ) is an international non-profit organization whose goal is to eliminate fatal and injury crashes from occurring from the local levels to the national levels (11). VZ started in Sweden in the 1990s when the Swedish Road Administration officially showed their support behind the VZ philosophy nationwide and has consistently reinstated this commitment. VZ showed to be successful in Sweden showing a 60% decrease in the number of deaths among car users during the 2000-2010 period (12). This success has brought attention to the VZ safety principles and since 2012 has been increasingly adopted by dozens of major cities in the U.S. including cities like Chicago, Los Angeles, and New York (13).

The VZ principles instead of trying to avoid collisions, focus on fatalities and severe injuries (14). The core principles are summarized below:

- Reframing traffic deaths as preventable: there is a growing trend of using the word “crash” instead of “accident”. What it is often referred to as accident is a result of a faulty system, environment, and policies which do not forgive human error.

- Human life and health are prioritized within all aspects of transportation systems: VZ holds that any traffic death or severe injury is ethically unacceptable. Therefore, safety can always be a paramount goal over other functions of the transportation system such as mobility or speed.
- Acknowledgement that human error is inevitable, and transportation systems should be forgiving: the focus of VZ is to eliminate the crashes that result in fatalities or severe injury, and not necessarily eliminate all traffic crashes.
- Safety work should focus on systems-level changes above influencing individual behavior: The Safe Systems approach aims to share the responsibility of traffic crashes towards the designers and policy makers instead of solely blaming it onto the individual level. This allows for a shift on focus in which the changes in the transportation system start from influencing policy and legislation (highest level) and it is followed by changing organizational practices, fostering coalition and networks, educating providers, promoting community and education, and strengthening individual knowledge and skill (Lowest level).
- Speed is recognized and prioritized as the fundamental factor in crash severity: VZ started with the main premise of preventing injuries and fatalities instead of solely preventing collisions. This is done by managing the force of the crash received by the individual which is directly related to the speed of travel in which vehicles are traveling. Therefore, the primary strategy to reduce crash severities is managing speed in critical areas of the network in order to prevent severe collisions from occurring.

Vision Zero is an organization whose goal is to eliminate fatal and injury crashes from occurring in specific cities or communities. This is done by implementing practices which go beyond the traditional approaches to safety by combining data-driven decision making, human error, community input, and implementing the Safe Systems approach. This approach and commitment for VZ is usually implemented in cities where the mayor, regional planning commissions, police departments, or other agencies commit to invest their resources in adopting VZ's goals and philosophies.

Collaboration among RTZ, TZD, and VZ

These three safety-focused organizations do not work independently. In fact, to enable the coordination and cooperation they have leaders from TZD and VZ be in the RTZ Steering Group. RTZ acts as an “umbrella” organization that is led by the National Safety Council in partnership with the U.S. Department of Transportation (USDOT), specifically the Federal Highway Administration, the Federal Motor Carrier Safety Administration and the National Highway Traffic Safety Administration.

Vision Zero for UI

This project is aligned with the role of transportation researchers to foster the promotion of safety culture and education of the University of Illinois community. The goal of this study aligns with the below mentioned goals outlined by the RTZ comprehensive report (6):

- Educate policymakers at the local, state, and federal levels about the potential of dramatic reductions in motor vehicle deaths and opportunities for change and, when appropriate, urge the adoption of strong laws and regulations.
- Educate consumers about the far-reaching effects of traffic crashes, injuries, and deaths, and about the potential for change.

- Educate professionals who are engaged in managing the transportation system about the need for a Safety Culture and the Safe System approach.
- Encourage adoption of the safety laws and programs and initiatives
- Coordinate with other advocacy groups and stakeholders on major safety campaigns.
- Continue research into evidence-based countermeasures that will reduce crashes and their severity.

The objective of this project is to implement the principles outlined by the aforementioned safety-focused organizations and focus on data-driven analysis while reaching out to the University of Illinois (UI) community. This is a small project funded by the Student Sustainability Council and is focused on demonstrating how VZ as well as RTZ and TZD philosophies can be used in the UIUC campus. It attempts to identify the critical safety points on campus and proposes example of reasonable solutions for them. It is envisioned that these safety initiatives would decrease the crash risk of to achieve a healthier and more sustainable campus environment for all modes of transportation (including pedestrian and bicyclists).

UIUC Campus

The University of Illinois Urbana-Champaign (UIUC) has over 50,000 students and staff. It is located in the middle of two cities (Urbana and Champaign, IL) and this produces an environment of high motor vehicle traffic that is often conflicts with high pedestrian and bicycle traffic. Figure 1.5 presents the location of the UIUC campus and its boundary for this study. It is bounded in the north by University Avenue, East by Lincoln Avenue and Race Street, South by Curtis Road, and East by (but not include) Neil Street. The network has another section South of Curtis Road, but due to low traffic volumes and absence of traffic crashes on the road, it was not included on the map.

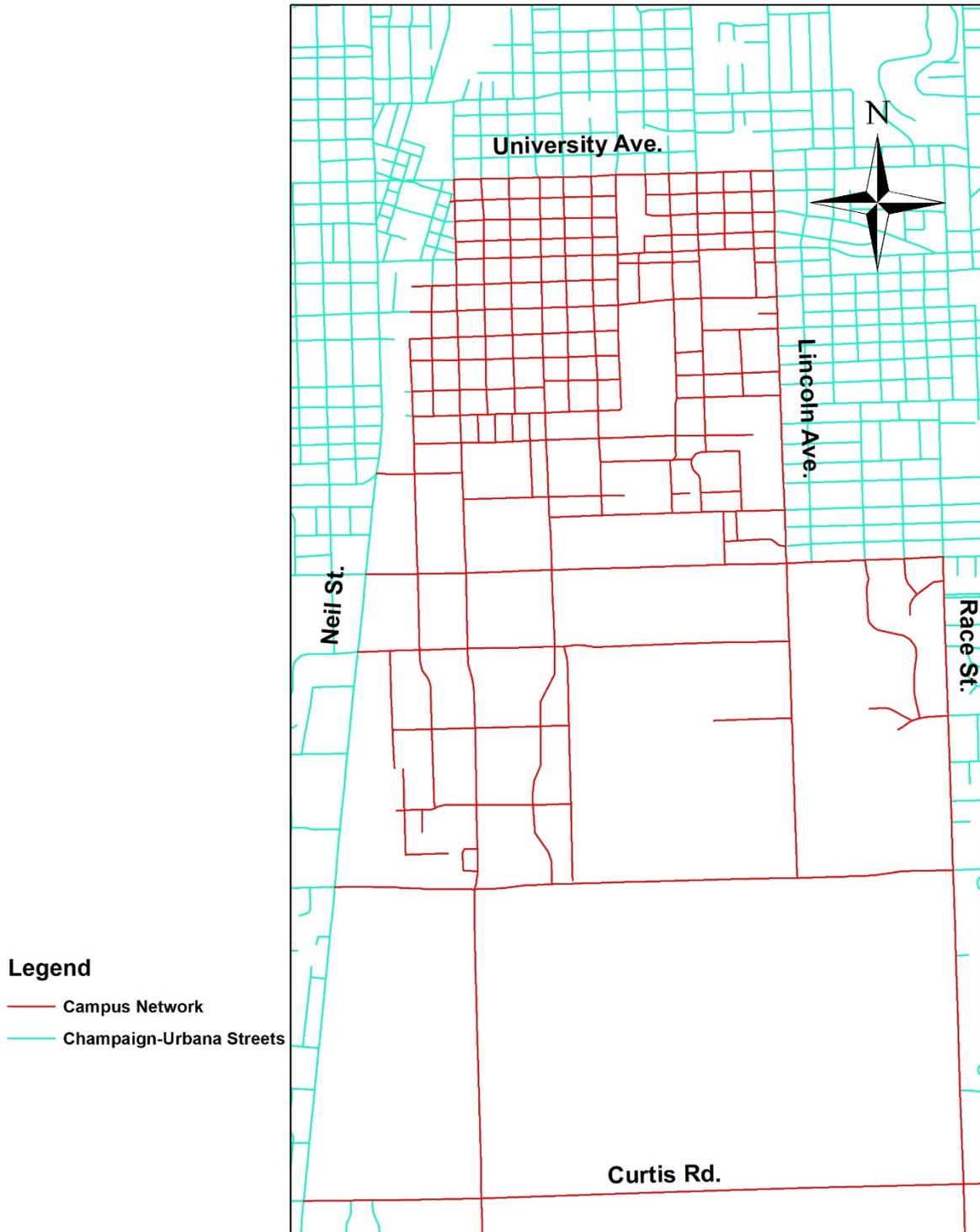


Figure 1.5: University of Illinois campus transportation network

From the periods of 2010-2016 the UI campus area consistently observed over 300 traffic crashes per year. Table 1.1 below presents the number of crashes in the campus transportation network. The crashes are divided into five types: fatal, type A (incapacitating injury), type B (non-incapacitating injury), type C (possible injury), and property-damage only (PDO, No injury).

Table 1.1: Campus crashes per year divided by severity

	2014	2015	2016	2017	2018	Total
No Injuries – crash with property damage only	310	360	368	331	333	1702
C Injury Crash - crash where the most severe injury is C (possible injury)	42	42	48	36	46	214
B Injury Crash - crash where the most severe injury is B (non-incapacitating injury)	40	39	38	47	31	195
A Injury Crash - crash where the most severe injury is A (incapacitating injury)	18	17	8	7	12	62
Fatal Crash - crash where the most severe injury is K (fatal injury)	1	0	0	0	0	1
Total	411	458	462	421	422	2174

There are several important things to note from Table 1.1. First, the number of total crashes saw an increase from 2014 to 2016 followed by a decrease in 2017 and 2018. Secondly, there was 1 fatality which occurred the year 2014 and none after that. However, during the years proceeding from 2010 to 2012, there were 2 fatal accidents. Figure 1.6 shows the different types of injury crashes over the years from 2014 to 2018.

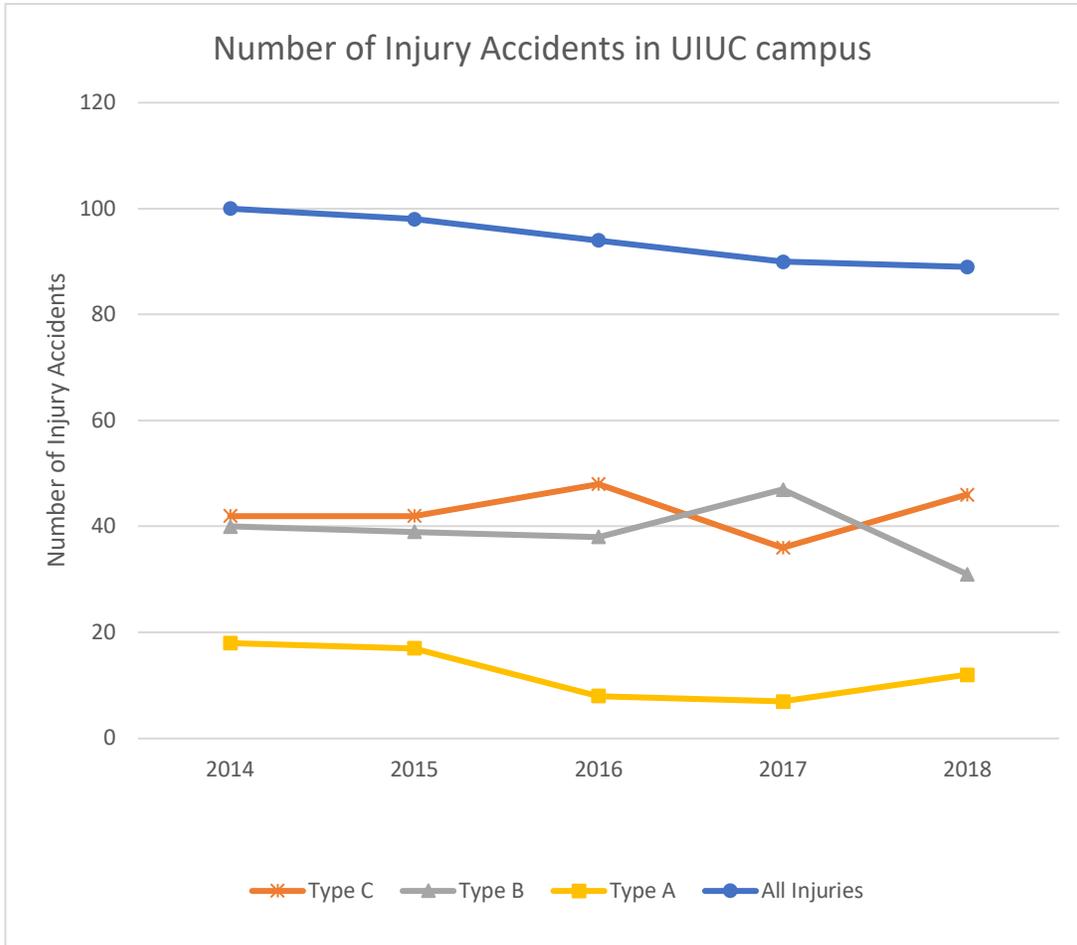


Figure 1.6: All injury crashes, Type A, Type B, and Type C injury crashes in the campus network in 2014-2018

The fact that there are over 400 crashes every year, and as high as 462 crashes is a critical safety concern for the UI community. Figure 1.7 shows the age distribution of all people involved in crashes in the years 2010-2016. Additionally, Figure 1.8 shows the age distribution of the drivers only who were involved in traffic crashes in the same period.

Figures 1.7 and 1.8 shows only those data points with age information available (rows with age information missing is marked as '99' in the dataset).

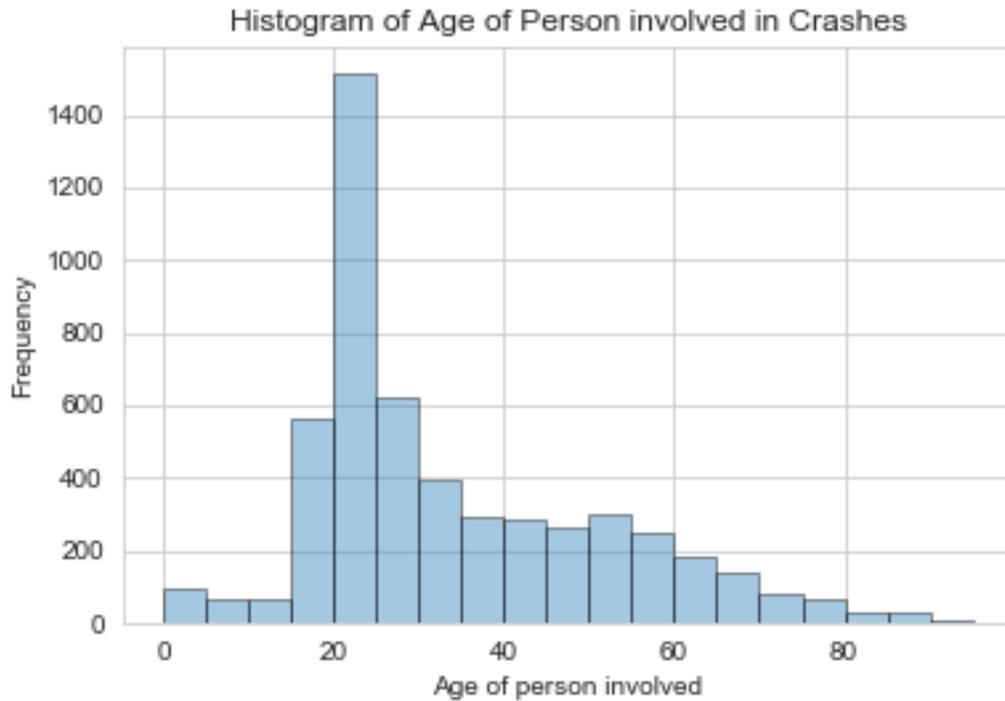


Figure 1.7: Age distribution of people involved in traffic crashes in the UIUC campus from 2010-2016

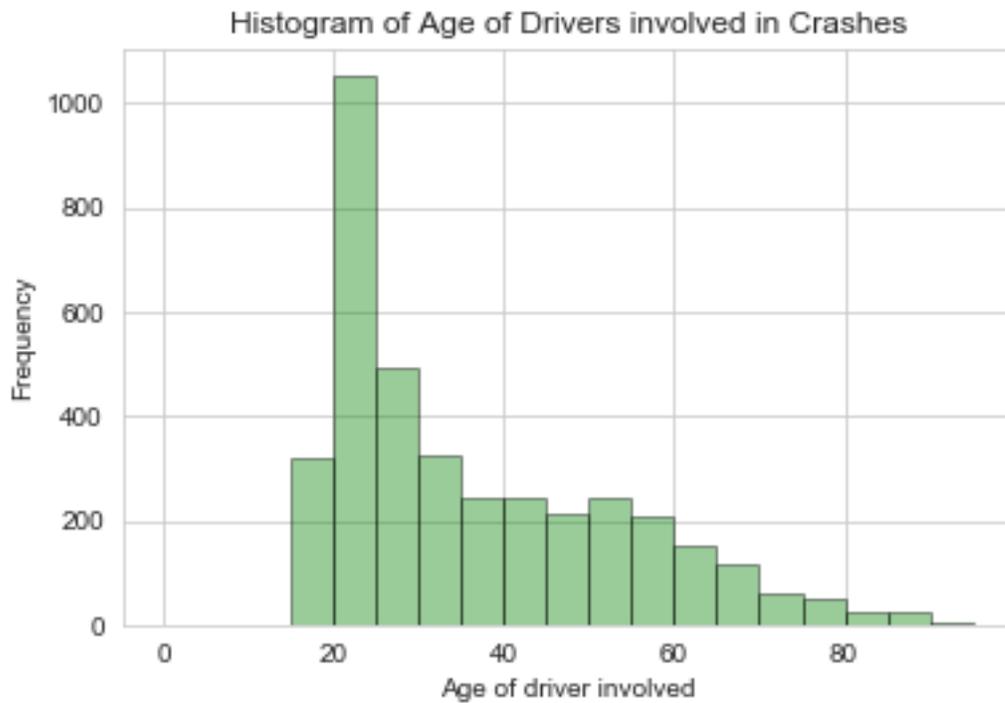


Figure 1.8: Age distribution of drivers involved in crashes in the UIUC campus from 2010-2016

Figures 1.7 and 1.8 show that the highest age frequencies belong to people in age group of 20 to 25 years. The age groups 15-20 and 25-30 also show high numbers with compared to the other groups. This indicates that the safety issues in the UIUC campus are affecting the students the most. This agrees with national statistics because traffic crashes are known to be the leading cause of death for people age 15 to 24 (6).

This Vision Zero for University of Illinois Campus study was an initial effort to start a comprehensive plan on improving traffic safety on the campus. This is achieved by gaining an in depth understanding of the type of crashes happen and an attempt to gather data on the perception of risk by campus users. To do this, the following three tasks were carried out.

1. Collection and analysis of survey data to identify locations that are problematic, near-miss, and crash locations
2. Analysis of crash data available from IDOT for 2014-2018
3. Focus group meetings.

The following sections describe the analysis done for each of the sections.

Chapter 2: Analysis of Survey Responses

Survey Design

An online questionnaire was designed to collect data on locations within the university campus that are perceived as problematic, locations that had traffic collisions, and locations that had near-miss crashes. The text of the questionnaire (without its format) is given in Appendix A. The questionnaire was designed using ESRI's survey123 Connect software which allowed the collection of location data from the respondents along other information related to the incident. The survey was pre-tested to make sure that it is as clear and straightforward as possible. The feedback from pre-testing was used to improve the survey.

The survey was short and could be completed in less than 10 minutes. A respondent was allowed to make multiple entries into the survey depending on his or her experiences in campus. The data collected from the survey does not allow you to identify the survey respondents. The only information collected on the survey respondents are a) their affiliation with the university and b) the duration of time they have been at the university.

The number of questions in the survey depends on if the respondent reports a collision, near miss, or problematic locations.

For reporting a problematic location, the survey consists of six questions. They include, two questions about the survey respondent (discussed previously), one question to collect the location (latitude and longitude), one question to gauge the effect of construction (on road or adjacent building) on the safety of the location, one multiple answer question to collect the concerns regarding the location and one optional descriptive question in case the respondent wishes to include additional comments on the location.

For reporting a collision location or a near miss location, the survey consists of ten questions each. They are, two questions about the survey respondent, one question to collect the location (latitude and longitude), one question to collect the weather condition at the time of the collision or the near miss, one question to collect the time of the collision or near miss, one question to gauge the effect of construction (on road or adjacent building) on the safety of the location, two questions to collect information on the mode of transportation used by the respondent and the other party involved in the collision or near miss, one multiple answer question to collect the main reasons leading to the collision or near miss and one optional descriptive answer question in case the respondent wishes to include additional comments about the collision or near miss being reported.

Survey Data Collection and Initial Filters

The survey sought input from four groups: 1) faculty, staff and administrators, 2) graduate students, 3) undergraduate students at the University of Illinois at Urbana-Champaign, and 4) selected community members that directly deal with transportation issues. The survey was first sent to faculty, staff and administrators via EWeek (a weekly email newsletter of campus

announcements of general interest to faculty and staff members) on January 30, 2020. The announcement was posted again in the following week. The survey was sent to graduate students via GradLinks (a weekly e-bulletin with news and opportunities for graduate students) on February 6, 2020 and to undergraduate students via iNews (a weekly e-bulletin with news and opportunities specifically for undergraduate students) on February 13, 2020. Each of these were followed up with a reminder the following week. Due to less than anticipated responses from the students, the survey was also sent out via a direct email to 10,000 students (7000 undergraduate students and 3000 graduate students, randomly selected) on March 2020. At the time of direct emailing, the university was closed due to coronavirus spread. Three follow up emails were sent to the students. The community members were identified based on their work in transportation area (the list included about 30 representatives from state and local government offices, city of Champaign, Urbana, Champaign County, MTD, village of Savoy, and others). A direct email was sent to the community members.

The survey remained open till April 30, 2020. These efforts resulted in a total of 518 responses in the survey. The collected data was subjected to filters to ensure only locations reported that are within the campus are used in the analysis. Figure 1 below shows the region identified as the University of Illinois Urbana Champaign campus. Out of the 518 collected responses, 24 responses were missing location data. Out of the remaining 494 responses, 6 responses pointed to locations that were outside the Champaign county. The remaining 488 responses identify locations that were inside Champaign county. Eleven responses were marked outside the campus area. The campus area is shown in Figure 2.1.



Figure 2.1: University of Illinois Urbana Champaign campus boundaries

Thus, there were 477 responses related to campus area. Figure 2.2 shows the breakdown of the responses by the incident category and by the affiliation of the survey respondent.

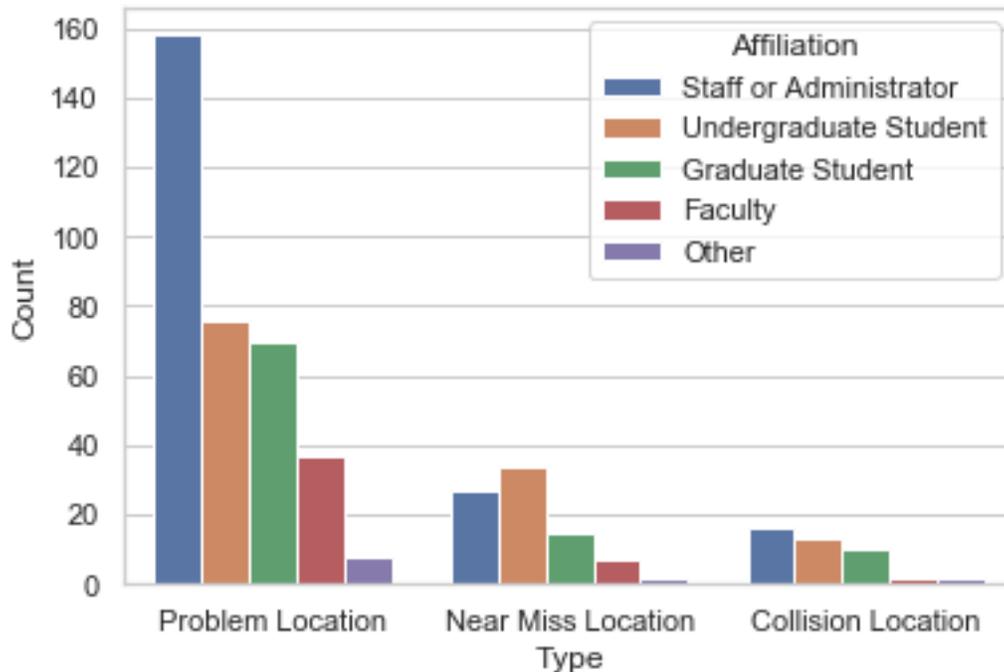


Figure 2.2: Number of responses for each type of incident by affiliation of respondent

Analysis of Survey Data Collection Results

Table 2.1 shows the number of participants identifying problem locations, near misses, and collisions.

Table 2.1: Number of responses for each type of location

Type of location reported	Number of survey responses
Problem Locations	349
Near Miss Locations	85
Collision Locations	43

Problem Intersections identified from Survey

Any point identified from the survey as a problematic location which is within 250 feet of an intersection is associated with the intersection. Table 2.2 shows the number of reports of a problematic location at an intersection from the survey and the number of such intersections.

Table 2.2: Number of problematic locations at intersections

Number of Problematic locations at intersection	Number of Intersections
1	40
2	20
3	12
5	6
4	6
8	3
7	3
6	3
10	2
9	1

The most frequently reported intersections (intersections with four or more reports) are given in Table 2.3.

Table 2.3: Intersections with 4 or more problem locations reported

	Intersection Name	Number of times Intersection was reported	Coordinates of Intersection	Comments
1	S 4th St and E Armory Ave	10	POINT (-88.233452 40.10541299907023)	
2	S Lincoln Ave and W Ohio St	10	POINT (-88.219178 40.10368699907026)	
3	S Wright St and E Daniel St	9	POINT (-88.22885299999999 40.10798099907022)	
4	S 6th St and E Armory Ave	8	POINT (-88.230295 40.10543599907026)	
5	S Lincoln Ave and W Iowa St	8	POINT (-88.21919799999998 40.10459999907022)	
6	S Wright St and E Green St	8	POINT (-88.22887399999998 40.11031699907021)	
7	S Lincoln Ave and St Mary's Rd	7	POINT (-88.21901599999998 40.0945339990703)	
8	S Goodwin Ave and W Illinois St	7	POINT (-88.223905 40.10903599907022)	
9	S Lincoln Ave and W Pennsylvania Ave	7	POINT (-88.219116 40.10062599907025)	
10	S 1st St and E Daniel St	6	POINT (-88.23867199999998 40.10790699907022)	

11	S 6th St and E Daniel St	6	POINT (-88.230345 40.10796899907024)	
12	S 6th St and Peabody Dr	6	POINT (- 88.23021499999999 40.10148399907027)	
13	S 3rd St and E Green St	5	POINT (- 88.23538499999997 40.11024499907022)	
14	S Goodwin Ave and W Green St	5	POINT (- 88.22391399999999 40.1105069990702)	
15	W Kirby Ave and S Oak St	5	POINT (- 88.24144699999998 40.09805199907026)	
16	S Mathews Ave and W Green St	5	POINT (-88.225583 40.1104729990702)	
17	E Springfield Ave and N Mathews Ave	5	POINT (- 88.22562399999998 40.1127469990702)	
18	W Pennsylvania Ave and Dorner Dr	5	POINT (- 88.22177299999998 40.10062099907027)	
19	E Springfield Ave and N Goodwin Ave	4	POINT (-88.223967 40.11275499907018)	
20	S Lincoln Ave and W Oregon St	4	POINT (- 88.21924699999997 40.10741999907024)	This point marks the north intersection between Lincoln and Oregon.
21	S Goodwin Ave and W Pennsylvania Ave	4	POINT (- 88.22422799999998 40.10059999907027)	
22	W Kirby Ave and S 1st St	4	POINT (-88.238553 40.09803499907027)	
23	S Lincoln Ave and W Nevada St	4	POINT (- 88.21922699999999 40.10645899907021)	This point marks the north intersection between Lincoln and Nevada.
24	S 5th St and E Green St	4	POINT (- 88.23205799999997 40.11028399907021)	

Locations about which there are at least 4 participants reporting concerns are listed out in the following section.

The topmost cited problem locations and the concerns expressed are as follows.

Intersection of S. Fourth St. and E. Armory Ave

This intersection is an unsignalized intersection controlled by 4 stop signs. It has a mix of vehicular, bike and pedestrian traffic. This intersection is close to the University of Illinois Armory and Ice Arena. There are crosswalks at all four approaches, and a marked bicycle lane on S. Fourth St.

Ten participants identifying a total of 28 concerns which are grouped into with 12 unique concerns.

- a. Bicycles often ignore stop sign (4 participants marked this)
- b. People are not using the pedestrian crossing and cross the street in midblock (4 participants marked this)
- c. No WALK/DON'T WALK signal at intersection (4 participants marked this)
- d. Vehicles do not yield to pedestrian (4 participants marked this)
- e. Bicycles do not yield to pedestrian (3 participants marked this)
- f. Vehicles often do not yield to bicycle (2 participants marked this)
- g. Other, with no further explanation (2 participants marked this)
- h. Vehicles often ignore stop sign (1 participant marked this)
- i. Very busy 4-way stop sign intersection. Very difficult to drive through with the high volume of pedestrians (1 participant wrote this)
- j. Students/Bicyclists often times walk in front of cars that have already entered the intersection. (1 participant wrote this)
- k. Location not well lit at night (1 participant marked this)
- l. No traffic signal at intersection. (1 participant marked this)

Based on the survey data collected, one of the main concerns at this intersection are vehicles and bicycles not yielding to the pedestrians, vehicles not yielding to bicycles, and bicycles ignoring the stop signs. Also, pedestrian crossing at mid-block rather than at the cross walk was reported as an issue. The response from the participants also indicate their desire to signalize the intersection and illuminate it at night.

The participants were given the optional column to add any additional comments about the location. The additional comments collected about this location include:

- a. "There is lots of vehicle and foot traffic. A stop light would make things much safer!"
- b. "This intersection needs a light as it's a total zoo at busy times. Pedestrians cross even when car is in intersection. Honestly, there are multiple problem locations on 4th street between green and Pennsylvania Avenue."
- c. "This intersection needs some sort of traffic control device. The constant flow of pedestrians can make vehicle traffic difficult. Bicyclists often disregard the stop sign. Pedestrians cross in a diagonal direction at times."

- d. "At high-traffic times (morning commute/evening commute) traffic gets backed up almost to Gregory because students continue to cross the street without stopping to let traffic go. It is a four way stop with stop signs, not lights."
- e. "I see "near misses" on a regular basis at this intersection. High pedestrian traffic + high vehicle traffic. A traffic signal would certainly help keep pedestrians safe plus keep traffic moving."
- f. "Intersection often causes long delays for pedestrians and vehicular traffic including bus routes."
- g. "During the year, this corner has heavy pedestrian traffic and heavy car traffic going up and down 4th street, plus multiple bus routes that run through here. There is no stoplight at this intersection, only a stop sign that cars have to ignore just to br"

A majority of the participants stated in the additional comments about Fourth and Armory about the need for a traffic light. The participants observed issues caused due to heavy traffic conditions at this intersection. The additional comments are similar to the concerns that the participants raised in the multi-choice question in the survey.

Intersection of S. Lincoln Ave. and W. Ohio St.

This is a three-way intersection with a stop sign at the Ohio St. approach. Lincoln Ave. has one lane in each direction and a turning lane at this approach. There is a crosswalk at the south approach on Lincoln St. This intersection is close to New City Church and Kappa Kappa Gamma sorority.

Ten participants marked 26 concerns with 11 unique concerns.

- a. Location not well lit at night (8 participants marked this)
- b. Vehicles do not yield to pedestrian (4 participants marked this)
- c. People are not using the pedestrian crossing and cross the street in midblock (3 participants marked this)
- d. Vehicles often do not yield to bicycle (3 participants marked this)
- e. No WALK/DON'T WALK signal at intersection (2 participants marked this)
- f. No marked crosswalk at the intersection (1 participant marked this)
- g. Bicycles do not yield to pedestrian (1 participant marked this)
- h. Vision obstruction by sign at north entrance of McKinley Health Center (1 participant wrote this)
- i. There are 2 crosswalks near McKinley Health Center that are poorly lit. Students walk across in dark clothing when the time changes and it is dark out there have been too many close calls with pedestrians. (1 participant wrote this)
- j. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- k. When students are dressed in dark clothes at 5 p.m. with oncoming traffic's lights in the driver's eyes it is hard to see students until they are in the crosswalk. (1 participant wrote this)

The most common concern at this intersection is that it is not well lit at night, and it has been marked by eight out of the ten participants. At least four participants had visibility issues due to

lack of adequate lighting or due to obstruction due to object on the road. Participants have also marked concerns regarding vehicles not yielding to pedestrians (four times), vehicles not yielding to bicycles (three times) and a lack of marked crosswalk at the intersection.

The additional comments collected at this intersection include

- a. "Lighting is the biggest problem on this stretch of Lincoln that goes past the dorms. The streetlights are not over the crosswalks, so it is often hard to see students or bikers, especially at night and as they often have dark/black coats."
- b. "The streetlights on Lincoln between Pennsylvania Avenue and Nevada are ineffective. It is nearly impossible to see students at the cross walks (very dark). Flashing cross signals would be incredibly helpful to avoid fender benders and near misses."
- c. "At the north entrance of MHC, the building sign is a very hazardous vision obstruction to pedestrian & bicycle traffic traveling north on the sidewalk. Autos have to pull into the sidewalk area to see around the sign. It should be moved back a few feet."
- d. "There should be a control in place to stop or go for pedestrians OR a much better lighted crosswalk."
- e. "The pedestrian crossings on Lincoln (of which there are many) aren't lit at night, making it nearly impossible to see the people who want to cross here. It's a very busy street and needs additional illumination for these areas"
- f. "Students often just walk into the street and cars quickly have to stop for them"
- g. "There are a few intersections of S. Lincoln in Urbana that need more visible crosswalk signals with lights (S. Lincoln at the intersection of W. Iowa, W. Ohio, W. Indiana). There are many pedestrians crossing at these intersections and, especially at nig"
- h. "I witnessed a vehicle hit someone crossing Lincoln Avenue two years ago. The girl who was hit was hospitalized and caused significant damage. The incident was at nighttime. I used to live across Lincoln and would cross street every day."

Five out of the eight participants who had additional comments commented about visibility issues at the intersection due to both lack of adequate lighting and obstruction to visibility. The additional comments also raised issues due to conflict between pedestrians and vehicles and one of the participants recommended additional control for pedestrians.

Intersection of S. Wright St. and E. Daniel St.

This is a busy three-way intersection with Daniel St. being a one way towards Wright St. The opposite approach to Daniel St is a driveway leading to the main quad of the campus. Currently, this intersection is affected by the MCORE construction.

Nine participants with 34 concerns and 10 unique concerns

- a. People are not using the pedestrian crossing and cross the street in midblock (7 participants marked this)
- b. Bicycles do not yield to pedestrian (7 participants marked this)
- c. No WALK/DON'T WALK signal at intersection (4 participants marked this)
- d. Bicycles often ignore stop sign (4 participants marked this)

- e. The driver's view was obstructed by fixed object on the road (3 participants marked this)
- f. No marked crosswalk at the intersection (2 participants marked this)
- g. Vehicles often ignore stop sign (2 participants marked this)
- h. Vehicles do not yield to pedestrian (2 participants marked this)
- i. Vehicles often do not yield to bicycle (2 participants marked this)
- j. "It's almost impossible to navigate this on a bicycle going in any direction due to the limited space for bikes and the way pedestrians wander around" (1 participant wrote this)

The most commonly marked concern is that people are not using the pedestrian crossings. Another equally common concern at this location is that the bicycles do not yield to the pedestrians. Issues related to lack of walk signs has been marked at least four times. Other issues due to compliance of bicycles and vehicles at stop signs, and vehicles yielding to pedestrians and other bicycles are among the other concerns at this location.

The additional comments collected at this intersection include

- a. "all modes of traffic are coming together here for a pure chaos"
- b. "Pedestrians, confident that bus traffic will always yield to them, try to cross the street too closely in front of the buses."
- c. "Although the speed of traffic has always made the intersection of Sixth and Daniel dangerous, the construction on that corner has erected a fence that extends into the road, causing an obstructed view. The lack of adequate lighting here also is an issue."
- d. "This area becomes a problem especially during class hours because people are crossing the busses are running and everyone is in a rush!"

From the additional comments about this intersection, the participants talked about the issues due to heavy vehicle and pedestrian traffic at this intersection. Issues due to students crossing the street mid-block and expecting vehicles to yield to them has also been raised here.

Intersection of S. Sixth St. and E. Armory Ave.

This is a signalized intersection. There is a marked bike lane on Armory Ave and Sixth St. is a one-way street going south. This is close to the St. John's Catholic Newman center and parking lot E3.

8 participants identifying a total of 14 concerns that were grouped into 12 unique concerns

- a. No WALK/DON'T WALK signal at intersection (2 participants marked this)
- b. Traffic signal malfunction (2 participants marked this)
- c. This corner needs better control of when pedestrians cross. Perhaps one of those diagonal crossings traffic can get backed up here making it very difficult to get in and out of the Library parking lot. (1 participant marked this)
- d. The driver's view was obstructed by fixed object on the road (1 participant marked this)

- e. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)
- f. Lost turn lane due to MCORE (1 participant marked this)
- g. “There is no left turn for traffic flow taking a left from sixth onto armory. The one-way traffic that flows towards the intersection is quite a lot. Getting out of the lot by the main library is a problem and becomes dangerously congested by 5:00.” (1 participant wrote this)
- h. “Very difficult to get into or out of the Undergrad Library parking lot between 5-5:30pm. The amount of traffic flowing either direction on 6th and stopped at Armory & 6th light makes it impossible to turn onto North or South 6th St.” (1 participant wrote this)
- i. “Pedestrians don't behave properly.” (1 participant wrote this)
- j. “The no turn on red sign is only visible on the south bound side of 6th street and is behind the 1st car at intersection. Also, the 6th street lights used to be alternating and now are not and there is no sign to warn drivers of this change.” (1 participant wrote this)
- k. “Cars go wrong way and also sometimes zoom through.” (1 participant wrote this)
- l. Vehicles do not yield to pedestrian (1 participant marked this)

At least two participants marked the need for a WALK/DON'T WALK sign at this intersection and at least one participant has indicated the need for a left turn. One participant has indicated issues due to obstruction of visibility of road signs.

The additional comments regarding this location are

- a. “This intersection only has 1 no turn on red sign and it is on the left side behind the 1st cars line of sight. All other directions have no signs. Have witnessed many near misses between pedestrians and cars that are turning on red.”
- b. “The lights on 6th street prior to construction went independently of the other. However now, they go at the same time and there is no sign stating that the signal pattern has changed. There is only 1 NO TURN ON RED sign and is hidden behind tree”
- c. “6th Street had 2 lanes one to turn left and one to go straight/turn right; with the MCORE renovations the turn left lane was lost causing backed up traffic for both traffic directions”
- d. “The congestion at this intersection creates a huge problem especially around peak times when students are coming and going to class and at 5 when employees and students are all leaving at the same time. There used to be a left turn arrow. There is also w”
- e. “Since the end of new construction on Armory & 6th St., turning left out of UG Library onto 6th St. is hard due to inability to see oncoming traffic because of buses and other traffic, as well as northbound vehicles blocking entrance in and out of parkin”
- f. “I use this intersection frequently while driving. Following the construction, there were many unintended consequences. First, when traveling North on 6th and attempting to turn left on Armory, there is no longer a Green area. Cars line-up all the way dow”

S. Lincoln Ave. and W. Iowa St.

This is a three-way intersection controlled by a stop sign on Iowa St. The intersection is close to the Lincoln Avenue Residence halls and Nabor House. Lincoln avenue has a turn lane on both the approaches at this intersection.

Eight participants had 21 concerns with 9 unique concerns

- a. Vehicles do not yield to pedestrian (8 participants marked this)
- b. Location not well lit at night (3 participants marked this)
- c. Vehicles often do not yield to bicycle (3 participants marked this)
- d. People are not using the pedestrian crossing and cross the street in midblock (2 participants marked this)
- e. Bicycles often ignore stop sign (1 participant marked this)
- f. Vehicles ignore crosswalk and yield signs (1 participant marked this)
- g. No marked crosswalk at the intersection (1 participant marked this)
- h. Vehicles often ignore stop sign (1 participant marked this)
- i. Bicycles do not yield to pedestrian (1 participant marked this)

All four participants raised the concern that vehicles do not yield to pedestrians at this intersection. Half the participants indicted that vehicles do not yield to bicycles. All the concerns at this intersection raised were regarding vehicles violating the rules in some form.

The additional comments at this intersection include:

- a. "Vehicles routinely do not stop for pedestrians in crosswalks at intersections of Lincoln and Iowa (and also Lincoln and Ohio), despite crosswalks being clearly marked with signs. These are high traffic crosswalks and should have stop signs or lights."
- b. "This area of Lincoln between the residence halls and Greek houses is incredibly dangerous, especially at night when pedestrians are wearing dark colors and darting between cars."
- c. "Crosswalk Lighting is too dim and high. It doesn't adequately light walkers or bike riders at street level. This is an issue on both the east and west sides of Lincoln at all crosswalks."
- d. "Even flashing ped xing lights for walkers to tap would be helpful."
- e. "Recommend button-activated pedestrian yield signs at all crosswalks on Lincoln--diver visibility at night is very low; I've witnessed numerable near-misses."
- f. "There is a crosswalk here, but vehicles rarely stop for pedestrians. Sometimes I have been in the middle of the street (one way of traffic stopped) but the other lane of traffic does not stop. So I have to just wait in the middle of the street for someone"

In the additional comments the participants raise similar concerns that were marked in the multi choice question in the survey. An additional suggestion by a participant include the installation of a button activated pedestrian yield sign.

Intersection of S. Wright St. and E. Green St.

This intersection is a signalized intersection with exclusive pedestrian signal. The intersection is very busy with vehicle, pedestrian and bicycle traffic. This intersection is close to the Alma Mater statue. There is a separate bike line on Wright St. south of Green St.

Eight participants identifying a total of 17 concerns which are grouped into 11 unique concerns.

- a. Vehicles often do not yield to bicycle (3 participants marked this)
- b. People are not using the pedestrian crossing and cross the street in midblock (3 participants marked this)
- c. Bicycles do not yield to pedestrian (2 participants marked this)
- d. Bicycles often ignore stop sign (2 participants marked this)
- e. Vehicles do not yield to pedestrian (1 participant marked this)
- f. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- g. Ambiguity about what happens with bicycles coming off the bike path along Wright St (North-South). It isn't clear if bikes are vehicular traffic or pedestrian traffic (1 participant wrote this)
- h. Many vehicles block the box during peak times. (1 participant wrote this)
- i. cars take the corners too tightly driving up onto the curb (1 participant wrote this)
- j. Heavy traffic! Traffic gets backed up because constant flow of students on crosswalks! (1 participant wrote this)
- k. Other, with no further explanation (1 participant marked this)

Based on the survey data collected, one of the main concerns raised about this intersection involve vehicles and bikes not yielding to the pedestrians, vehicles not yielding to bicycles, or bicycles ignoring stop signs. Another issue concerning the participants is the high volume of traffic in the intersection, which sometimes causes traffic to back up as pedestrians are using the intersection. One participant said there is ambiguity about whether the bikes are considered as vehicular or pedestrian traffic when they come off the bike path.

The additional comments collected at this intersection include

- a. "Bicycles are a major problem because they do not follow traffic rules or pedestrian rules. I believe that there should be more enforcement to make sure bicycles follow the traffic rules. Stop signs, red lights, pedestrian crossings etc"
- b. "because of the construction, students/pedestrians seem to be ignoring the walk signals"
- c. "Lots of construction trucks blocking intersection"
- d. "The Green and Wright intersection is extremely bumpy and filled with potholes. It can be hazardous on a bike as well as in cars"

The additional comments include two comments regarding issues due to construction at this location causing people to not use the walk signals or blocking of the intersection. Issues due to

bicycles not yielding to pedestrians is also mentioned in the additional comments which was already raised in the multi-choice question in the survey.

S. Lincoln Ave. and St. Mary's Road

This location is at a three-way intersection and near the entrance to the University of Illinois Arboretum and Japan House. The St. Mary's Rd approach at this intersection is controlled by a stop sign.

Seven participants identifying 18 concerns with 14 unique concerns

- a. No marked crosswalk at the intersection (3 participants marked this)
- b. The driver's view was obstructed by fixed object on the road (2 participants marked this)
- c. Vehicles do not yield to pedestrian (2 participants marked this)
- d. No WALK/DON'T WALK signal at intersection (1 participant marked this)
- e. Parked vehicles along Lincoln Avenue greatly obstruct a driver's view when attempting to turn either north or south. (1 participant marked this)
- f. Location not well lit at night (1 participant marked this)
- g. Visibility at intersection restricted by cars parked on Lincoln Ave. (1 participant wrote this)
- h. There are always cars (legally) parked on Lincoln that block your view if you are turning left from St. Mary's onto Lincoln. It is very dangerous and has been that way for years. (1 participant wrote this)
- i. View is obstructed by parked cars on Lincoln. Lots of traffic makes it difficult to cross Lincoln. No cross walk. People walk from Vet school to the arboretum and back. Lots of cars pass through here. speed limit is 30 mph which is too fast. (1 participant marked this)
- j. No wheelchair ramps on site (1 participant marked this)
- k. Bicycles often ignore stop sign (1 participant marked this)
- l. Parked cars along the south bound lane of Lincoln completely obstruct the view of cars turning onto Lincoln from St. Mary's Road. (1 participant marked this)
- m. Bicycles do not yield to pedestrian (1 participant marked this)
- n. The view is obstructed from cars parked at this corner (1 participant marked this)

The most common concern collected about this location is due to sight issues, which is marked by eight times. The visibility at this location is obstructed primarily due to parked vehicles, and concerns regarding lighting at the location at nighttime has also been raised. The lack of crosswalk at this intersection has been marked at least three times in the survey. Bicycles ignoring stop sign is another concern raised about this intersection.

The additional comments at this intersection include:

- a. “There have been a few accidents at this intersection. If you are on St. Mary’s, you can’t see the oncoming traffic due to cars parked on Lincoln. It’s very dangerous.”
- b. “When pulling out onto Lincoln from St. Mary’s regardless of turning left or right, it is near impossible to see oncoming traffic. I have seen multiple near misses at this location. The view to the north and south is severely blocked due to parked cars.”
- c. “This intersection needs attention due to increased usage (e.g, events at the arboretum). A marked crosswalk connecting the arboretum parking lot and the trail on the west side of Lincoln would also increase safety.”
- d. “I think we need a good crosswalk there that cars would stop at. Or stop lights.”
- e. “Lincoln Avenue leading to the VetMed campus is poorly patrolled, leading to vehicles often going 10 or more mph over the speed limit. Students park on the street and are often walking across the street, leading to potentially hazardous conditions with sp”

In the additional comments, the participants raised the sight issue due to parked cars in two out of five times. Other additional comments include the addition of a crosswalk at the location and stricter patrolling in the area to enforce the speed limit.

Intersection of S. Goodwin Ave. and W. Illinois St.

This intersection has 3 approaches controlled by a 3-way stop sign. Goodwin Ave. goes in both north and south direction at this intersection while Illinois St. goes only in the east direction. Each of the approach has a crosswalk at the intersection. The parking lot D1 is on the N.E. side of the intersection and the parking lot D6 is on the N.W. side of the intersection.

Five participants identifying a total of 19 concerns that were grouped into 6 unique concerns

- a. Bicycles often ignore stop sign (5 participants marked this)
- b. Bicycles do not yield to pedestrian (4 participants marked this)
- c. Vehicles do not yield to pedestrian (4 participants marked this)
- d. Vehicles often do not yield to bicycle (3 participants marked this)
- e. Vehicles often ignore stop sign (2 participants marked this)
- f. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)

The main concern identified in this area is related to vehicles and bicycles yielding to other bicycles and pedestrians which was reported 7 times. One third of the concerns reported were that of bicycles ignoring the stop signs at this location.

The additional comment for this location was:

- a. “The intersection of Illinois and Goodwin can be difficult to cross as a pedestrian at high traffic because vehicles fail to yield to pedestrians. Drivers seem more concerned with whose turn it is to proceed. Please ticket drivers for failing to yield?”
- b. “Vehicles don’t pay attention to the buses and pedestrians at this crosswalk. I had a near miss in fall 2019 from a car that proceeded through the intersection even though I was in the middle of the crosswalk. I was one step from touching the car.”

The suggestion in the additional comment called for stricter enforcement for vehicles who do not follow the stop sign at the intersection.

Intersection of S. Lincoln Ave. and W. Pennsylvania Ave.

This is a signalized intersection near the PAR (Pennsylvania Avenue Resident Halls) and FarmHouse Fraternity. None of the approaches have a marked bike lane.

Seven participants identifying a total of 11 concerns grouped into 9 unique concerns.

- a. The driver's view was obstructed by fixed object on the road (2 participants marked this)
- b. Vehicles often do not yield to bicycle (2 participants marked this)
- c. "No bike lanes or sharrows vehicles crowd bicycles bicycles often resort to the sidewalk - which creates new hazards in the crosswalk" (1 participant wrote this)
- d. Traffic signal malfunction (1 participant marked this)
- e. Many bicycles exiting campus Eastbound on Pennsylvania ride on the sidewalk & pedestrian crosswalk to cross Lincoln. (1 participant wrote this)
- f. Location not well lit at night (1 participant marked this)
- g. Vehicles do not yield to pedestrian (1 participant marked this)
- h. Bicycles do not yield to pedestrian (1 participant marked this)
- i. No button/control for cyclists on Pennsylvania to press such that the traffic lights turn green. Traffic light sensors do not detect bicycle. Problem at night as cyclists on Pennsylvania stuck at the intersection waiting for green. Safety hazard (1 participant wrote this)

Issues related to vehicles and bicycles not yielding to other bicycles or pedestrians is frequently reported at this intersection. At least two participants have reported that the driver's view was obstructed by a fixed object on the road and at least two participants indicate that the location was not well lit at night.

The additional comments collected at this intersection include

- a. "Vehicles often speed on Lincoln to make the light, or generally speed. The speed limit changes to 25 mph on Lincoln at Pennsylvania. There is no left turn light therefore drivers turn left at will. Need left turn lanes and lights east on Pennsylvania."
- b. "Bush in the Boulevard hinders the view of folks going West on Pennsylvania forcing dangerous "sneaks forward" when turning right onto Lincoln."
- c. "Pennsylvania @ Lincoln is narrow, with no bike lanes at this intersection. Bikes using the sidewalk and crosswalk (1) put pedestrians at risk; (2) mess up vehicle traffic flow; (3) confuse drivers as to cyclist's intentions; (4) violate IL statute."
- d. "If turning onto Lincoln from Pennsylvania it is hard to see due to the raised wall/sidewalk area at this intersection"

- e. “Flashing signs for pedestrians waiting to cross at the crosswalks on Lincoln between Florida and Nevada would be helpful (like the one in front of Grainger Library). Going north on Lincoln just north of Pennsylvania, there's a sign with flashing lights”

The issues due to bicyclists is highlighted by one of the participants in the additional comment. Other additional comments suggest speeding issues due to vehicles trying to catch the light and visibility issues due to vegetation. The additional comment included a suggestion to install a flashing sign for pedestrians on Lincoln at two locations 1) Florida Ave. and 2) Nevada St.

Intersection of S. First St. and E. Daniel St.

This is an unsignalized intersection. E. Daniel St. to the west of S. First St. is a one-way street. This intersection has 2-way stop signs along the Daniel Street approaches. There is a bike lane along First St at this intersection.

Six participants identifying a total of 19 concerns that were grouped into 8 unique concerns

- a. Vehicles do not yield to pedestrian (5 participants marked this)
- b. No WALK/DON'T WALK signal at intersection (3 participants marked this)
- c. Location not well lit at night (3 participants marked this)
- d. Vehicles often do not yield to bicycle (3 participants marked this)
- e. Bicycles do not yield to pedestrian (2 participants marked this)
- f. Bicycles often ignore stop sign (1 participant marked this)
- g. No marked crosswalk at the intersection (1 participant marked this)
- h. The whole section on 1st Street from Green street to stadium drive is honestly a death trap. It's poorly lit at night it doesn't have a crosswalk at every intersection and it needs a flashing stop light that pedestrians can push before crossing. (1 participant wrote this)

The most common concern raised at this intersection is that vehicles and bicycles often do not yield to bicycles and pedestrians. This covers a third of the all the concerns at this location. Other concerns about the intersection include the lack of adequate lighting at the location and a lack of WALK/DON'T WALK signal.

- a. “The whole section on 1st Street from Green street to stadium drive is honestly a death trap. It's poorly lit at night, it doesn't have a crosswalk at every intersection, and it needs a flashing stop light that pedestrians can push before crossing. Pedest”
- b. “This intersection is near a popular bus stop that many students in this area use every single day. Often times, pedestrians must wait a while for cars to stop because they speed past us with no consideration. My roommate witnessed two people get hit by c”
- c. “There is a bus stop there and it is very difficult to cross the street, cars do not yield to pedestrians and pedestrians cross where there is not a crosswalk”
- d. “Very dangerous crossing First Street, I have seen multiple accidents there and even saw a girl crossing the pedestrian cross walk get hit by a car that did not yield. It is not well lit at all, there needs to be a stop sign there and more streetlights.”

The additional comments by the participants reiterate the issues identified earlier regarding vehicles not yielding to the pedestrians.

Intersection of S. Sixth St. and E. Daniel St.

This is an unsignalized intersection with stop signs on three leg (Sixth Street is a one way going south). This intersection is close to the Department of Psychology, Speech and Hearing Clinic and Community United Church of Christ. There are marked crosswalks at all the four intersection approaches.

Six participants identifying a total of 25 concerns that are grouped into 12 unique concerns.

- a. Vehicles do not yield to pedestrian (5 participants marked this)
- b. Vehicles often do not yield to bicycle (4 participants marked this)
- c. No WALK/DON'T WALK signal at intersection (3 participants marked this)
- d. Vehicles often ignore stop sign (3 participants marked this)
- e. Bicycles often ignore stop sign (2 participants marked this)
- f. Bicycles do not yield to pedestrian (2 participants marked this)
- g. "I have seen near misses at this intersection where there is no stop sign for vehicles traveling on 6th Street; only a sign that tells them to yield or stop here for pedestrians. This is also confusing for vehicles traveling on Daniel Street" (1 participant wrote this)
- h. "With the construction it is hard to see people walking from the East on Daniel St. crossing 6th" (1 participant wrote this)
- i. "People are not using the pedestrian crossing and cross the street in midblock" (1 participant wrote this)
- j. "The markings elude to the intersection being a 4-way stop but it is not. Pedestrians think south bound traffic is stopping but it isn't. Same with East/West bound cars. Many near misses every day - especially at the beginning of a new term" (1 participant wrote this)
- k. The driver's view was obstructed by fixed object on the road (1 participant wrote this)
- l. "Vehicles southbound on 6th Street are often traveling (it seems) too fast. This seems like an ideal location for a 4-way stop although in practice it won't change bicyclists' behavior" (1 participant wrote this)

Issues due to vehicles not yielding to pedestrians or bicycles and issues due to bicycles not yielding to pedestrians has been frequently marked at this intersection. Vehicles and bicycles ignoring the stop sign is also a frequent concern at this location. At least 3 participants indicated installation of a WALK/DON'T WALK signal.

The additional comments regarding this location include

- a. "because they often assume that this is a 4-way stop and are expecting the cars traveling south on 6th street to stop there. I think it would be much safer to just make this intersection a normal 4-way stop to avoid confusion/ collision. Thanks!"

- b. “It's a yield sign there, and cars zoom though and do not watch for people walking. With the added construction there, it has been worse”

The two additional comments about this location suggests that the traffic control at this location is not adequate enough. The participants suggest the use of a 4-way stop sign at this intersection.

Intersection of S. Sixth St. and E. Peabody Dr.

This is an unsignalized intersection controlled by 4-way stop signs. This intersection is located near the College of Education, Natural Resources Building, College of Law and the Krannert Art Museum. There are pedestrian crosswalks along all the approaches at this intersection.

Six participants had 10 concerns with 6 unique concerns.

- a. Vehicles often ignore stop sign (5 participants marked this)
- b. “poor visibility at intersection” (1 participant wrote this)
- c. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- d. Vehicles do not yield to pedestrian (1 participant marked this)
- e. “Needs stop light to much traffic for stop sign” (1 participant wrote this)
- f. “Vehicles don't follow the 4-way stop; jump into the intersection even if they do stop at the stop sign” (1 participant wrote this)

The most common concern at this intersection is that vehicles ignore the stop sign. This has been marked at least six out of ten times. At least two participants had issues due to obstructed visibility. One of the participants suggested the installation of traffic lights instead of stop signs.

The additional comment about this intersection include:

- a. “On more than one occasion, I've seen vehicles drive through this intersection (Peabody and 6th) and not stop. It's a 4-way stop and it can be dangerous for pedestrians.”
- b. “Vehicles rush through before pedestrians are out of crosswalk in addition to the other problems above. University vehicles do these problematic driving behaviors more so than non-university vehicles”

In the additional comments, the participants further commented on how vehicles do not stop at the stop sign, which was the main concern identified from the survey.

Intersection of S. Third St. and E. Green St.

This is an unsignalized intersection controlled by a 2-way stop sign along the approaches on Third St. This intersection is located near the USPS building. There are turn lanes on both approaches on Green St.

Five participants identifying a total of 10 concerns that were grouped into 9 unique concerns

- a. Vehicles do not yield to pedestrian (2 participants marked this)
- b. No WALK/DON'T WALK signal at intersection (1 participant marked this)
- c. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- d. Bicycles do not yield to pedestrian (1 participant marked this)
- e. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)
- f. "This is only a 2 way stop when it should be a 4 way stop. Due to this some people just fly through and get hit." (1 participant wrote this)
- g. Other, no further explanation given (1 participant marked this)
- h. The driver's view was obstructed by corner of the building (1 participant marked this)
- i. Vehicles often do not yield to bicycle (1 participant marked this)

Vehicles and bicycles not yielding to other bicycles and pedestrians have been marked by 4 participants about this intersection. At least 2 participants have raised issues related to obstruction of view at this intersection. Other issues raised concerns the traffic control system at the intersection. One of the participants suggests a 4-way stop controlled intersection rather than the 2-way stop controlled intersection as

Additional comments about this intersection include:

- a. "There is a crosswalk painted here to cross Green St., but no sign to vehicles that they are expected to stop. Students think this means they can cross, and sometimes don't even look, but vehicles think they don't have to stop. Seen several near misses"
- b. "There should really be a light here it's super hard to cross green at this intersection"

Vehicles not yielding to pedestrians and the need for a traffic signal are the concerns that the participant have added in the comment Participants have raised similar concerns as seen in the multi-choice question in the additional comments, regarding vehicles not stopping at the stop sign.

Intersection of S. Goodwin Ave. and W. Green St.

This is a busy signalized intersection with dedicated pedestrian crossing phase. There are four lanes on Green St. at this intersection and a left turn lane, while Goodwin Ave. has two lanes with a left turn lane. There are dedicated bike lanes running north and south along Goodwin Ave.

Five participants identifying 9 concerns with 7 unique concerns

- a. Bicycles often ignore stop sign (2 participants marked this)
- b. Vehicles often ignore stop sign (2 participants marked this)
- c. "The street marking isn't clear. There is a bicycle lane on the south side of Green Street that ends near the intersection with Goodwin. It is not clear if cars should swing into the right lane (which may be a bicycle lane) to make a right turn or not." (1 participant wrote this)

- d. Walk signal/cycle does not illuminate unless button pressed (1 participant marked this)
- e. Traffic signal malfunction (1 participant marked this)
- f. Bicycles do not yield to pedestrian (1 participant marked this)
- g. Vehicles often do not yield to bicycle (1 participant marked this)

The major concern raised at this intersection is the traffic signal violation. More than half the concerns raised involve vehicles and bicycles not stopping at stop signs or yielding to other bicycles or pedestrians. At least three participants indicated a traffic signal and pavement marking issue at this intersection.

Additional comments about this location include

- a. “Construction makes lanes north of Green challenging...cars turning south on to Goodwin (from eastbound Green) use bike lane as a regular turn lane. Cars from all directions do not heed 'no turn on red' and bikes/peds go against lights regularly”
- b. “Watched bike go north-bound Goodwin bike lane to crosswalk to west-bound Green bike lane during ped. crossing without any slowing down or stopping. Have also seen good cyclists using the proper turn lanes and procedures, but the bad one stuck in my head”
- c. “The marking on the pavement should be made to make it clear whether there is a right turn lane or not on the south side of Green Street in the eastbound lane at the intersection with Goodwin.”
- d. “The second that the pedestrian cross walk signal counts down to 0, the light turns green for oncoming traffic. There used to be a 2-second delay between when pedestrian signal went to 0 and car traffic signal turned green. Also, many cars ignore the "don't turn on red””
- e. “Sometimes pedestrians who want to cross forget to press the walk signal. Then they have to wait a full cycle. I have seen (not recently) confused pedestrians walk in front of oncoming traffic.”

Traffic signal violation by people not following the “NO TURN ON RED” sign is listed by the participants at least twice in the additional comments for this location. Other concerns raised about this location are regarding the bike lanes used as a regular lane, confusion regarding lane marking, and lack of an all red phase after the pedestrian crossing. The additional comments are similar to the concerns that the participants raised in the multi-choice question in the survey.

Intersection of W. Kirby Ave and S. Oak St

This is a signalized intersection. There are left turn lanes on both approaches on Kirby Ave. and on the southbound approach on Oak St. The intersection is adjacent to Physical Plant Services Building as well as ChargePoint Charging Station.

Five participants identifying a total of 8 concerns that were grouped into 4 unique concerns

- a. Location not well lit at night (3 participants marked this)

- b. Vehicles do not yield to pedestrian (3 participants marked this)
- c. Vehicles often ignore stop sign (1 participant marked this)
- d. Needs Turn arrow (1 participant wrote this)

At least 3 participants have indicated a concern regarding lighting issues at night at this intersection. Participants have also indicated a concern regarding vehicles not yielding to pedestrians.

Additional concern at this location include

- a. "I saw many incidences when someone was almost hit by the oncoming traffic because there is no light at the intersection, which reduces the pedestrian's visibility."
- b. "Drivers in too much of a hurry. They run traffic signals on red VERY regularly! Do not follow posted signs and do not yield to pedestrians."
- c. "I cross Kirby to get to E-14. Especially dangerous 4pm and 6pm. Drivers making right turns on a red light don't always yield to pedestrian. Drivers making left turns also don't pay attention to pedestrians. lighting is not sufficient for drivers"

The concerns raised in the additional comments include issues due to visibility, and vehicles not yielding to pedestrian. These are similar to the concerns raised in the survey

Intersection of S. Mathews Ave. and W. Green St.

This is an unsignalized intersection adjacent to the Material Science and Engineering department. There are two lanes along each direction on Green St. and a left turn lane at the approach. Mathew's Ave. is a one-way street going north on the north side of Green St. and going south on the south side of Green St.

Five participants with 16 concerns and 7 unique concerns.

- a. No WALK/DON'T WALK signal at intersection (5 participants marked this)
- b. Vehicles do not yield to pedestrian (4 participants marked this)
- c. Bicycles do not yield to pedestrian (3 participants marked this)
- d. Vehicles often do not yield to bicycle (2 participants marked this)
- e. Traffic signal malfunction (1 participant marked this)
- f. Location not well lit at night (1 participant marked this)
- g. Bicycles often ignore stop sign (1 participant marked this)
- h. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)

The most frequent concern at this intersection marked by all four participants responding about this location is that the vehicles do not yield to pedestrian. Issues due to vehicles or bicycles not yielding to other bicycles or pedestrians have also been marked at least 5 times. All the four participants have concerns regarding the lack of WALK/DON'T WALK sign at this intersection.

The additional comments about this location include:

- a. “The East-west is great here, but the North-South is horrible, especially since it is on a bike path”
- b. “Matthews and Green Street: In general, this is a very tricky and dangerous crossing. The crosswalk is large and well-painted, but vehicles often ignore when pedestrians need to cross, even buses have a hard time seeing pedestrians and stopping in time.”

In the additional comments, the participants raised the issue that they face at this intersection. The vehicles and buses have a hard time seeing the pedestrians and stopping well in time.

10. N. Mathews Ave. and W. Springfield Ave.

This intersection is within a school zone and is unsignalized. There are no stop signs at this intersection. It is located near the parking lot B1 (in the S.E. corner of the intersection), University Laboratory High School (in the N.E. corner of the intersection), Grainger Engineering Library (in the S.W. Corner) and Digital Computer Laboratory (in the N.W. corner). All approaches at this intersection have marked crosswalks. On street parking is permitted in all the approaches leading to the intersection.

Five participants identifying a total of 6 concerns that were grouped into 5 unique concerns

- a. Vehicles do not yield to pedestrian (2 participants marked this)
- b. Extreme congestion during morning drop-off at the high school (1 participant wrote this)
- c. “There should be a 4-way stop at this intersection. It gets very busy with foot and vehicle traffic in the mornings and afternoons when the high school is beginning/ending.” (1 participant wrote this)
- d. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- e. Other, with no further explanation (1 participant marked this)

Two participants raised an issue due to congestion at this location and a suggestion was made to include 4-way stop signs at this intersection. Vehicles failing to yield to pedestrians was another issue raised at this intersection by two participants. At least one participant indicted that the driver’s visibility was obstructed due to a fixed object on the road.

The additional concerns about this location include:

- a. “It would be extremely helpful to install a 4-way stop that is active only during peak drop-off times in the mornings M-F. (7:30-8:15 AM). Perhaps also in the afternoons at pick-up. Traffic here is very congested and there are a lot of pedestrians.”
- b. “Congestion of vehicles and pedestrians during high pedestrian crossing times. Vehicles trying to get through on Springfield are waiting for students to cross on both sides of Matthews and then also at the midblock by Grainger.”
- c. “witnessed a crash here recently”

The additional concern suggest that this intersection gets congested very easily during the peak times. One of the participants suggested the use of a 4-way stop sign at this intersection. These concerns are similar to the concerns raised in the survey

Intersection of S. Dorner Dr. and W. Pennsylvania Ave.

This intersection is a 3-way intersection controlled by stop signs. The intersection of S. Virginia Ave. and W. Pennsylvania Ave. is very close to this intersection on the west side. There are pedestrian crosswalks on both S. Dorner Dr. and W. Pennsylvania Ave. The University of Illinois tennis courts are located at the N.E. side of the intersection. There is a right turn only lane on W. Pennsylvania Ave. that turns on to Dorner Dr.

Five participants identifying a total of 10 concerns that were grouped into 7 unique concerns

- a. People are not using the pedestrian crossing and cross the street in midblock (3 participants marked this)
- b. Other, with no further explanation (2 participants marked this)
- c. “This three-way stop is extremely dangerous. There should be a light here bc students are walking across when they don't have the right of way and it causes a lot of near accidents” (1 participant wrote this)
- d. Bicycles often ignore stop sign (1 participant marked this)
- e. Vehicles do not yield to pedestrian (1 participant marked this)
- f. No WALK/DON'T WALK signal at intersection (1 participant marked this)
- g. Bicycles do not yield to pedestrian (1 participant marked this)

The most frequent concern at this location is that people do not use the crosswalk to cross the streets but rather cross midblock. Another problem reported at this location is that of vehicles and bicycles violating the stop signs and not yielding to the pedestrians. At least two participant suggests the installation of a traffic light at the location.

Additional comment at this intersection include

- a. “This grossly busy corner is just a disaster waiting to happen - nothing works here, and it needs to be completely redesigned before a flock of kids get run over. This is the kind of intersection that "Just one Look" tells the whole story.”
- b. “This intersection is a disaster. Pedestrians just walk out into the street with no regard to anything else. The worst however are the bicycles. They obey NO signs or laws anywhere on and off campus especially at this location. Bicycles need ticketed!”
- c. “bad depression next to the manhole cover and large gash just north of that problem, have emailed F&S several time about this with no effect.”

The additional comments in this area suggested a complete redesign. One of the participants indicated their discomfort saying, “the intersection is a disaster waiting to happen”. Another comment indicated depressions and large gashes on the road which has remained unattended even after multiple contacts with the F&S.

Intersection of N. Goodwin Ave. and W. Springfield Ave.

This is a signalized intersection. Each approach at this intersection has one lane in each direction and a turning lane at the approach. Goodwin avenue on the south side has a bicycle lane. This intersection is adjacent to the public safety building and B1 and B2 parking lots.

Four participants with 10 concerns and 7 unique concerns.

- a. Vehicles do not yield to pedestrian (3 participants marked this)
- b. Traffic signal malfunction (2 participants marked this)
- c. People are treating this crosswalk like the one on Goodwin and Green Street and it operates differently (1 participant wrote this)
- d. When pedestrians cross inside the crosswalk when the walk sign is on vehicles still accelerate through or approach pedestrians too closely (i.e. within feet of pedestrians in the crosswalk). (1 participant wrote this)
- e. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)
- f. Coming out of UIUC Parking lot B1 onto Springfield there is major visibility & safety issues (1 participant wrote this)
- g. Vehicles often do not yield to bicycle (1 participant marked this)

Three participants marked that vehicles do not yield to pedestrians. Two participants have marked traffic signal malfunction as a concern at this location. Participants have also marked pedestrian issues at this intersection as the pedestrians are not crossing the street at the appropriate locations. At least one participant has indicated visibility issues while coming out of the B1 parking lot.

Additional comments about this location include:

- a. "I walk to work from parking lot B18 (behind Public Safety building) to Engineering Hall. The traffic signal for walk/don't walk at all 4 corners of the Goodwin and Springfield Avenue intersection in Urbana, Il often do not work. Walkers can get skipped."
- b. "Turning out of UIUC Parking lot B1 onto Springfield, there's major safety issues. When trying to turn onto Springfield left or right coming out of this lot, it's extremely hard to see oncoming traffic b/c of 2 street parking spaces (please remove them)."
- c. "The problem of vehicles not yielding to pedestrians in the crosswalk when the walk sign is on is an issue I experience when I cross here (Springfield/Goodwin, Urbana) multiple times every day and I have nearly been hit many times over the years."
- d. "Many times, vehicles will make a right turn while pedestrians are in the crosswalk."

In the additional comments, further description of the traffic signal malfunction is provided, where the pedestrian times are skipped. Obstructed visibility issues due to parked cars is another concern at this intersection. Vehicles not yielding to the pedestrians while taking a right turn is another issue identified at this intersection.

Intersection of S. Lincoln Ave. and W. Oregon St.

Oregon St. runs in the east west direction. At this intersection, Oregon is separated by approximately 140 feet along Lincoln Ave. The part of Oregon St. going east is on the north of the part of Oregon St. going west. The two lanes travelling south on Lincoln St. merge into a single lane before the Oregon St. approach. Lincoln Ave. travelling north has two lanes. Oregon St. has one lane in each direction in both the approaches.

Four participants with nine concerns and five unique concerns.

- a. No marked crosswalk at the intersection (4 participants marked this)
- b. People are not using the pedestrian crossing and cross the street in midblock (2 participants marked this)
- c. traffic backup + the removal of a lane right at that spot makes it difficult or impossible to turn onto lincoln from oregon (1 participant marked this)
- d. Vehicles do not yield to pedestrian (1 participant marked this)
- e. Vehicles often do not yield to bicycle (1 participant marked this)

The main concern at this intersection is the lack of marked crosswalks at this intersection, which has been marked by all the four participants. Other concerns include people not using the pedestrian crossing, vehicles not yielding to pedestrians or bicycles. One participant mentioned that it is “impossible” to turn into Lincoln from Oregon.

Additional comments about this intersection include:

- a. “Apart from the impossibility of turning onto Lincon there, between the cyclists, jaywalking students, a narrowing lane, and already congested traffic, I've observed MANY incidents that could have ended very badly.”
- b. “Many folks walk from the neighborhood here. And there is a long gap between crosswalks at Nevada and Illinois. Another ped crossing near Oregon or California would really improve pedestrian’s safety and ability when walking to campus.”
- c. “Lincoln narrows from a four-lane street to a two-lane street after Nevada. As soon as vehicles enter the four-lane section they begin to speed. There are also few opportunities to cross the street only at the lights at Nevada, Green, and Illinois.”

From the additional comments, the participants are concerned that the intersection is congested, and pedestrians cross the street in midblock as there are only few opportunities to cross the street.

Intersection of S Goodwin Ave and W Pennsylvania Ave

This is a three-way intersection with a stop sign on Goodwin Ave. The southbound approach on Goodwin Ave. has marked turn lanes for left and right turns. This intersection is nearby Agricultural Bioprocessing Laboratory and National Soybean Research Laboratory. There is a marked bike lane along the sidewalk on the east side of Pennsylvania Ave.

Four participants marked this with five unique concerns.

- a. Vehicles often ignore stop sign (1 participant marked this)
- b. “Parked vehicles immediately west of this intersection on the north side of Pennsylvania Avenue can greatly obstruct the view when attempting to turn east onto Pennsylvania Avenue. The problem is magnified when MTD busses park in this area.” (1 participant wrote this)
- c. Crosswalk has significant potholes which are dangerous for bikers. The part of S. Goodwin Ave. just north of crosswalk was resurfaced but that did not include crosswalk. There are many dangerous potholes on W. Pennsylvania Ave. here to S. Michigan. (1 participant wrote this)
- d. No marked crosswalk at the intersection (1 participant marked this)
- e. Vehicles often do not yield to bicycle (1 participant marked this)

Each of the concerns at this intersection has been marked once at this intersection. Vehicles ignoring stop signs and vehicles not yielding to bicycles are the concerns related to vehicles. One participant indicated visibility issue due to parked vehicles. Issues due to crosswalk include significant potholes at the location and lack of adequate markings.

Additional comments about this location include:

- a. “this is a failure of design, the bike lane on the north side of Pennsylvania "disappears and reappears" which is well-known to cause accidents in urban planning (and our campus has many of). Entrance to bike lane also obstructed by vehicles at stop sign”
- b. “The East side of this intersection does not have a cross walk but yet student still walk causing delays in traffic”

From the additional comments, the participants raised issues regarding the bike lane and crosswalk.

Intersection of S. First St. and W. Kirby Ave

This is a signalized intersection adjacent to the State Farm Center and E-14 parking lot. There are two lanes (one in each direction) on First St. and four lanes (two in each direction) on Kirby Ave. All four approaches have a left turn lane.

Four participants identifying 13 problems with 10 unique problems

- a. Vehicles do not yield to pedestrian (3 participants marked this)
- b. Location not well lit at night (2 participants marked this)
- c. Bicycles do not yield to pedestrian (1 participant marked this)
- d. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- e. Unsafe merge for cyclists. The bike lane ends abruptly. (1 participant wrote this)
- f. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)

- g. Vehicles often do not yield to bicycle (1 participant marked this)
- h. Traffic signal malfunction (1 participant marked this)
- i. Bicycles often ignore stop sign (1 participant marked this)
- j. No marked crosswalk at the intersection (1 participant marked this)

The most frequent concern at this location is related to vehicles or bicycles not yielding to other bicycles or pedestrians. Pavement marking issues like abrupt ending of the bicycle lane (on First St), lack of marked crosswalk at the intersection have also been identified. Other issues include, visibility issues as the location isn't well lit during night as well as driver's view obstruction.

The additional comments at this location include:

- a. "Although more expensive, given the foot, bike and vehicular traffic at this intersection, more lighting, bigger crosswalk signs and better reflective paint may help. Thank you for providing the survey."
- b. "The crossing is between the AH and the Stadium over Kirby. Traffic simply refuses to give right of way to pedestrians. I can be standing in the road and they will not stop. Your signs don't help."
- c. "It's unclear whether cyclists are supposed to use the multi-use path (ie striped sidewalk) or the on-street bike lane on 1st St, from Kirby to Windsor. Cars using Lot E-14 don't expect cyclists on the sidewalk, I've nearly been hit a few times."
- d. "As a pedestrian I have been in about five near miss incidents at this location specifically. I count a near miss incident as an incident where I had to run out of the way of a car to avoid getting hit, however, there have been a lot of more incidents"

The participant's additional comments about this intersection suggest changes in this location including more lighting, bigger crosswalk signs etc. The participant has also expressed a confusion that a cyclist may face at this intersection due to the abrupt ending of the bike lane.

Intersection of S. Lincoln Ave. and W. Nevada St.

Similar to the intersection at Lincoln and Oregon, this intersection is also separated along Lincoln Ave. On the north side, this is a three-way intersection with a stop sign on Nevada. One of the lanes going south on Lincoln Ave. turns into a right turn lane near this intersection. This intersection is close to the Oregon Building Computer Lab and the Family Resilience Center. On the south side, this is a signalized intersection. The two approaches are separated by approximately 160 feet along Lincoln Ave.

Four participants with six concerns and four unique concerns.

- a. Vehicles do not yield to pedestrian (3 participants marked this)
- b. Vehicles often ignore stop sign (1 participant marked this)
- c. Traffic signal malfunction (1 participant marked this)
- d. No marked crosswalk at the intersection (1 participant marked this)

The most common concern at this intersection is that vehicles do not yield to pedestrians which has been marked three times. Other concerns include vehicles ignoring stop signs, traffic signal malfunction and lack of a marked crosswalk at the intersection.

The additional comments at this location include:

- a. "There needs to be a "no right turn on red" at this intersection"
- b. "Cars and pedestrians get a green light at the same time: cars heading East on Nevada get a green arrow to turn left onto Lincoln at the same that pedestrians crossing Lincoln in the north crosswalk get the signal. Most cars do yield but some do not."
- c. "I bike home this route every day, and I think there's a problem with the trigger for changing the light from green for Lincoln to green for Nevada."
- d. "This is all based on the assumption that the light isn't just on a timer, that instead it tries to detect"

From the additional comments, the participants indicated that the vehicles and pedestrians get the green light simultaneously which causes conflict points. One of the participants suggested that there should be a no right turn on red sign at this intersection.

Intersection of S. Fifth St. and E. Green St.

This is an unsignalized intersection with a 2-way stop sign. The stop signs are on the fifth street. There are pedestrian cross walks on all four approaches at this intersection. The Green St. approach has a turning lane as well.

Four participants identifying 13 problems with 9 unique problems

- a. Bicycles do not yield to pedestrian (2 participants marked this)
- b. Other, with no further explanation (2 participants marked this)
- c. No WALK/DON'T WALK signal at intersection (2 participants marked this)
- d. Traffic signal malfunction (2 participants marked this)
- e. Vehicles do not yield to pedestrian (1 participant marked this)
- f. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)
- g. Vehicles often do not yield to bicycle (1 participant marked this)
- h. The driver's view was obstructed by corner of the building (1 participant marked this)
- i. Bicycles often ignore stop sign (1 participant marked this)

Issues related to yielding or not stopping at signs have been marked more than a third of the times at this location. At least two participants have suggested the installation of a WALK or DON'T WALK signal.

- a. Additional comments about this location include:
- b. "IMO 5th and Green is a bad accident waiting to happen, with no stop lights, it's a enter at your own risk. The main East-West traffic flow can be heavy at times, that leads to North-South vehicles backing up several deep, often waiting for minutes to adv"

- c. “There is no stop sign or traffic signals”
- d. “There should be a traffic light. There are a lot of almost crashes due to the lack of a traffic light”
- e. All the additional comments at this location raise the issue of traffic control and suggest the installation of traffic lights.

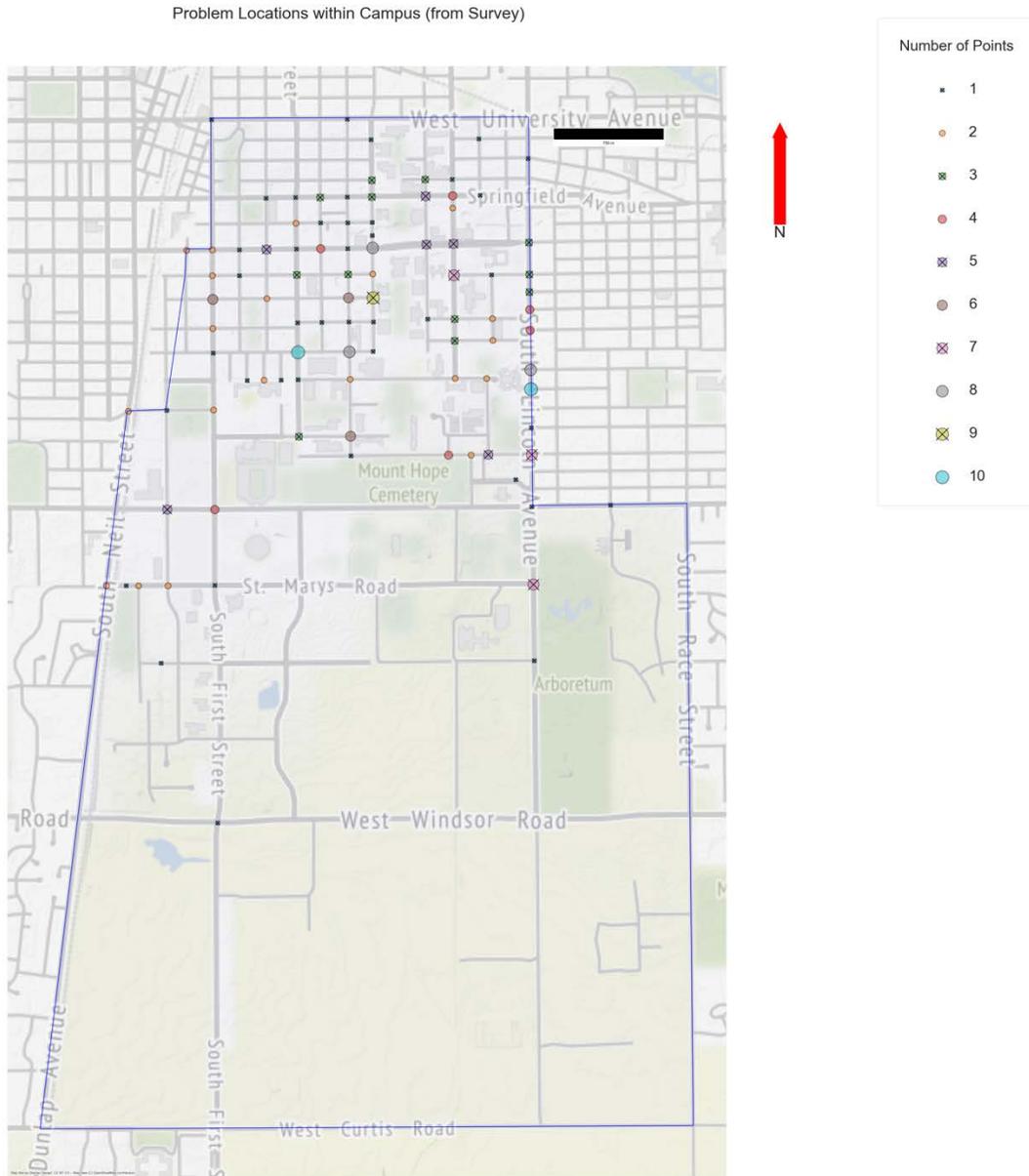


Figure 2.3: Intersections reported as problem locations within campus

Mid-Block Problem Locations based on the Survey

The previous section looks at intersection locations which are identified as problematic. There are locations along mid-block sections on the road. Any accident that occurs within 45 feet along

the centerline and is not an intersection crash (or more than 250 feet from any intersection) is considered in this section. These points are clustered together using the DBSCAN algorithm. If two points are within 12 feet (one lane width) of each other, they are clustered together, and the centroid of the cluster is reported. Table 2.4 shows the number of survey responses obtained at mid-block locations.

Table 2.4: Number of survey responses at mid-block locations

Number of survey points at location	Number of such locations
1	54
2	4
3	2
4	2

The two locations on mid-blocks with four or more participants

W. Green St. in front of Illini Union

This is a four-lane street with two lanes on either side. There is considerable vehicle traffic, and foot traffic at this location. There is also a bus stop at this location which serves several routes.

Four participants identifying 15 problems with 9 unique problems

- a. People are not using the pedestrian crossing and cross the street in midblock (3 participants marked this)
- b. Bicycles do not yield to pedestrian (2 participants marked this)
- c. Vehicles do not yield to pedestrian (2 participants marked this)
- d. Bicycles often ignore stop sign (2 participants marked this)
- e. The driver's view was obstructed by fixed object on the road (2 participants marked this)
- f. Vehicles often do not yield to bicycle (1 participant marked this)
- g. No WALK/DON'T WALK signal at intersection (1 participant marked this)
- h. Ingress and egress to and from the Illini Union parking lot (1 participant wrote this)
- i. Poorly designed drive directs pedestrians into path of cars. (1 participant wrote this)

This location has a huge foot traffic and one of the frequent concerns raised is regarding predestinarians is how they do not use the pedestrian crossing. Two participants faced issues due to their visibility being obstructed by fixed object on the road.

- a. "MCORE project did nothing to increase safety crossing Green from Illini Union to north campus. The project created a line of sight issue with bus stop leaving pkg lot and turning left onto Green. No one ought to be allowed to turn left onto Green."
- b. "I have so much! I wrote a 2628-character description of the problems. Email...."

Pedestrian crossing on W. Springfield Ave. near Grainger

This location has a heavy pedestrian traffic consisting of people walking to and from the Grainger Engineering Library to the Digital Computer Laboratory.

Four participants had 9 unique concerns at this location.

- a. Location not well lit at night (1 participant marked this)
- b. Bicycles do not yield to pedestrian (1 participant marked this)
- c. Vehicles do not yield to pedestrian (1 participant marked this)
- d. Vehicles often do not yield to bicycle (1 participant marked this)
- e. No WALK/DON'T WALK signal at intersection (1 participant marked this)
- f. The driver's view was obstructed by fixed object on the road (1 participant marked this)
- g. The driver's view was obstructed by corner of the building (1 participant marked this)
- h. Impatient drivers and Impatient pedestrians (1 participant wrote this)
- i. People are not using the pedestrian crossing and cross the street in midblock (1 participant marked this)

From the marked comments it is seen that vehicles and bicycles often fail to yield to other bicycles and pedestrians. Pedestrians and vehicles tend to be impatient while crossing the location and some pedestrian cross the street in midblock. Two concerns regarding the driver's visibility being obstructed by fixed objects was also marked about this location.

Three additional comments about this location include:

- a. "The traffic in this area is regularly backed up because people cross as a constant stream. Oftentimes a car will wait for pedestrians to cross for 30 seconds, then one car will go through, and then there is another long wait for one more car to go through"
- b. "When it is dark it is impossible to see pedestrians approaching the crosswalk, especially when cars are parked along the street."
- c. "There is usual a long line of impatient drivers when I am crossing to get to my class that is north of Springfield Ave. There are some drivers that speed up when the see people that want to cross but are not quite at the intersection."

In the additional comments the participants further explained how the vehicles regularly back up as the pedestrian traffic can be significant at this location. They also suggest the lack of adequate lighting and visibility issues due to parked cars making it difficult to see the approaching pedestrians. One of the concerns raised was about drivers speeding up to cross the location before the pedestrian.

Along with points at the intersection or along the road, there are 11 points identified from the survey that are neither at an intersection nor along a road.

Problem Locations along Corridors

The above section discussed the top reported intersections and midblock sections. We also looked at locations along a corridor within the campus together. The reason for analyzing corridors are. 1) There are several intersections along corridors that are reported frequently and 2) to identify locations between intersections that have been reported frequently. The corridors with frequent problem locations are discussed in the next section.

In order to identify the most frequently marked corridors, the closest road to each problem location reported in the survey that are within 45 feet of the centerline of a road were identified. Table 2.5 shows the number of reported problem locations within 45 feet of a corridor.

Table 2.5: Number of reported problem locations within 45 feet from centerline of corridor

Corridor Name	Number of Points within 45 feet along centerline of corridor
Co Rd 1300 E (Lincoln Ave.)	30
S 6th St	27
S 4th St	19
S Wright St	18
W Green St	17
S Mathews Ave	16
S Goodwin Ave	14
E Green St	14
S 1st St	13
Co Rd 1500 N	12
W Gregory Dr	12
St Mary's Rd	10
Co Rd 1600 N	9
W Pennsylvania Ave	9
W Illinois St	8
S 3rd St	7
S Lincoln Ave	7
E Armory Ave	7
E John St	6
Stadium Dr	6
S 5th St	6
W Oregon St	6
E Daniel St	5
Dorner Dr	5
W Nevada St	5
E Gregory Dr	4
N Mathews Ave	4
N Goodwin Ave	3

S Gregory St	3
S Oak St	3
W Stoughton St	2
E Healey St	2
E Chalmers St	2
Springfield Ave	2
W Ohio St	2
W Main St	1
Euclid St	1
N Harvey St	1
167 1/2 St S	1
W California Ave	1
Hazelwood Dr	1
S Locust St	1
Griffith Dr	1
W Delaware Ave	1
S Orchard St	1
E Peabody Dr	1
Co Rd 1200 E	1
W Windsor Rd	1
E Springfield Ave	1

To define points along a corridor, I look at points associated with the intersections along the corridor (i.e. points falling within 250 feet of the center of the intersection) and all the points in mid-block along the corridor (i.e. points falling within 45 feet of the centerline of the road).

The top 5 corridors identified are described in detail below.

Lincoln Ave. Corridor

As shown in Figure 2.4, Lincoln Avenue runs in the North-South direction and extends from University Ave. on the North till Curtis Road in the South. 57 participants have identified problematic locations along this corridor. The identified locations which were close to each other were clustered (as shown in Figure 4). Note that this number is higher than the number reported in Table 2.5 as it also includes the locations which are within 250 feet of intersections on Lincoln.

Problem Locations on Lincoln Ave. (from Survey)

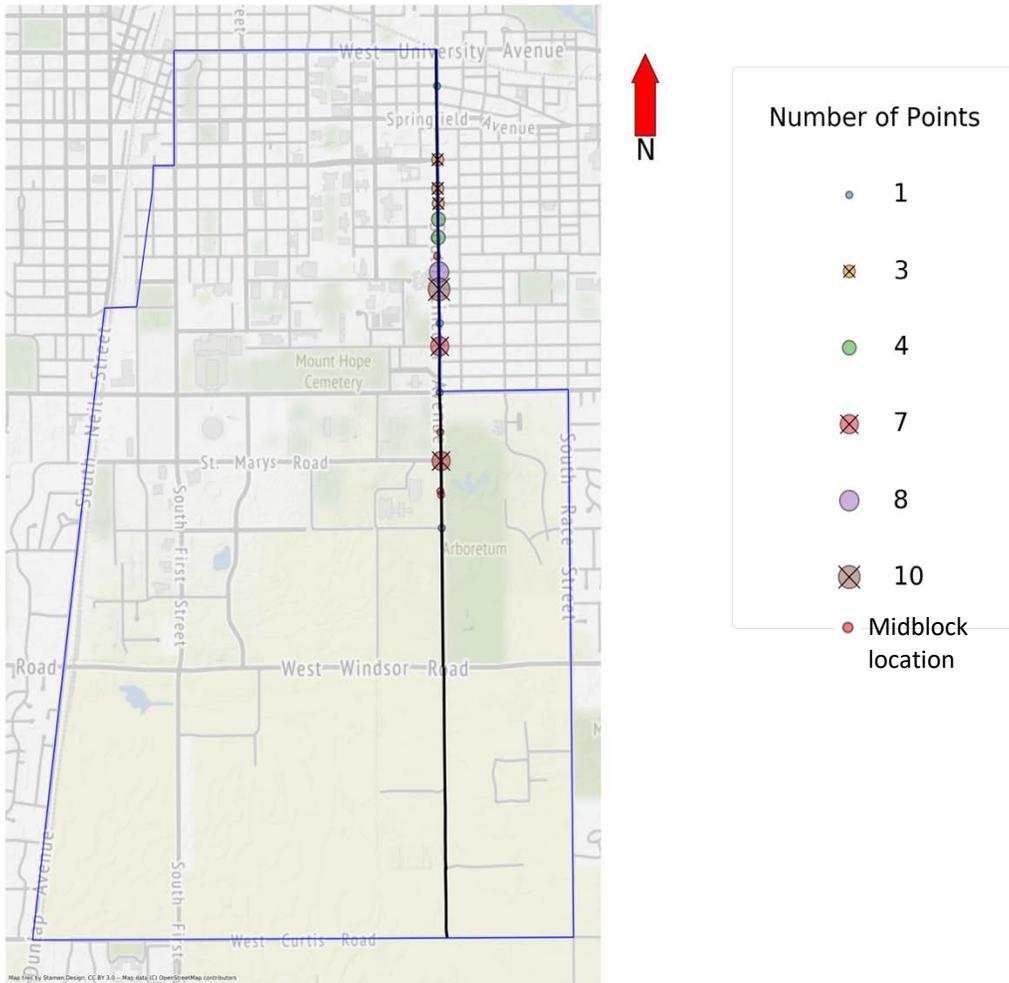


Figure 2.4: Problem Locations on Lincoln Avenue

The intersections reported along Lincoln Ave. are given in Table 2.6.

Table 2.6: Reported Intersections along Lincoln Ave

Intersection Along Lincoln Ave	Number of Points at Intersection
Co Rd 1300 E and W Ohio St	10
Co Rd 1300 E and W Iowa St	8
Co Rd 1300 E and St Marys Rd	7
Co Rd 1300 E and W Pennsylvania Ave	7
Co Rd 1300 E and W Nevada St	4
Co Rd 1300 E and W Oregon St	4
Co Rd 1300 E and W Illinois St	3
Co Rd 1300 E and W California Ave	3
Co Rd 1300 E and W Green St	3
167 1/2 St S and Co Rd 1300 E	1
Co Rd 1300 E and W Michigan Ave	1

Co Rd 1500 N and Co Rd 1300 E	1
Co Rd 1300 E and W Main St	1
Total	53

Along with the 53 locations at intersections, there are 4 midblock locations bringing the total points along Lincoln Ave. to 57. Table 2.7 shows the problematic locations reported along mid-blocks of Lincoln Ave

Table 2.7: Reported mid-block locations along Lincoln Ave.

Location	Coordinates of Location
South of St. Mary's Rd near University of Illinois Arboretum	POINT (-88.21908027764323 40.09292660689425)
North of St. Mary's Rd near Idea Garden	POINT (-88.21908831594051 40.09607217527432)
South of Nevada St. at entrance to parking lot. Adjacent to Jimmy Jones	POINT (-88.21931496260197 40.10545815951634)
South of St. Mary's Rd near University of Illinois Arboretum	POINT (-88.21905345555305 40.09274193633222)

The most frequently reported location on Lincoln Ave is at its intersection with Ohio St. (near McKinley Health Center). The intersection of Lincoln near St. Mary's St (near Japan House and University of Illinois Arboretum), Iowa St. (near Lincoln Avenue Residence Halls), and Pennsylvania Ave. have also been reported four times. Other problematic locations identified include the intersection with Green St. Nevada St. and Illinois St., all of which are signalized intersections. Table 2.8 shows the reported concerns at locations along Lincoln Ave. corridor.

Table 2.8: Reported concerns along Lincoln Ave. corridor

Concern	Number of times concern was marked
Vehicles do not yield to pedestrian	26
Location not well lit at night	16
Vehicles often do not yield to bicycle	15
No marked crosswalk at the intersection	12
People are not using the pedestrian crossing and cross the street in midblock	10
Bicycles do not yield to pedestrian	7
The driver's view was obstructed by fixed object on the road	6
No WALK/DON'T WALK signal at intersection	4
Vehicles often ignore stop sign	4
Other, no explanation given	3
Traffic signal malfunction	2
No wheelchair ramps on site	2
Bicycles often ignore stop sign	2

There are always cars (legally) parked on Lincoln that block your view if you are turning left from St. Mary's onto Lincoln. It is very dangerous and has been that way for years.	1
View is obstructed by parked cars on Lincoln. Lots of traffic makes it difficult to cross Lincoln. No cross walk. People walk from Vet school to the arboretum and back. Lots of cars pass through here. speed limit is 30 mph which is too fast.	1
Pedestrians waiting to cross are not visible to drivers.	1
It's a short light especially for cars turning south (left) from Illinois (headed west). Cars don't have a green arrow that way, so they'll often peel off the green light to beat any pedestrians crossing Lincoln headed west.	1
Visibility at intersection restricted by cars parked on Lincoln Ave.	1
Lack of a paved sidewalk on North Bound Lincoln between Hazelwood and Florida	1
Confusing lane markings on eastbound Green Street at Lincoln	1
Vision obstruction by sign at north entrance of McKinley Health Center	1
No bike lanes or sharrows vehicles crowd bicycles bicycles often resort to the sidewalk which creates new hazards in the crosswalk	1
There are 2 crosswalks near McKinley Health Center that are poorly lit. Students walk across in dark clothing when the time changes and it is dark out there have been too many close calls with pedestrians.	1
When students are dressed in dark clothes at 5 p.m. with oncoming traffic's lights in the driver's eyes it is hard to see students until they are in the crosswalk.	1
No button/control for cyclists on Pennsylvania to press such that the traffic lights turn green. Traffic light sensors do not detect bicycle. Problem at night as cyclists on Pennsylvania stuck at the intersection waiting for green. Safety hazard	1
Parked vehicles along Lincoln Avenue greatly obstruct a driver's view when attempting to turn either north or south.	1
traffic backup + the removal of a lane right at that spot makes it difficult or impossible to turn onto Lincoln from Oregon	1
Drivers do not see cyclists no provision for people on bikes is provided on Lincoln so cyclists are using both sidewalks and streets to get around. Cyclists coming up on the right of drivers on IL approaching Lincoln when bike lane ends are hard to see.	1
Vehicles ignore crosswalk and yield signs	1
Many bicycles exiting campus Eastbound on Pennsylvania ride on the sidewalk & pedestrian crosswalk to cross Lincoln.	1
exiting from CDL parking lot and turning left (north) into Lincoln is a dangerous and difficult turn not sure how to improve	1
The driver's view was obstructed by corner of the building	1
The view is obstructed from cars parked at this corner	1
Parked cars along the south bound lane of Lincoln completely obstruct the view of cars turning onto Lincoln from St. Mary's Road.	1

Based on the survey participants, the issues related to vehicles not yielding is the most common one which has been repeated most frequently. Participants have complained about visibility issues along Lincoln Ave. even though LED lights have been installed along the location. Visibility issues due to parked cars obstructing the vision of the driver is also a common issue along Lincoln Ave. There are pedestrian issues where pedestrians are not crossing along the designated crossing and a lack of adequate pedestrian crossings also along this corridor.

Sixth St. Corridor

Sixth Street runs in the North-South direction, with end points at University St. at the North and Pennsylvania Ave. on the South. Along this corridor, thirty-four people have identified locations as problematic. Figure 2.5 shows the reported problem locations along Sixth St. corridor.

Problem Locations on Sixth St. (from Survey)

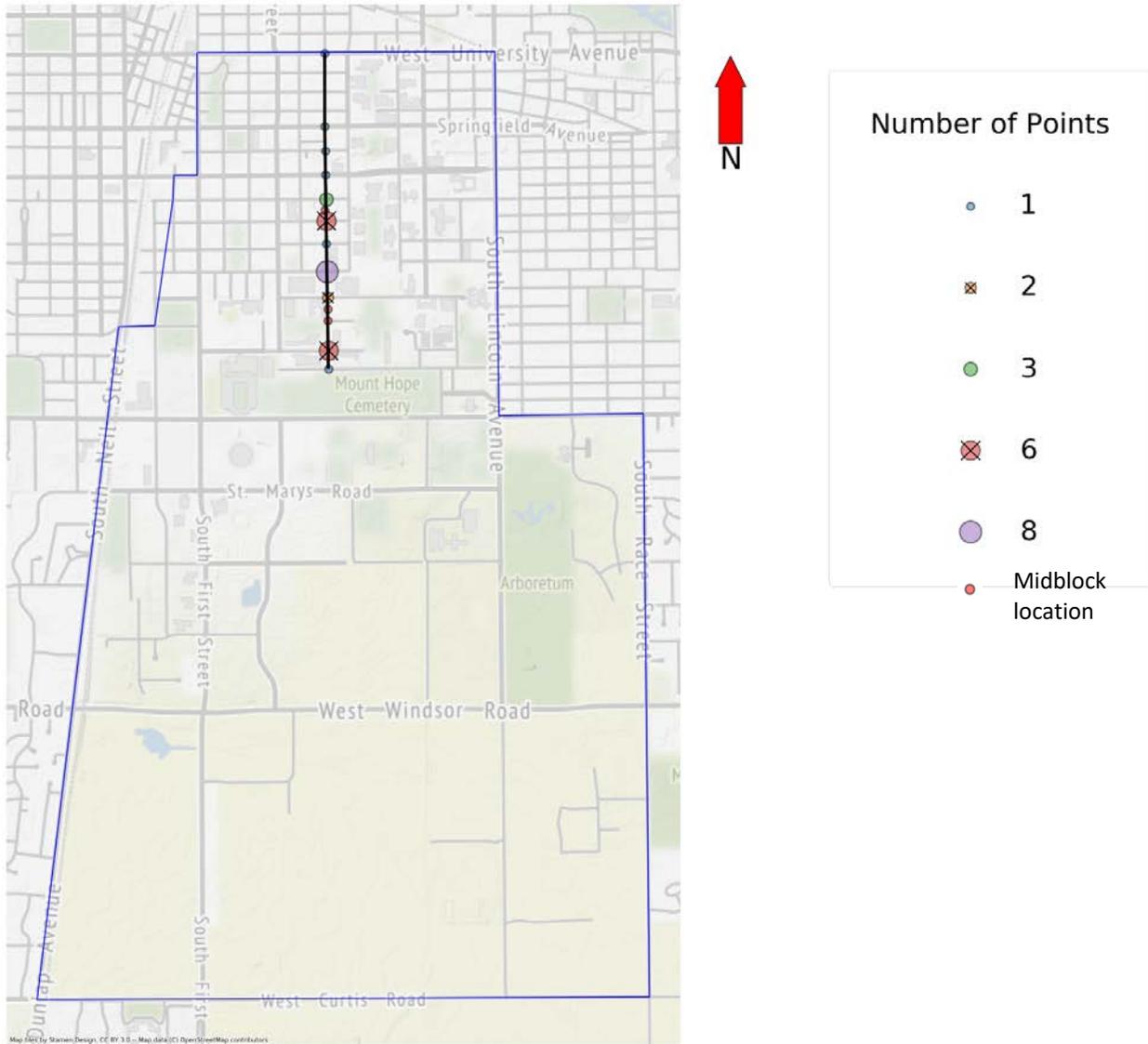


Figure 2.5: Problem Locations on Sixth Street

Table 2.9 shows the intersections along Sixth street and the number of times each intersection has been reported in the survey.

Table 2.9: Reported Intersections along Sixth St

Intersection Along Sixth St.	Number of Points at Intersection
S 6th St and E Armory Ave	8
S 6th St and E Daniel St	6
S 6th St and Peabody Dr	6
S 6th St and E John St	3
S 6th St and W Gregory Dr	2

S 6th St and E Green St	1
S 6th St and E Healey St	1
S 6th St and E Chalmers St	1
S 6th St and W Pennsylvania Ave	1
N 6th St and S 6th St	1
Co Rd 1600 N and S 6th St	1
Total	31

In addition to this, there are 3 mid-block locations as shown in Table 2.10 below bringing the total to 34 locations along Sixth St.

Table 2.10: Reported mid-block locations along Sixth St.

Location	Coordinates of Location
In front of Wohler's Hall	POINT (-88.23024362323299 40.10355056622935)
At entrance to parking lot of Education Building	POINT (-88.23023557660665 40.10300484588622)
At entrance to parking lot of Community United Church of Christ	POINT (-88.23045960758772 40.10852831330567)

The most frequently reported location on Sixth St. is at its intersection with Armory Ave. The intersection of Sixth St. near Daniel St and Peabody Dr. have also been reported six times. Other problematic locations identified include the intersection with more than one crash include John and Gregory with 3 and 2 crashes respectively, all of which are signalized intersections. Table 2.11 shows the reported concerns along Sixth St.

Table 2.11: Reported concerns along Sixth St. Corridor

Concern	Number of times concern was marked
Vehicles often ignore stop sign	11
Vehicles do not yield to pedestrian	8
Vehicles often do not yield to bicycle	5
No WALK/DON'T WALK signal at intersection	5
Bicycles often ignore stop sign	3
The driver's view was obstructed by fixed object on the road	3
People are not using the pedestrian crossing and cross the street in midblock	3
Bicycles do not yield to pedestrian	3
Traffic signal malfunction	2
Bicyclists consistently proceed the wrong way on Healey St from Sixth St to Wright St.	1
Pedestrians don't behave properly.	1
Lost turn lane due to MCORE	1

Needs stop light to much traffic for stop sign	1
Very difficult to get into or out of the Undergrad Library parking lot between 5-5:30pm. The amount of traffic flowing either direction on 6th and stopped at Armory & 6th light makes it impossible to turn onto North or South 6th St.	1
The stop light is unnecessary and most pedestrians/bikers don't follow it.	1
Vehicles southbound on 6th Street are often traveling (it seems) too fast. This seems like an ideal location for a 4-way stop although in practice it won't change bicyclists' behavior.	1
I have called asking to fix this sidewalk and it looks like the bare minimum was done. Please help those in wheelchairs by fixing this inaccessible area. A man was stuck in one of the craters it took a great deal of effort to get him out.	1
vehicles going the wrong way on a marked one way street	1
Vehicles don't follow the 4- way stop; jump into the intersection even if they do stop at the stop sign	1
Confusing/hard to see lanes	1
Cars go wrong way and also sometimes zoom through.	1
I have seen near misses at this intersection where there is no stop sign for vehicles traveling on 6th Street; only a sign that tells them to yield or stop here for pedestrians. This is also confusing for vehicles traveling on Daniel Street...	1
Location not well lit at night	1
Vehicles on westbound Green St. not infrequently turn left despite the straight-ahead-only arrows	1
Signs on campus that say Stop for pedestrians (with the little stop sign) are horrible. Many near misses as some drivers treat them as stop signs with no peds present	1
This corner needs better control of when pedestrians cross. Perhaps one of those diagonal crossings traffic can get backed up here making it very difficult to get in and out of the Library parking lot.	1
With the construction it is hard to see people walking from the East on Daniel St. crossing 6th.	1
There is no left turn for traffic flow taking a left from sixth onto armory. The one- way traffic that flows towards the intersection is quite a lot. Getting out of the lot by the main library is a problem and becomes dangerously congested by 5:00..	1
The markings ellude to the intersection being a 4 -way stop but it is not. Pedestrians think south bound traffic is stopping but it isn't. Same with East/West bound cars. Many near misses every day- especially at the beginning of a new term.	1
The no turn on red sign is only visible on the south bound side of 6th street and is behind the 1st car at intersection. Also the 6th street lights used to be alternating and now are not and there is no sign to warn drivers of this change.	1
Other, no explanation given	1

Vehicles consistently go the wrong way on a marked one way street	1
poor visibility at intersection	1
Pedistrians walk out without looking	1

The most common concern along Sixth St. is that the vehicles ignore the stop sign and not yield to pedestrians or bicycles. In three cases the participants raised visibility issues along the corridor due to fixed object on the road. Bicycles not yielding to pedestrians, pedestrians not using the crosswalks to cross the street are other frequently reported problems at this corridor.

Fourth St.

Fourth Street runs in the North-South direction, with end points at University St. at the North and St. Mary’s Rd. on the South. Along this corridor, twenty-nine people have identified locations along this corridor as problematic. Figure 2.6 shows the reported problem locations along Fourth St. and Table 2.12 shows the reported intersections along Fourth St.

Problem Locations on Fourth St. (from Survey)

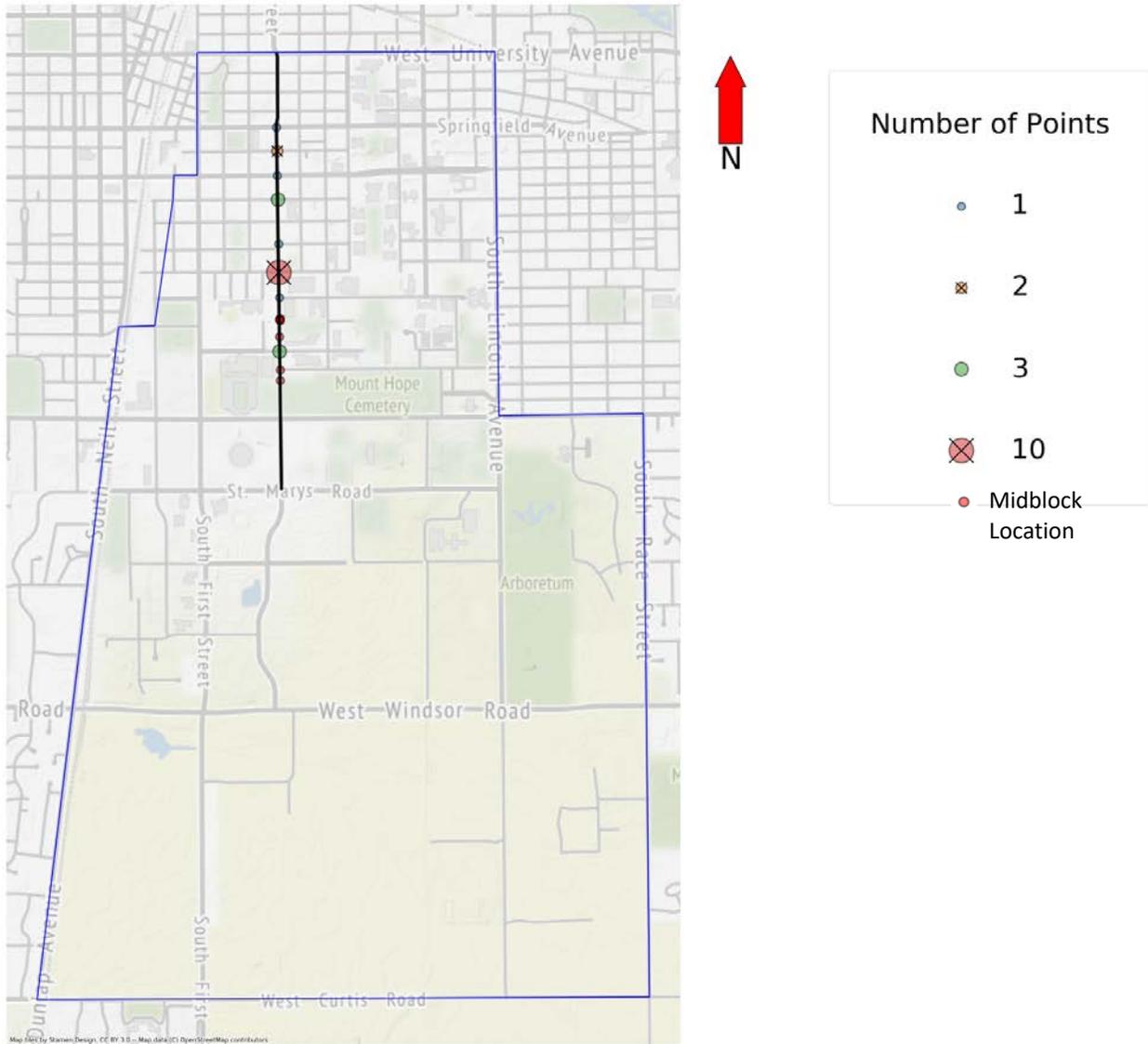


Figure 2.6: Problem Locations on Fourth Street

Table 2.12: Reported Intersections along Fourth St.

Intersection Along Fourth St.	Number of Points at Intersection
S 4th St and E Armory Ave	10
S 4th St and Peabody Dr	3
S 4th St and E John St	3
S 4th St and E Healey St	2

S 4th St and E Gregory Dr	1
Co Rd 1600 N and S 4th St	1
S 4th St and E Chalmers St	1
S 4th St and E Green St	1
Total	22

There are 7 midblock locations that are reported as problematic in the survey which are given in Table 2.13.

Table 2.13: Reported mid-block locations along Fourth St.

Location	Coordinates of Location
South of Peabody Dr. close to Pennsylvania Ave	POINT (-88.23337200000002 40.10054400734869)
Adjacent to Flagg Hall and George Huff Hall	POINT (-88.23337552593014 40.10310134214109)
Adjacent to Flagg Hall and George Huff Hall	POINT (-88.23335176256562 40.10299923052195)
Adjacent to Flagg Hall and George Huff Hall	POINT (-88.23338999999997 40.10307520415179)
Adjacent to Flagg Hall and George Huff Hall	POINT (-88.2334154490739 40.10302910416867)
South of Pennsylvania Ave adjacent to parking lot E15	POINT (-88.23333925552511 40.099980167)
South of Flagg Hall	POINT (-88.2333869726553 40.10217336850902)

Twenty-two of the reported concerns are located at intersections. The most frequently marked intersection along Fourth street is at Armory Ave. Other problematic intersections which have been marked multiple times are Peabody Dr., John St. and Healey St. The intersection at Fourth and Peabody is a signalized intersection while the intersection at Fourth and John and Fourth and Healey are unsignalized intersections. There are five participants who reported incidents which are close to the Flagg Hall and George Huff hall which is a student residential area.

Table 2.14: Reported concerns along Fourth St. Corridor

Concern	Number of times concern was marked
Vehicles do not yield to pedestrian	9
Bicycles do not yield to pedestrian	9
People are not using the pedestrian crossing and cross the street in midblock	8
Bicycles often ignore stop sign	8
Vehicles often do not yield to bicycle	6
Location not well lit at night	6
No WALK/DON'T WALK signal at intersection	6
No marked crosswalk at the intersection	2
Other, no further explanation given.	2
Vehicles often ignore stop sign	2
too many stop for pedestrians signs for cars through the 4th street. It is frustrating for the drivers and push them to want to derive faster and NOT yielding to bikes and pedestrians as. see the rest in bellow section.	1
crosswalks very narrow; no bike lanes	1
Very busy 4- way stop sign intersection. Very difficult to drive through with the high volume of pedestrians	1
Very heavily trafficked area to not have a 4 way stop or stop light. There is significant bicycle and pedestrian traffic as well as vehicles. There are near misses often and traffic can also back up on Pennsylvania for several blocks.	1
There is a tree that has pushed the sidewalk up quite far on the south side of the street and it is a tripping hazard and a hazard for those in wheelchairs.	1
Bicycles enter roadway without warning and view is obstructed by hedges	1
Students/Bicyclists often times walk in front of cars that have already entered the intersection.	1

Drivers view was obstructed by construction fence.	1
No traffic signal at intersection.	1
Cars drive through quickly and crossing safely is difficult	1

The most frequently reported concern along Fourth St. is that vehicles and bicycles do not yield to pedestrians and bicycles ignoring the stop sign. On the other hand, pedestrians have been reported to be crossing the street mid-block rather than at the marked crosswalks. In at least six cases, the participants have marked visibility issues due to lack of adequate lighting along the corridor. Visibility issues due to object blocking the driver’s view is also a frequent issue along this corridor. At least three participants have indicated the lack of adequate traffic control systems along the corridor.

Wright St.

Wright Street runs in the North-South direction, with end points at University St. at the North and Armory Ave. on the South. Along this corridor, thirty-one people have identified problematic locations along this corridor. Figure 2.7 shows the reported problem locations along Wright St.

Problem Locations on Wright St. (from Survey)

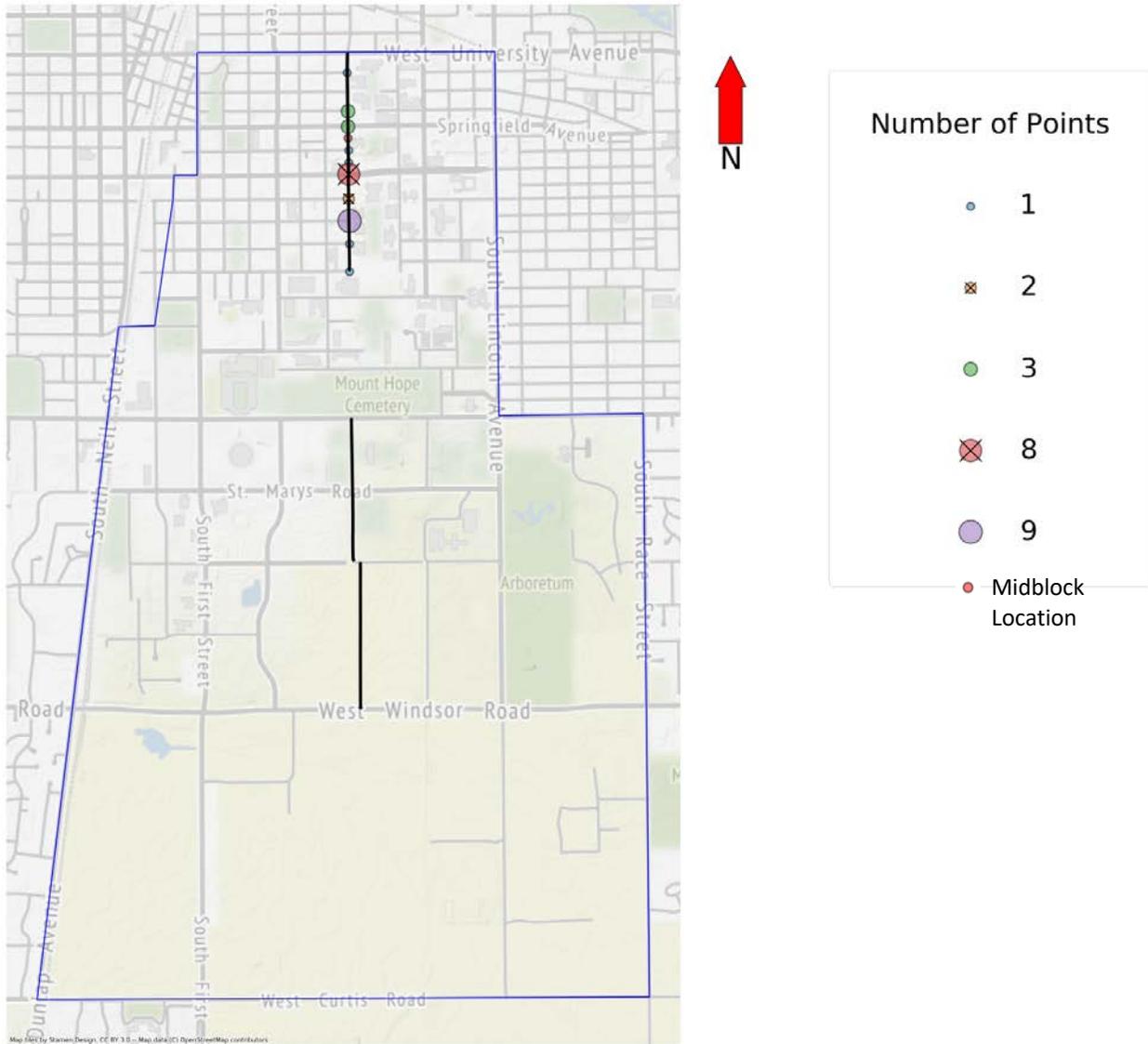


Figure 2.7: Problem locations along Wright St.

The intersections along Wright St. which are reported as problematic in the survey are given in Table 2.15.

Table 2.15: Reported Intersections along Wright St.

Intersection Along Wright St.	Number of Points at Intersection
S Wright St and E Daniel St	9
S Wright St and E Green St	8
S Wright St and E Stoughton St	3
Co Rd 1600 N and Co Rd 1600 N	3
S Wright St and E John St	2
S Wright St and E Chalmers St	1

S Wright St and E Armory Ave	1
S Wright St and None	1
S Wright St and E Clark St	1
S Wright St and E Healey St	1
Total	30

One midblock location adjacent to the Talbot Laboratory and the A3 parking lot has also been identified along Wright St. as problematic (POINT (-88.22891127781496 40.11211860945894)). Table 2.16 shows the reported concerns along Wright St. corridor.

Table 2.16: Reported concerns along Wright St. Corridor

Concern	Number of times concern was marked
People are not using the pedestrian crossing and cross the street in midblock	12
Bicycles do not yield to pedestrian	12
Vehicles do not yield to pedestrian	10
Vehicles often do not yield to bicycle	9
Bicycles often ignore stop sign	8
No marked crosswalk at the intersection	7
No WALK/DON'T WALK signal at intersection	5
The driver's view was obstructed by fixed object on the road	5
Vehicles often ignore stop sign	5
Location not well lit at night	4
The driver's view was obstructed by corner of the building	2
Vehicles in the left turn only lane do not turn left onto Wright Street but proceed eastbound cutting off vehicles going straight ahead	1
Other, no further explanation given	1
Lacking bike lanes	1
Somewhat confusing lanes eastbound	1
Many vehicles block the box during peak times.	1
Cars may stop at the stop sign but peds must cross Wright many yards in front of sign bc of new curb structure. This means the vehicles often begin moving while peds are crossing.	1
Ambiguity about what happens with bicycles coming off the bike path along Wright St (North- South). It isn't clear if bikes are vehicular traffic or pedestrian traffic.	1
It's almost impossible to navigate this on a bicycle going in any direction due to the limited space for bikes and the way pedestrians wander around	1
No wheelchair ramps on site	1
cars take the corners too tightly driving up onto the curb	1

Heavy traffic! Traffic gets backed up because constant flow of students on crosswalks! Its	1
--	---

One of the most frequent concern at this location is bicycles not yielding to pedestrians which has been marked twelve times. This concern is complimented by the concern regarding bicycles ignoring stop signs which is marked eight times. Another frequent concern is regarding people not using the designated location while crossing the street also reported twelve times. Vehicles not yielding to pedestrians and ignoring stop signs is another common concern along this corridor. Also, the lack of marked crosswalk or a WALK/DON'T signal has been reported seven and five times respectively. Visibility issue to drivers due to obstructed vision has been mentioned seven times. Another vehicle issue is regarding disregard for the stop sign which is also mentioned five times. Three participants had concerns regarding the lighting of the corridor at nighttime.

Green Street

Green Street runs in the East-West direction, with end points (at campus boundary) at Locust St. at the West and Lincoln Ave. on the East. Along this corridor, forty-eight people have identified problematic locations as shown in Figure 2.8.

Problem Locations on Green St. (from Survey)

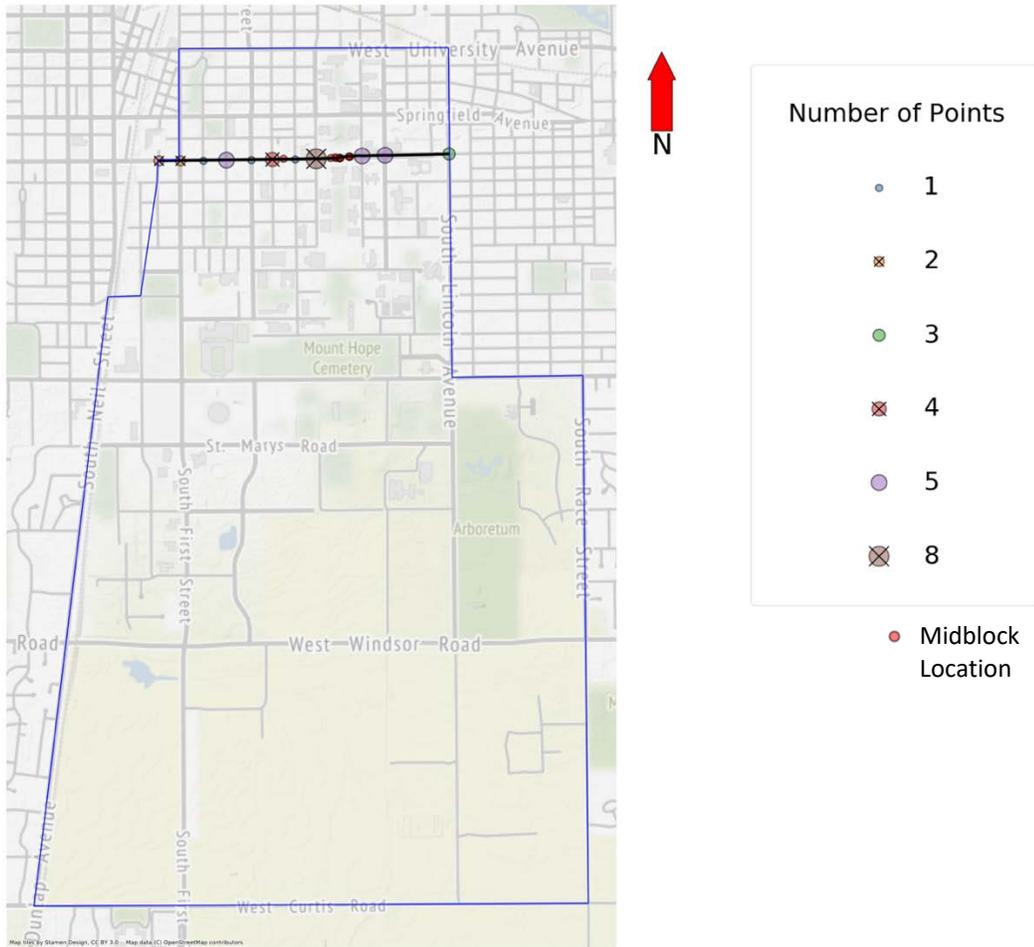


Figure 2.8: Problem Locations on Green St.

Table 2.17 shows the reported intersections and the number of times it was reported along Green St.

Table 2.17: Reported Intersections along Green St.

Intersection Along Green St.	Number of Points at Intersection
S Wright St and E Green St	8
S 3rd St and E Green St	5
S Goodwin Ave and W Green St	5
S Mathews Ave and W Green St	5
S 5th St and E Green St	4
Co Rd 1300 E and W Green St	3
S 1st St and E Green St	2
S Locust St and E Green St	2
S 4th St and E Green St	1
S 2nd St and E Green St	1
S 6th St and E Green St	1
Total	37

Table 2.18 shows the mid-block locations along Green St. that were reported as problematic.

Table 2.18: Mid-block locations along Green St

Location	Coordinates of Location
In front of Illini Union	POINT (-88.22717992339427 40.11037991949924)
Between 5 th and 6 th St.	POINT (-88.23127115938576 40.1103287265036)
In front of Illini Union	POINT (-88.22717992339427 40.11037991949924)
Near Illini Union Driveway entrance	POINT (-88.22647780177643 40.11044760168396)
Near Illini Union Driveway entrance	POINT (-88.22646874932103 40.11044888378677)
In front of Illini Union	POINT (-88.22742730376967 40.11038195800388)
Near Illini Union Driveway entrance	POINT (-88.22651782272348 40.11046237132382)
In front of Illini Union	POINT (-88.22717954518804 40.1103847786319)
In front of Illini Union	POINT (-88.22755184061165 40.11041224714497)
In front of Illini Union	POINT (-88.22717992339427 40.11037991949924)
In front of Illini Union	POINT (-88.22782014580726 40.11034969266372)

The top location along Green St. is at its intersection with Wright St. The locations along Green St. near the Illini Union has been marked ten times. Other major intersections along Green St including intersection at Third St, Goodwin Ave and Mathew’s Ave has also been identified five times. Other frequent intersections in the Champaign side are Fifth St, First St. and Locust St. while on the Urbana side is Lincoln Ave. Table 2.19 shows the reported concerns along Green St. corridor along with the number of times they were marked in the survey.

Table 2.19: Reported concerns along Green St. Corridor

Concern	Number of times concern was marked
Vehicles do not yield to pedestrian	16
Vehicles often do not yield to bicycle	14
People are not using the pedestrian crossing and cross the street in midblock	13
Bicycles do not yield to pedestrian	13

No WALK/DON'T WALK signal at intersection	11
The driver's view was obstructed by fixed object on the road	9
Bicycles often ignore stop sign	9
Other	6
Traffic signal malfunction	4
Vehicles often ignore stop sign	3
Location not well lit at night	3
The driver's view was obstructed by corner of the building	2
The windows from the bus stop shield are reflective at night and it shows the headlights from oncoming traffic from the east. This makes it difficult to determine when there is and when there isn't traffic coming from the west.	1
Poorly designed drive directs pedestrians into path of cars.	1
Ingress and egress to and from the Illini Union parking lot	1
Popular bar plus busy road	1
Many vehicles block the box during peak times.	1
This is only a 2 way stop when it should be a 4 way stop. Due to this some people just fly through and get hit.	1
Obstruction of traffic by vehicles using turning lanes as loading zones	1
Ambiguity about what happens with bicycles coming off the bike path along Wright St (North South). It isn't clear if bikes are vehicular traffic or pedestrian traffic	1
Heavy traffic! Traffic gets backed up because constant flow of students on crosswalks! Its	1
Walk signal/cycle does not illuminate unless button pressed	1
cars take the corners too tightly driving up onto the curb	1
Pedestrian view at crosswalk obstructed by bus after MCORE project. Traffic continues at considerable speed through the driving lane but pedestrian line of sight with a stopped bus is not sufficient to avoid pedestrian/vehicle conflict.	1
Confusing lane markings on eastbound Green Street at Lincoln	1
Vehicles on westbound Green St. not infrequently turn left despite the straight-ahead only arrows	1
There is a tree that has pushed the sidewalk up quite far on the south side of the street and it is a tripping hazard and a hazard for those in wheelchairs.	1
View of drivers is obstructed by 50W bus when it stops and drivers on Green do not slow down. I have almost gotten hit on multiple occasions.	1
The street marking isn't clear. There is a bicycle lane on the south side of Green Street that ends near the intersection with Goodwin. It is not clear if cars should swing into the right lane (which may be a bicycle lane) to make a right turn or not.	1
No marked crosswalk at the intersection	1

The concern marked the most frequently was regarding vehicles not yielding to pedestrians or bicycles. This concern has been marked thirty times (16+14). Issues between bicyclists and

pedestrians and issues due to pedestrians crossing the street midblock each has been reported thirteen times. The lack of WALK/DON'T WALK signs along different Green St. intersections have been reported eleven times. Visibility issues due to obstruction of driver's view was also a problem on Green St. reported nine times. Bicyclists have been reported to often ignore stop signs along this corridor.

Near Miss Locations Identified from Survey

Table 2.20 below shows the type of highway users that were involved in the near miss.

Table 2.20: Type of Highway Users involved in near misses

Primary Highway User involved in Near Miss	Second Highway User involved in Near Miss	Number of Near Misses
Motor Vehicle	Motor Vehicle	14
	Bicycle	7
	Pedestrian	7
	Other	2
Pedestrian	Motor Vehicle	39
	Bicycle	2
Bicycle	Motor Vehicle	11
	other	1
	Pedestrian	1
other	Motor Vehicle	1
Total		85

From the table above, the most common near misses reported within campus involve a Pedestrian and a Motor Vehicle which has been reported forty-six times (39+7). The second most frequent near misses involved bicycle and a motor vehicle and they have been reported eighteen times. Near misses between two motor vehicles which was reported fourteen times.

The section below shows the most common intersections where near misses happened along with the reported reasons for near miss.

Near Miss Intersections identified from Survey

Any point identified from the survey as a near miss location which is within 250 feet of an intersection is associated with the intersection. The Table 2.21 below shows the number of near misses reported at an intersection and the number of such intersections within campus.

Table 2.21: Number of near misses at intersections

Number of Near Miss at intersection	Number of intersections
1	38
2	9
3	4

Intersections with at least two or more near misses are reported below in Table 2.22.

Table 2.22: Intersections with two or more reported near misses from survey

	Intersection Name	Number of times Intersection was reported	Coordinates of Intersection
1	S Gregory St and W Oregon St	3	POINT (-88.22153100000001 40.10699799907022)
2	W. Springfield Ave and N Mathews Ave	3	POINT (-88.22562399999998 40.1127469990702)
3	S Goodwin Ave and W Nevada St	3	POINT (-88.22384599999998 40.10595899907022)
4	S. Lincoln Ave and W Pennsylvania Ave	3	POINT (-88.219116 40.10062599907025)
5	S 3rd St and E Green St	2	POINT (-88.23538499999997 40.11024499907022)
6	S 6th St and W Gregory Dr	2	POINT (-88.230262 40.10415099907023)
7	S 6th St and E White St	2	POINT (-88.23043299999998 40.11443599907018)
8	S Neil St and Stadium Dr	2	POINT (-88.24384400000001 40.10265299907024)
9	S 4th St and E Armory Ave	2	POINT (-88.233452 40.10541299907023)
10	S Goodwin Ave and W Pennsylvania Ave	2	POINT (-88.22422799999998 40.10059999907027)
11	S Oak St and Stadium Dr	2	POINT (-88.24149299999999 40.10270199907025)
12	Springfield Ave. and Lincoln Ave	2	POINT (-88.21933699999998 40.1128099990702)
13	S. Lincoln Ave and W Iowa St.	2	POINT (-88.21919799999998 40.10459999907022)

Intersection of S. Gregory St. and W. Oregon St.

This is an unsignalized intersection close to the Krannert Center of the Performing Arts.

Three participants reported near misses at this location. Two incidents occurred between a motor vehicle and pedestrian and the third incident involved a bicyclist and a motor vehicle.

- a. Motor vehicle didn't stop at stop sign/red light at intersection (2 participants marked this)
- b. Bicycle didn't stop at stop sign/red light at intersection (1 participant marked this)
- c. Did not stop for pedestrians on pedestrian crossing (1 participant marked this)

In all the three cases, the near miss was reportedly caused by motor vehicle or bicycle not stopping at the intersection.

Additional comment

- a. "The intersection of Oregon and Gregory has a lot of foot and bike traffic that do not obey rules of the road. There should be a light, or a 4 way stop there. The bikes don't even slow down on Gregory, they just blow out into the intersection."

Intersection of W. Springfield Ave. and N Mathews Ave

This intersection is within a school zone and is unsignalized. There are no stop signs at this intersection. It is located near the parking lot B1 (in the S.E. corner of the intersection), University Laboratory High School (in the N.E. corner of the intersection), Grainger Engineering Library (in the S.W. Corner) and Digital Computer Laboratory (in the N.W. corner). All approaches at this intersection have marked crosswalks. On street parking is permitted in all the approaches leading to the intersection.

Three participants reported near miss at this location. Two incidents occurred between a motor vehicle and pedestrian and the third incident involved two motor vehicles.

- a. driver ignored the crosswalk signals (1 participant marked this)
- b. Motor vehicle was speeding (1 participant marked this)
- c. Traffic signal malfunction caused the near miss (1 participant marked this)
- d. "Car was going to hit pedestrian due to ignoring crosswalk - nearmiss was my trying to make sure they did not kill the pedestatian" (1 participant wrote this)

The reasons for the near miss at this location included the motor vehicle ignoring the crosswalk signal which was reported twice. Other causes as reported include speeding motor vehicle and traffic signal malfunction.

Additional Comments

- a. "Pedestrian was fine and other driver gave me the finger. More attention (flashing lights) are required for right if way crosswalks"
- b. "There is no traffic light at this intersection -- so it makes near misses more frequent."

Intersection of S Goodwin Ave and W Nevada St

This is an unsignalized intersection near the department of African American Studies and Evans Residence Hall. Nevada is a one-way street on the west side of Goodwin Ave.

Three participants reported near misses at this location. Two incidents occurred between a motor vehicle and pedestrian and the third incident involved a bicyclist and a motor vehicle.

- a. Motor vehicle didn't stop at stop sign/red light at intersection (2 participants marked this)
- b. Left turning motor vehicle violated WALK/DON'T WALK signal (1 participant marked this)

- c. Bicycle didn't stop at stop sign/red light at intersection (1 participant marked this)

The most common reason for near misses at this intersection was that the motor vehicle violated the traffic signal. This was reported three times (2+1). One of the participants also reported a violation by a bicyclist at the stop sign at this intersection.

Additional Comment

- a. "The driver honked at me rudely as if I was the one who was in his way"

Intersection of S. Lincoln Ave. and W Pennsylvania Ave

This is a signalized intersection near the PAR (Pennsylvania Avenue Resident Halls) and Farmhouse Fraternity. None of the approaches have a marked bike lane.

Three participants reported near misses at this intersection. Two incidents occurred between a motor vehicle and pedestrian and the third incident involved a bicyclist and a motor vehicle.

- a. Left turning motor vehicle violated WALK/DON'T WALK signal (1 participant marked this)
- b. "Bicycle was lane splitting and swerving between cars to get to the light. Bicycle then positioned himself in the intersection to be first at the light. Bicycle was heading East on Pennsylvania." (1 participant wrote this)
- c. Left turning motor vehicle didn't yield to bicycle (1 participant marked this)

The most common reason for near misses at this intersection was the left turning motor vehicle violating the WALK/DON'T WALK sign and not yielding to the bicycle. One of the participants also marked an issue due to the bicyclist which was swerving between cars causing the near miss.

Additional Comment

- a. "It was evening/dark when there was heavy traffic leaving campus. Bicyclist didn't signal when swerving between cars, and was lane splitting which isn't legal or safe."

Intersection of S 3rd St and E Green St

This is an unsignalized intersection controlled by a 2-way stop sign along the approaches on Third St. This intersection is located near the USPS building. There are turn lanes on both approaches on Green St.

Two participants reported near misses at this intersection. Both incidents involved a motor vehicle and a pedestrian.

- a. View of the bicyclist was obstructed by corner of the building (1 participant marked this)
- b. Pedestrian was jaywalking (1 participant marked this)
- c. Motor vehicle was speeding (1 participant marked this)

Please note that there is a discrepancy in the data collected from the participant where the users marked that the accidents involved pedestrians and motor vehicles, however one of the reasons marked reported a bicyclist.

The other reasons for near misses at this intersection as marked by the participant involved a jaywalking pedestrian and a speeding motor vehicle.

Additional comment

- a. “Car on Third street was giving way to other cars, while waiting on the crosswalk. I was turning right onto Third Street. Pedestrian decides to crossroad behind the waiting car. Hence, he was not in my vision. Near miss avoided only because I wasn’t dr”

Intersection of S 6th St and W Gregory Dr

This is a signalized intersection. The intersection has a heavy foot traffic as it is close to the Main library, Wohler’s hall and David Kinley Hall on the east side and Geis college of Business and student residence halls on the west side. Gregory Dr. is a one way on the east side of 6th St. There are marked pedestrian crosswalks on all approaches at this intersection.

Two participants reported near misses at this intersection. One incident involved a motor vehicle and a pedestrian, and the other incident involved a motor vehicle and other vehicle (skateboard, scooter etc.).

- a. Pedestrian was jaywalking (1 participant marked this)
- b. Motor vehicle was speeding (1 participant marked this)
- c. Pedestrian darted on to the roadway (1 participant wrote this)
- d. Other vehicles involved. Reason not collected (1 participant marked this)

The reasons for near miss at this intersection as marked by the participants include pedestrian issues where the pedestrian was jaywalking or darting on to the roadway as well as a motor vehicle speeding issue.

There were no additional comments.

Intersection of S 6th St and E White St

This is an unsignalized intersection on the north side of campus near the engineering buildings. The Sixth street is a one way going south and has a stop sign. There are marked crosswalks on all approaches at this intersection. Bikes are allowed to completely occupy the lane on White St.

Two participants reported near misses at this location. Both incidents involved two motor vehicles.

- a. Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection (2 participants marked this)

- b. Motor vehicle(s) was (were) speeding (1 participant marked this)

Participants marked motor vehicle not stopping at the stop light or speeding as the primary issue for near miss at this intersection.

Additional Comments

- a. "I could also report this as a problematic location. Vehicles on sixth street often assume that White Street vehicles have a stop sign as well and will run the stop sign."
- b. "This is a frequent occurrence at this intersection. Bad drivers/students never see this stop sign for for whatever reason and just drive straight through. Every bus I take that goes through this intersection always lets off the gas or even just taps the b"

Intersection of S. Neil St. and Stadium Dr.

This is a signalized intersection at the west edge of the campus boundary. The intersection is close to an underpass to a railroad bridge. Stadium Dr. has a slight upwards grade as it approaches this intersection from the east side. Each approach at this intersection has a marked left turn lane.

Two participants reported near misses at this location. Both incidents involved a motor vehicle and a pedestrian.

- a. Left turning motor vehicle violated WALK/DON'T WALK signal (1 participant marked this)
- b. Motor vehicle didn't stop at stop sign/red light at intersection (1 participant marked this)
- c. Right turning motor vehicle violated WALK/DON'T WALK signal (1 participant marked this)
- d. View of the bicyclist was obstructed by corner of the building (1 participant marked this)
- e. The location was not well lit which caused the near miss (1 participant marked this)

According to the participants, the motor vehicle issues like violating the WALK/DON'T WALK sign or stop sign were the primary issue. Visibility issue due to lighting was also marked by one of the participants at this intersection.

Additional Comments

- a. "The Stadium and Neil intersection is very dangerous for pedestrians, and I have nearly been hit by cars multiple times. Drivers frequently run red lights or ignore walk signals here and never look for pedestrians. Intersection NEEDS left turn arrows."
- b. "Not corner of building but the underpass was blocking the view of the walkway. Driver did not prepare to halt for pedestrians (me). This seems to be a common occurrence."

Intersection of Intersection of S. Fourth St. and E. Armory Ave

This intersection is an unsignalized intersection controlled by 4 stop signs. It has a mix of vehicular, bike and pedestrian traffic. This intersection is close to the University of Illinois Armory and Ice Arena. There are crosswalks at all four approaches, and a marked bicycle lane on S. Fourth St.

Two people reported near misses at this intersection. One of the incidents involved a motor vehicle and a pedestrian while the other incident involved two motor vehicles.

- a. "Intersection gets extremely congested with both vehicles & students. Often times when it is a vehicle's turn to go, they can't because of students walking. Then it gets confusing who should go next and more than one vehicle tries to go at same time." (1 participant wrote this)
- b. Motor vehicle didn't stop at stop sign/red light at intersection (1 participant marked this)

According to one of the survey participants, the intersection of Fourth and Armory is extremely congested. Motor vehicles not stopping at the stop sign and being confused due to the extreme congestion are the issues that were marked by the participants at this intersection.

Additional Comments

- a. "I've had multiple issues with this intersection and now try to avoid it whenever possible."

1. S Goodwin Ave and W Pennsylvania Ave

This is a three-way intersection with a stop sign on Goodwin Ave. The southbound approach on Goodwin Ave. has marked turn lanes for left and right turns. This intersection is nearby Agricultural Bioprocessing Laboratory and National Soybean Research Laboratory. There is a marked bike lane along the sidewalk on the east side of Pennsylvania Ave.

Two participants reported near misses at this location. Both incidents involved a motor vehicle and a bicycle.

- a. Speeding motor vehicle nearly missed colliding with fixed object on road (1 participant marked this)
- b. "Bike had no light or reflecting gear" (1 participant wrote this)
- c. Bicycle didn't stop at stop sign/red light at intersection (1 participant marked this)
- d. The location was not well lit which caused the near miss (1 participant marked this)

According to the survey participants, one of the reasons for the near miss was due to speeding motor vehicle. One of the participants also wrote a reason for the near miss as lack of reflecting gear on bicycle and bicycle not stopping at stop sign/red light at intersection. One of the participants also marked visibility issue due to lack of adequate lighting as the cause of the near miss.

Additional Comments

- a. “Pretty standard case of motorist not providing the minimum 3' of clearance when overtaking a cyclist. Happens fairly regularly on Pennsylvania between Lincoln and Sixth Street.”

Intersection of S Oak St and Stadium Dr

This is a four-way stop sign controlled intersection located near the First and Stadium Playing fields, Volleyball courts and DRES (Disability Resources and Educational Services). There are marked crosswalks on all four approaches at this intersection.

Two participants reported near misses at this location. One of the incidents involved a motor vehicle and a bicycle while the other incident involved a motor vehicle and other vehicle (skateboard, scooter etc).

- a. Bicycle didn't stop at stop sign/red light at intersection (1 participant marked this)
- b. Other vehicles involved. Reason not collected (1 participant marked this)

The survey participant marked bicycle not stopping at the stop sign as the reason for the near miss.

Additional Comments

- a. “Pedestrian walkway bump-outs and separated bike lanes should be standard!”

Intersection of N. Lincoln Ave. and W. Springfield Ave

This is a busy signalized intersection. Springfield Ave. has a marked left turn lane, thru lane and right turn lane on both its approaches at this location. There are marked left turn lanes on Lincoln Ave. as well. This is primarily a residential area with multiple apartment complexes in its surroundings.

Two participants reported near misses at this location. One of the incidents involved two motor vehicles and while the other incident involved a motor vehicle and a pedestrian.

- a. Left turning motor vehicle violated WALK/DON'T WALK signal (1 participant marked this)
- b. Left turning motor vehicle didn't yield to bicycle (1 participant marked this)

According to the survey participants, the near misses were caused due to motor vehicle violating the WALK/DON'T WALK sign or not yielding to the pedestrians.

Additional Comments

- a. “I was turning left from Springfield onto Lincoln (southbound), operating a motor vehicle. The pedestrian had the right of way. I didn't see them and nearly hit them due to the extremely poor lighting at the intersection. The "highway style" lighting does”
- b. “North-south traffic light there seems to sometimes go greenlight-northbound no-greenleftarrow-southbound, and sometimes go redlight-northbound greenleftarrow-southbound depending on the time of day”

Intersection of Lincoln Ave. and W Iowa St.

This is a three-way intersection with a stop sign control at Iowa St. There is a crosswalk on the south side on Lincoln St.

Two participants reported near misses at this location. Both incidents involved a motor vehicle and a pedestrian.

- a. The location was not well lit which caused the near miss (1 participant marked this)
- b. Motor vehicle was speeding (1 participant marked this)

The survey participants gave two reasons including lack of adequate lighting at this intersection and speeding motor vehicle for the near misses.

Additional Comments:

- a. “I was using a crosswalk; car allegedly didn’t see me until they were about to hit me. I was wearing dark clothes, but there were streetlights and it was dusk. Driver blamed me, I blamed them.”
- b. “Driver was texting”

Furthermore, there are thirty-eight other intersections where the participants reported one near miss. These are given in Table 2.33.

Table 2.23: Intersections with one near miss reported as obtained from survey

Intersection Name	Coordinates of Intersection
S Wright St and E Green St	POINT (-88.22887399999998 40.11031699907021)
S Goodwin Ave and Western Ave	POINT (-88.22395799999998 40.1121859990702)
S Mathews Ave and W Green St	POINT (-88.225583 40.1104729990702)
N Harvey St and W University Ave	POINT (-88.22237899999998 40.11640699907016)
S Wright St and E Daniel St	POINT (-88.22885299999999 40.10798099907022)
S 6th St and E Healey St	POINT (-88.23041200000002 40.11149999907018)
S Oak St and St Mary’s Rd	POINT (-88.24141899999996 40.0944709990703)

N Goodwin Ave and W Main St	POINT (-88.22401399999998 40.11447499907019)
Springfield Ave and S 5th St	POINT (-88.23208299999999 40.11268899907018)
S 1st St and E John St	POINT (-88.23868199999998 40.10900699907021)
S 1st St and E Gregory Dr	POINT (-88.23863599999997 40.10409399907023)
S 6th St and E John St	POINT (-88.230367 40.10907899907021)
S 4th St and Peabody Dr	POINT (-88.23338299999999 40.10146399907024)
S 1st St and Stadium Dr	POINT (-88.23862199999999 40.10271699907024)
Springfield Ave and N Goodwin Ave	POINT (-88.223967 40.11275499907018)
S 3rd St and E Daniel St	POINT (-88.23536399999999 40.10793799907021)
S Wright St and E John St	POINT (-88.228875 40.10908299907022)
S Goodwin Ave and W Oregon St	POINT (-88.22385099999998 40.10698499907022)
and W Indiana Ave	POINT (-88.21916099999999 40.10278099907023)
S 6th St and E Armory Ave	POINT (-88.230295 40.10543599907026)
Springfield Ave and S 4th St	POINT (-88.23359199999999 40.11267599907021)
S Maryland Dr and W Pennsylvania Ave	POINT (-88.22284599999998 40.10059999907023)
and W Main St	POINT (-88.21935999999999 40.11451599907018)
S 1st St and E Daniel St	POINT (-88.23867199999998 40.10790699907022)
S 6th St and E Daniel St	POINT (-88.230345 40.10796899907024)
S Gregory St and W Green St	POINT (-88.22054099999998 40.11054799907021)
S 4th St and E John St	POINT (-88.23352 40.10904999907021)
Springfield Ave and S 6th St	POINT (-88.230431 40.11269999907019)
Springfield Ave and N Wright St	POINT (-88.228911 40.11271399907019)
S Goodwin Ave and W Illinois St	POINT (-88.223905 40.10903599907022)
and W Stoughton St	POINT (-88.21935099999997 40.11355499907018)
W Pennsylvania Ave and Virginia Dr	POINT (-88.222083 40.10060799907026)
S 6th St and W Pennsylvania Ave	POINT (-88.23019999999998 40.10055499907023)
N Goodwin Ave and W University Ave	POINT (-88.22404199999998 40.11639599907017)

and W Illinois St	POINT (-88.21927099999999 40.10906499907021)
S 1st St and E Green St	POINT (-88.23869499999999 40.11021699907022)
Co Rd 1500 N and S Oak St	POINT (-88.24144699999998 40.09805199907026)
E Gregory Dr and Arbor St	POINT (-88.23656199999999 40.10409999907024)

All the near miss intersections identified in campus are shown in Figure 2.9.

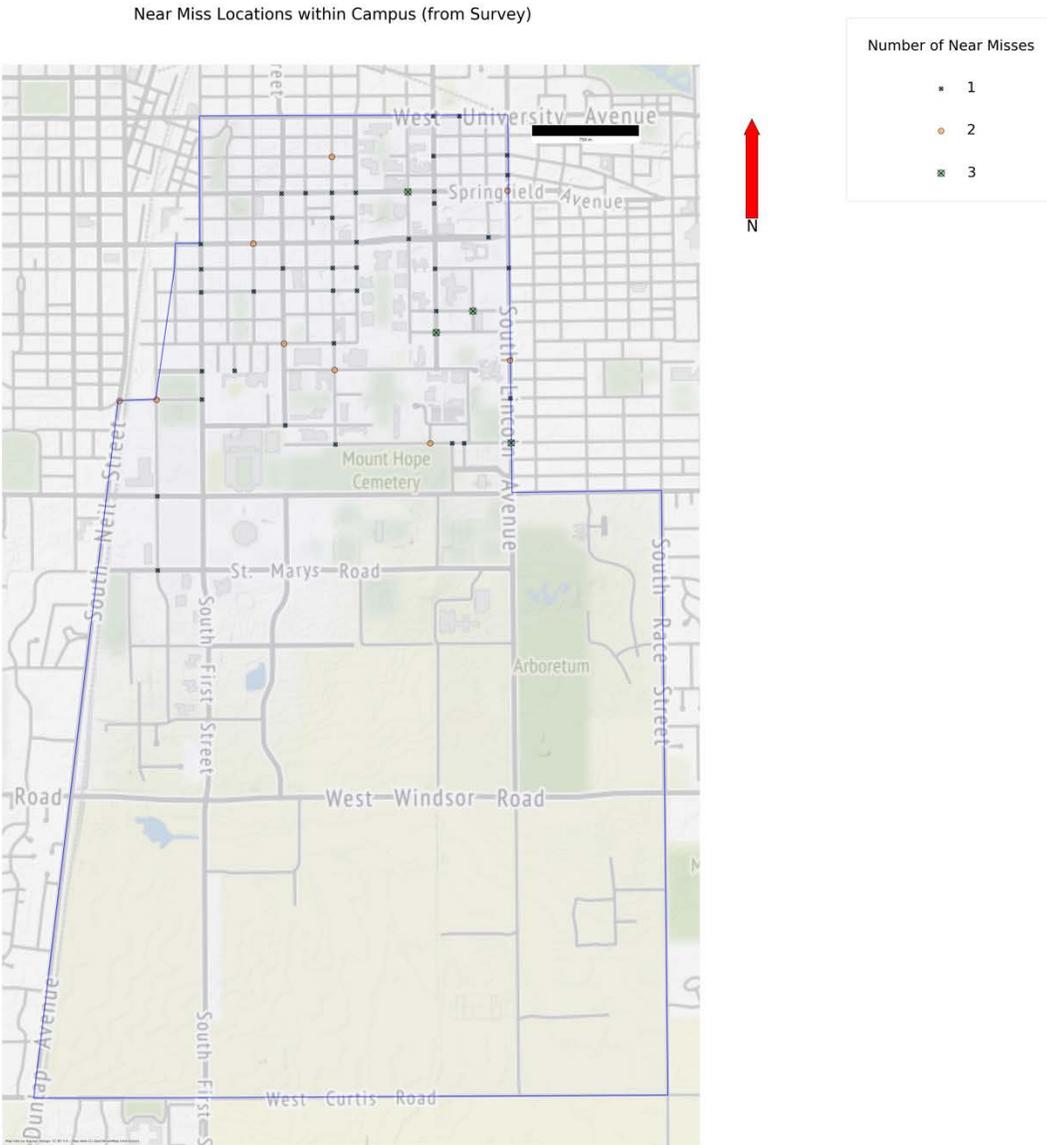


Figure 2.9: Near Miss Locations at Intersections (from Survey)

Mid-Block Near Miss Locations based on the Survey

S. Fourth St. near Flagg Hall (4 participants identifying a total of 6 reasons with 5 unique reasons)

This is a mid-block location on S. Fourth St. The area has several residence halls therefore increasing the pedestrian traffic at the location. Out of the four near misses, two involved a motor vehicle and a bicycle and two involved a motor vehicle and a pedestrian.

- a. Motor vehicle was speeding (2 participants marked this)
- b. Motor vehicle ignored cross walk (1 participant marked this)
- c. The location was not well lit which caused the near miss (1 participant marked this)
- d. View of the bicyclist was obstructed by corner of the building (1 participant marked this)
- e. “bicyclist was riding too fast and did not slow or stop before crossing at the crosswalk by Huff and Siebel Center for Design (which was an empty field at the time)” (1 participant wrote this)

The most frequent issues causing the near misses were speeding (by vehicle and bicycle) and motor vehicle ignoring crosswalk. There were visibility issues at this location due to lack of adequate lighting and obstruction of view as mentioned by two participants.

Additional Comment

- a. “Motor vehicle was speeding clearly above speed limit and refused to slow down or stop for pedestrians in the cross walk. The driver could clearly see the pedestrians in the cross walk but decided to swerve around the pedestrians instead of slowing down”
- b. “After he almost hit me, he had the audacity to shout out his window for me to look better or I'll be hit next time. Dude I was crossing at a cross walk and would have made it across before he passed if he was going the speed limit.”

There are nine other near miss locations along road as given in Table 2.24 below.

Table 2.24: Near miss locations reported in the survey along a road which are more than 12 feet from each other

	Location	Coordinates of Location
1	Springfield Ave. in front of Grainger Engineering Library	POINT (-88.2272761390853 40.11276496459809)
2	Springfield Ave. in front of Grainger Engineering Library	POINT (-88.22729957916819 40.11274026878007)
3	Lincoln Ave. near Arboretum	POINT (-88.21905345555305 40.09274193633222)

4	Mathews Ave. near Noyes Laboratory	POINT (-88.22553270647802 40.10883003351363)
5	Peabody Dr. near ARC	POINT (-88.23537831349182 40.10149662958411)
6	Mathews Ave. near Main St. and NCSA	POINT (-88.22570059313499 40.11449998185743)
7	Gregory Dr. near Main Library	POINT (-88.22878638462818 40.10416423845621)
8	Healey St. between 4 th and 5 th St.	POINT (-88.2328678911025 40.11140768639224)
9	W. Nevada St. near entrance to Dept. of Dance	POINT (-88.22030161117603 40.10594583661905)

The participants of the survey also recorded four other near miss locations which are not at any intersection nor along any road. The reported near misses which are not at an intersection or along a corridor are given in Table 2.25.

Table 2.25: Survey reported near misses not at intersection nor road

Location	Coordinates of Location	Person Reporting the Near Miss	Second Highway User involved in Near Miss
Near South Quad to the west of David Kinley Hall	POINT (-88.22858741687472 40.10381070687848)	Pedestrian	Motor Vehicle
Near the Veterinary Diagnostic Laboratory adjacent to Lincoln Ave	POINT (-88.2193136146157 40.09316454983855)	Motor Vehicle	Motor Vehicle
Near Plant Sciences Laboratory and Parking Lot F28	POINT (-88.22236906417099 40.10335679901308)	Bicycle	Other
At Illini Union Driveway	POINT (-88.22727099999852 40.11005799999931)	Pedestrian	Motor Vehicle

Near Misses along Corridors

The above section discussed the top reported intersections and midblock sections. We also looked at locations along a corridor within the campus together.

In order to identify the most frequently marked corridors, the closest road to each near miss location reported in the survey that are within 45 feet of the centerline of the road were identified as shown in Table 2.26.

Table 2.26: Number of near misses within 45 feet along centerline of corridor

Corridor Name	Number of near misses within 45 feet along centerline of corridor
Lincoln Ave	7
S 4th St	6
S 6th St	6
S Wright St	4
W Pennsylvania Ave	4
Springfield Ave	4
S Goodwin Ave	4
W Nevada St	3
W Gregory Dr	2
N Goodwin Ave	2
S 1st St	2
S 3rd St	2
W Oregon St	2
S Oak St	2
E Armory Ave	2
S Lincoln Ave	2
E Healey St	2
S Gregory St	2
E Gregory Dr	2
Stadium Dr	2
W Illinois St	1
W Green St	1
E John St	1
S 5th St	1
Peabody Dr	1
Springfield Ave	1
N Mathews Ave	1
E Green St	1
E Peabody Dr	1
E Daniel St	1
S Mathews Ave	1
W University Ave	1
Co Rd 1500 N	1

Lincoln Corridor

Lincoln Avenue runs in the North-South direction and extends from University Ave. on the North till Curtis Road in the South. Table 2.27 gives the intersections along Lincoln Ave that had reported near misses and the number of reported near misses at the intersection.

Table 2.27: Near misses at intersections along Lincoln Ave

Intersection Along Lincoln Ave	Number of Near Miss at Intersection
Lincoln Ave and W Pennsylvania Ave	3
Lincoln Ave and W Springfield Ave	2
Lincoln Ave and W Iowa St	2
Lincoln Ave and W Indiana Ave	1
Lincoln Ave and W Illinois St	1
Lincoln Ave and W Main St	1
Lincoln Ave and W Stoughton St	1
Total	11

The most frequent near miss intersection is at Pennsylvania Ave. The intersections at Lincoln Ave and Springfield Ave. and Lincoln Ave and Iowa St. had two near misses reported each. The intersections at Indiana Ave, Illinois St, Main St. and Stoughton St had one near miss reported each. Along with the intersection points mentioned, there is one near miss location reported along Lincoln Ave. near the arboretum and Japan House. Table 2.28 gives the survey reported reasons for near misses along Lincoln Ave.

Table 2.28: Reasons (from survey) for near misses along Lincoln Ave

Participant's reason for Near Miss	Number of times reason was marked	Category
Left turning motor vehicle violated WALK/DON'T WALK signal	2	Motor vehicle issues
Left turning motor vehicle didn't yield to bicycle	2	
Motor vehicle was speeding	1	
Motor vehicle didn't stay in the same lane	1	
Motor vehicle didn't stop at stop sign/red light at intersection	1	
The other motor vehicle tried to switch lanes while I was in there blind spot after trying to switch lanes because the car in front of them in the left lane on Lincoln was turning left.	1	
The bicyclist was wearing headphones and looking at their phone rather than watching where they were going	1	Bicycle issues
Bicycle was lane splitting and swerving between cars to get to the light. Bicycle then positioned himself in the intersection to be first at the light. Bicycle was heading East on Pennsylvania.	1	
Bike waiting at crosswalk. Vehicle appeared to be slowing down approaching crosswalk. After looking both ways bike entered crosswalk and vehicle slammed on brakes and apparently did not intend to stop. Honest mistake. It surprised both of us.	1	
Bicycle was riding on sidewalk for pedestrian	1	
View of the bicyclist was obstructed by corner of the building	1	Visibility Issues
View of the bicyclist was obstructed by fixed object on the road	1	

The location was not well lit which caused the near miss	1	
Other, no further explanation provided	1	Other

The reasons for the near miss along Lincoln Ave as collected from the survey can be broadly classified into motor vehicle issues, bicycle issues, visibility issues and others. Under motor vehicle issues, issues due to left turning motor vehicle was marked four times. Vehicles not staying in the same lane or not stopping at the stop sign/red light were the other issues concerning motor vehicles. Under bicycle issues, distracted bicyclist was caused a near miss. Bicycles swerving between cars or riding on sidewalk were other reasons identified for near misses along Lincoln Ave. One other reason for the near miss involving a bicycle was due to a motor vehicle not stopping. Visibility issues involved obstructed view due to fixed object or corner of the building or due to lack of adequate lighting along the road.

Figure 2.10 shows the reported near miss locations along Lincoln Ave.

Near Miss Locations on Lincoln Ave. (from Survey)

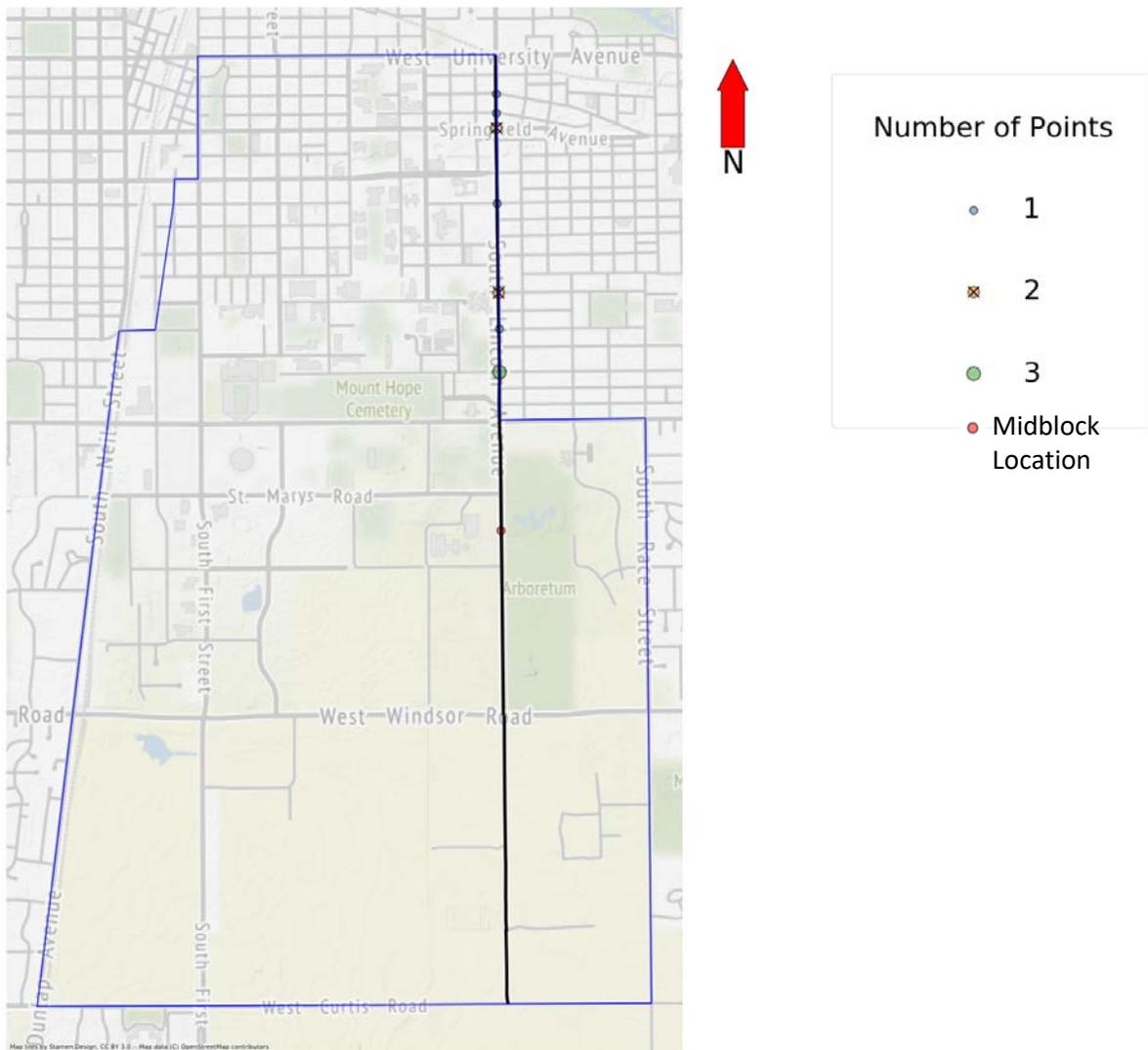


Figure 2.10: Near Miss locations along Lincoln Ave.

Fourth St

Fourth Street runs in the North-South direction, with end points at University St. at the North and St. Mary’s Rd. on the South. Table 2.29 shows the near miss intersections along Fourth St. and Table 2.30 shows the near misses at mid-block locations along Fourth St.

Table 2.29: Near misses at intersections along Fourth St

Intersection Along Lincoln Ave	Number of Near Miss at Intersection
S 4th St and E Armory Ave	2
E Springfield Ave and S 4th St	1
S 4th St and E John St	1
S 4th St and Peabody Dr	1

Table 2.30: Near misses at mid-block locations along Fourth St

Location	Coordinates of Location
Fourth St. near Flagg Hall and George Huff Hall	POINT (-88.23340386589825 40.10304587766304)
Fourth St. near Flagg Hall and George Huff Hall	POINT (-88.23339912461991 40.10304971889214)
Fourth St. near Flagg Hall and George Huff Hall	POINT (-88.23337885324095 40.1030536372952)
Fourth St. near Flagg Hall and George Huff Hall	POINT (-88.2333741362815 40.10303678152837)

All the reported four near misses within a midblock section of Fourth St. (and not at an intersection) are in the residential area between Flagg Hall and George Huff Hall. This location has more reported near misses than any intersection along the Fourth St. corridor. At intersections, the location at Fourth and Armory had two reported near misses. The intersections at Springfield Ave., John St and Peabody Dr. had one near miss each. Table 2.31 shows the reasons identified for near misses along Fourth St.

Table 2.31: Reasons (from survey) for near misses along Fourth St.

Participant’s reason for Near Miss	Number of times reason was marked	Category
Motor vehicle was speeding	3	Motor vehicle issues
Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection	3	
Motor vehicle ignored cross walk	1	
bicyclist was riding too fast and did not slow or stop before crossing at the crosswalk by Huff and Siebel Center for Design (which was an empty field at the time)	1	Bicycle issues
View of the bicyclist was obstructed by corner of the building	1	Visibility issues

The location was not well lit which caused the near miss	1	
construction fencing makes it hard to see bicycles entering crosswalk	1	
Intersection gets extremely congested with both vehicles & students. Often times when it is a vehicle's turn to go they can't because of students walking. Then it gets confusing who should go next and more than one vehicle tries to go at same time.	1	Traffic and queue issues
unclear traffic directions	1	Signaling and marking issues

The reasons for near misses along Fourth St. could be broadly classified as motor vehicle issues, bicycle issues, visibility issues, traffic and queue issues, and signaling and marking issues. Under motor vehicle issues, speeding and motor vehicle not stopping at stop sign or red light were the most commonly marked reason for near miss, each of which were marked three times. Motor vehicle ignoring cross walk was marked by one of the participants. Under bicycle issues, speeding bicycle was the marked reason for near miss. Under visibility issues, obstructed view due to construction or corner of the building and lack of lighting were marked as reasons for near miss. Traffic and queue issue at this corridor are caused as the intersection along this corridor gets congested due to high vehicle and pedestrian traffic. One of the participants wrote unclear traffic directions as one of the reasons for near miss along this corridor.

Figure 2.11 shows the near miss locations identified from the survey along Fourth St.

Near Miss Locations on Fourth St. (from Survey)

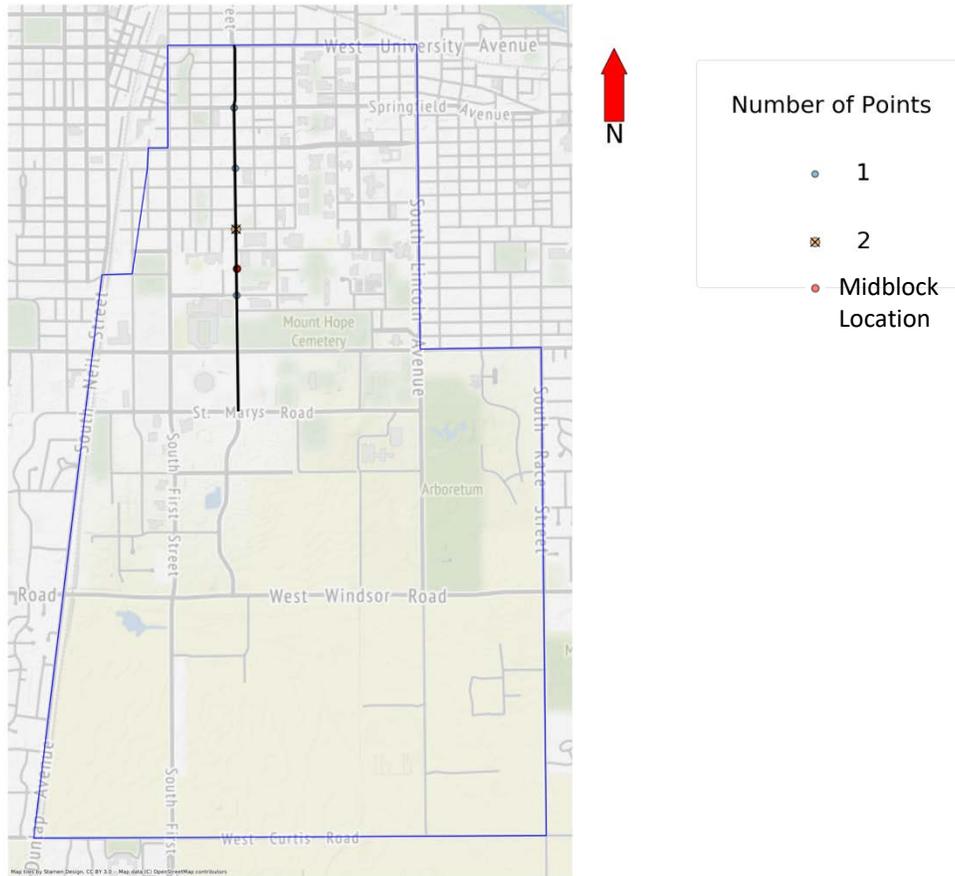


Figure 2.11: Near Miss locations along Fourth St.

Sixth St

Sixth Street runs in the North-South direction, with end points at University St. at the North and Pennsylvania Ave. on the South. Table 2.32 shows the intersections with near misses along Sixth St.

Table 2.32: Near misses at intersections along Sixth St

Intersection Along Sixth St	Number of Near Miss at Intersection
S 6th St and W Gregory Dr	2
S 6th St and E White St	2
S 6th St and E Healey St	1
S 6th St and E Armory Ave	1
S 6th St and E John St	1
S 6th St and E Springfield	1
S 6th St and W Pennsylvania Ave	1
S 6th St and E Daniel St	1

Along Sixth St., all the near misses reported are at intersection and no mid-block near misses were reported during the survey. Table 2.33 shows the reasons for near misses along Sixth St.

Table 2.33: Reasons (from survey) for near misses along Sixth St.

Participant’s reason for Near Miss	Number of times reason was marked	Category
Motor vehicle was speeding	3	Motor vehicle issues
Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection	3	
Motor vehicle was pulling into or coming out of driveway	1	
Oneway southbound 6th street approaching springfield av widens out to 3 lanes a left-only a center forward and a right-only. On bike I'm in the center lane to go forward. the car did not turn went straight ahead bcs confused.	1	
Right turning motor vehicle violated WALK/DON'T WALK signal	1	
Traveling the wrong way on a one way.	1	
Overtaking motor vehicle nearly missed striking the rear of the bicycle	1	
View of the bicyclist was obstructed by corner of the building	2	Visibility issues
View of the bicyclist was obstructed by fixed object on road	1	
Pedestrian was jaywalking	1	Pedestrian issues
Pedestrian darted on to the roadway	1	
Parked vehicle abruptly opened its door	1	Parking issues
Other vehicles involved. Reason not collected	2	Other

The reasons for near misses along Sixth St. can be broadly categorized into: motor vehicle issues, visibility issues, pedestrian issues, parking issues and others. Under motor vehicle issues, speeding vehicle was the most frequent reason collected. Motor vehicle not stopping at red light or stop sign was the second most frequent reported reason for near miss.

Near Locations on Sixth Ave. (from Survey)

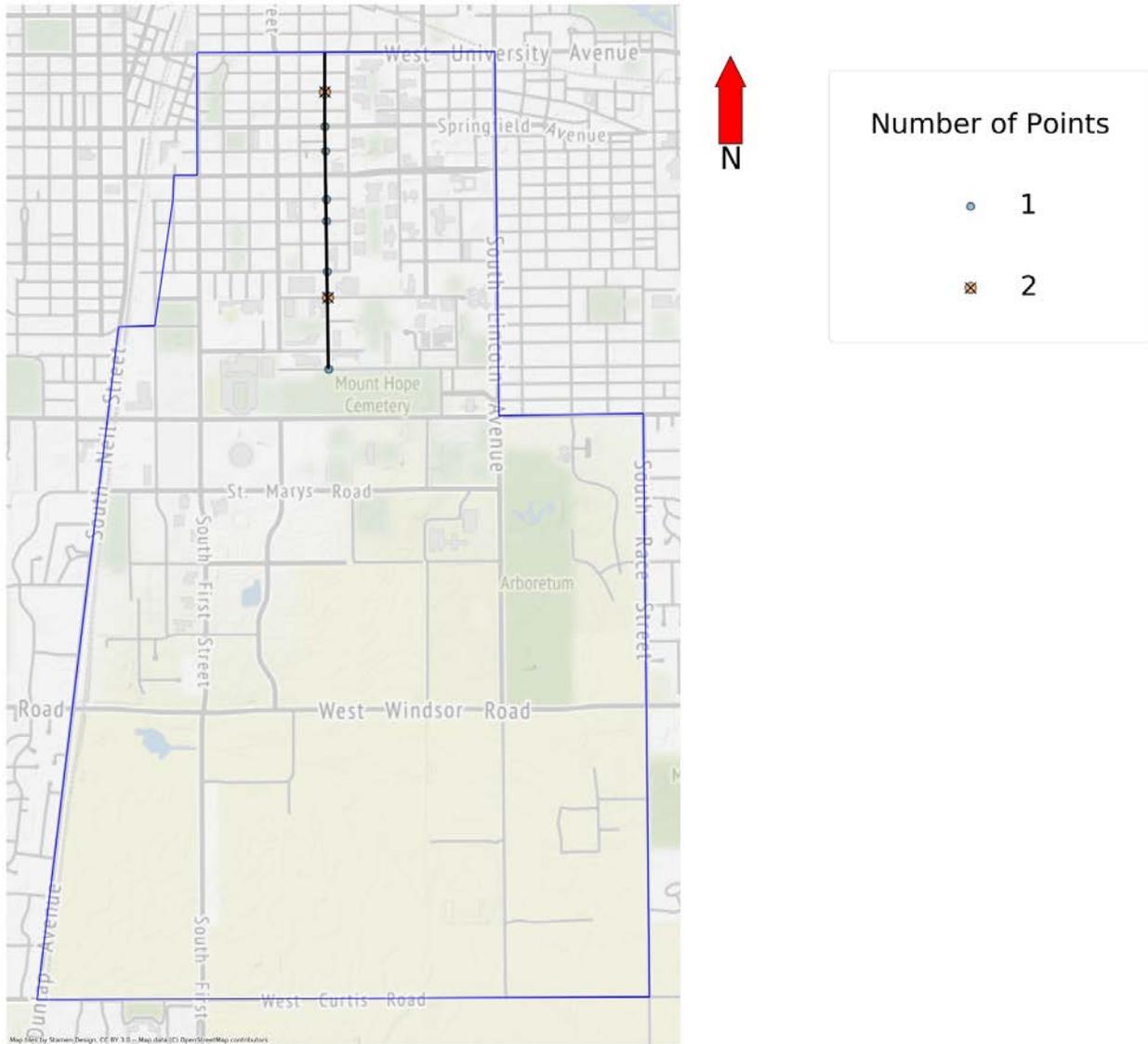


Figure 2.12: Near Miss locations along Sixth St

Wright St.

Wright Street runs in the North-South direction, with end points at University Ave at the North and Armory Ave. on the South. Table 2.34 shows the intersections with near misses along Wright St.

Table 2.34: Near misses at intersections along Wright St

Intersection Along Wright St	Number of Near Miss at Intersection
S Wright St and E Green St	1
S Wright St and E Springfield Ave	1
S Wright St and E John St	1
S Wright St and E Daniel St	1

Along Wright St., all the near misses reported are at intersection and no mid-block near misses were reported during the survey. Table 2.

Table 2.35: Reasons (from survey) for near misses along Wright St.

Participant’s reason for Near Miss	Number of times reason was marked	Category
Right turning motor vehicle violated WALK/DON'T WALK signal	2	Motor vehicle issues
Left turning motor vehicle violated WALK/DON'T WALK signal	1	
Driver Personality	1	
Motor vehicle was speeding	1	
Bicycle was riding on sidewalk for pedestrian	1	Bicycle issues
Left turning bicycle violated the WALK/DON'T WALK sign	1	
The location was not well lit which caused the near miss	1	Visibility issues

The reasons for near miss along Wright St. are broadly classified into three: motor vehicle issues, bicycle issues and visibility issues. Under motor vehicle issues, turning vehicle violating the WALK/DON'T WALK signal is the most frequently marked reason marked thrice. One of the participants marked speeding motor vehicle as a reason. A participant wrote down “driver personality” as a reason for the near miss, which the participant further in the additional comment as “Older, white, male maintenance worker turning right from wright onto green driving up on the curb. The driver seemed to turn with intent to scare”. Bicycle issues include bikes riding on the sidewalk for the pedestrian and left turning bicycle violating the WALK/DON'T WALK sign. Visibility issue along this corridor is marked by one participant regarding the lack of adequate lighting.

Near Miss Locations on Wright St. (from Survey)

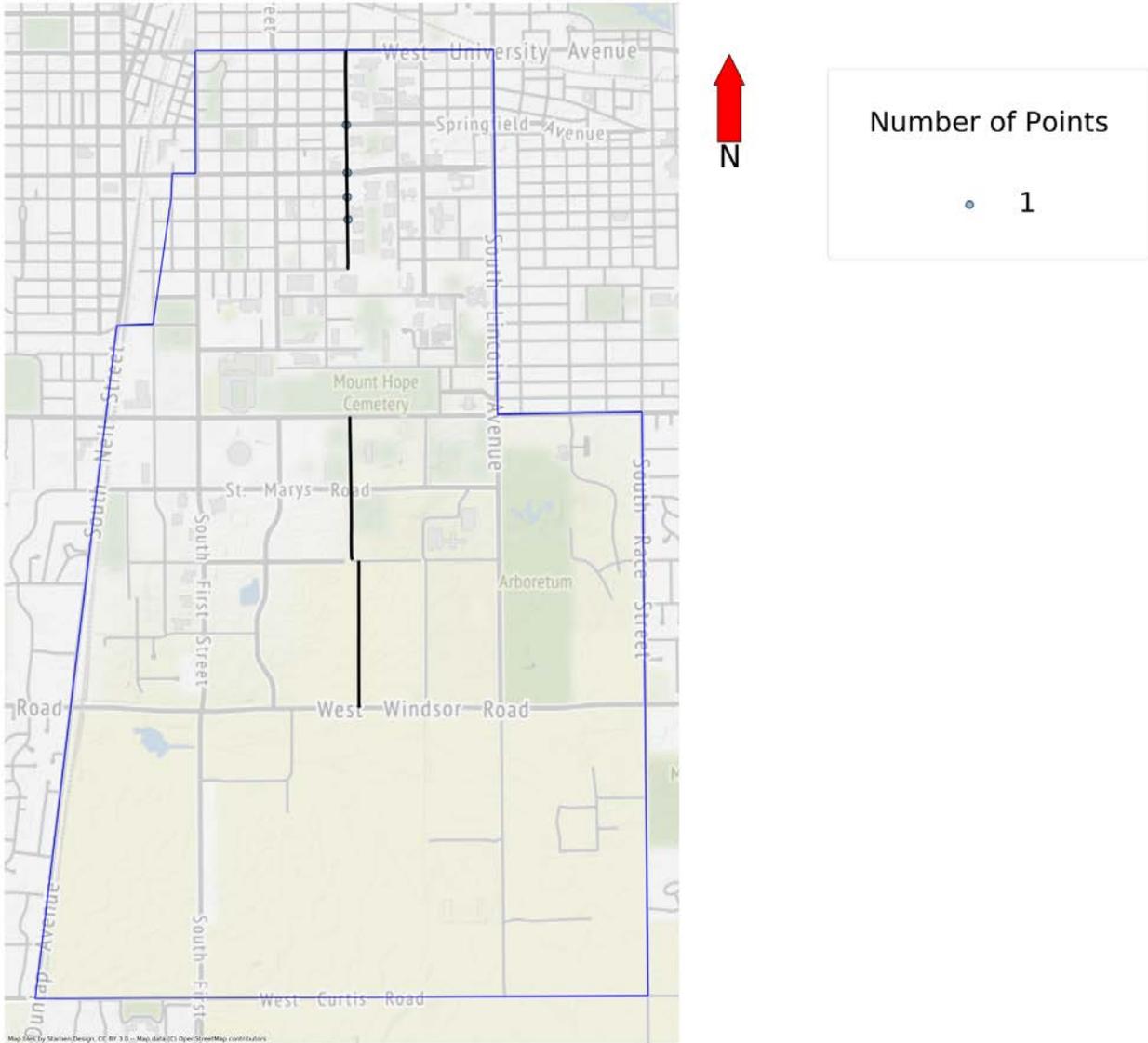


Figure 2.13: Near Miss locations along Wright St.

Springfield Ave.

Springfield Ave. runs in the east west direction between Lincoln Ave. on the east side of campus and First St. on the west side of campus. This corridor has eleven intersections along its length and serves a heavy traffic volume. Table 2.36 shows the near miss intersections along Springfield Ave.

Table 2.36: Near misses at intersections along Springfield Ave

Intersection Along Pennsylvania Ave	Number of Near Miss at Intersection
Springfield Ave and N Mathews Ave	3
Springfield Ave and Lincoln Ave	2
Springfield Ave and S 6th St	1
Springfield Ave and S 5th St	1
Springfield Ave and N Goodwin Ave	1
Springfield Ave and S 4th St	1
Springfield Ave and Wright St	1

Table 2.37 shows the near misses at mid-block locations along Springfield Ave.

Table 2.37: Near misses at mid-block locations along Springfield Ave

Location	Coordinates of Location
Springfield Ave. near entrance to Grainger Engineering Library	POINT (-88.2272761390853 40.11276496459809)
Springfield Ave. near entrance to Grainger Engineering Library	POINT (-88.22729957916819 40.11274026878007)

The reported reasons for near miss along Springfield Ave. are given in Table 2.38.

Table 2.38: Reasons (from survey) for near misses along Springfield Ave.

Participant's reason for Near Miss	Number of times reason was marked	Category
Motor vehicle was speeding	3	Motor vehicle issues
Left turning motor vehicle violated WALK/DON'T WALK signal	2	
Right turning motor vehicle violated WALK/DON'T WALK signal	2	
Motor vehicle didn't stop at stop sign/red light at intersection	2	
oneway southbound 6th street approaching springfield av widens out to 3 lanes a left-only a center forward and a right-only. On bike I'm in the center lane to go forward. the car did not turn went straight ahead bcs confused.	1	
Car was going to hit pedestrian due to ignoring crosswalk - nearmiss was my trying to make sure they did not kill the pedestatian	1	
The car was southward bound on 5th attempting to cross Springfield. Traffic on Springfield was backed up but a window of space was left for cars to get through on 5th. I was moving east on Springfield and the driver couldn't see past the stopped cars.	1	
Left turning motor vehicle didn't yield to bicycle	1	

driver ignored the crosswalk signals	1	
The location was not well lit which caused the near miss	2	Visibility issues
Traffic signal malfunction caused the near miss	1	Traffic signal issues
Pedestrian darted on to the roadway	1	Pedestrian issues

Along Springfield Ave. the reported reasons for near misses could be classified into four categories: motor vehicle issues, visibility issues, traffic signal issues and pedestrian issues. Under motor vehicle issues, speeding motor vehicle was reported thrice. Furthermore, left turning motor vehicle or right turning motor vehicle violating the WALK/DON'T WALK sign and the motor vehicle not stopping at the stop sign has been reported twice each. Other motor vehicle issues were due to motor vehicle ignoring the crosswalk signals, not yielding to the bicycle and issues due to vehicles nearly avoiding striking pedestrians. The reported visibility issue along this corridor was caused due to location not being well lit at night. The traffic signal issue marked was a traffic signal malfunction. Pedestrian issue was due to pedestrian darting onto the roadway causing the near miss.

Near Miss Locations on Springfield Ave. (from Survey)

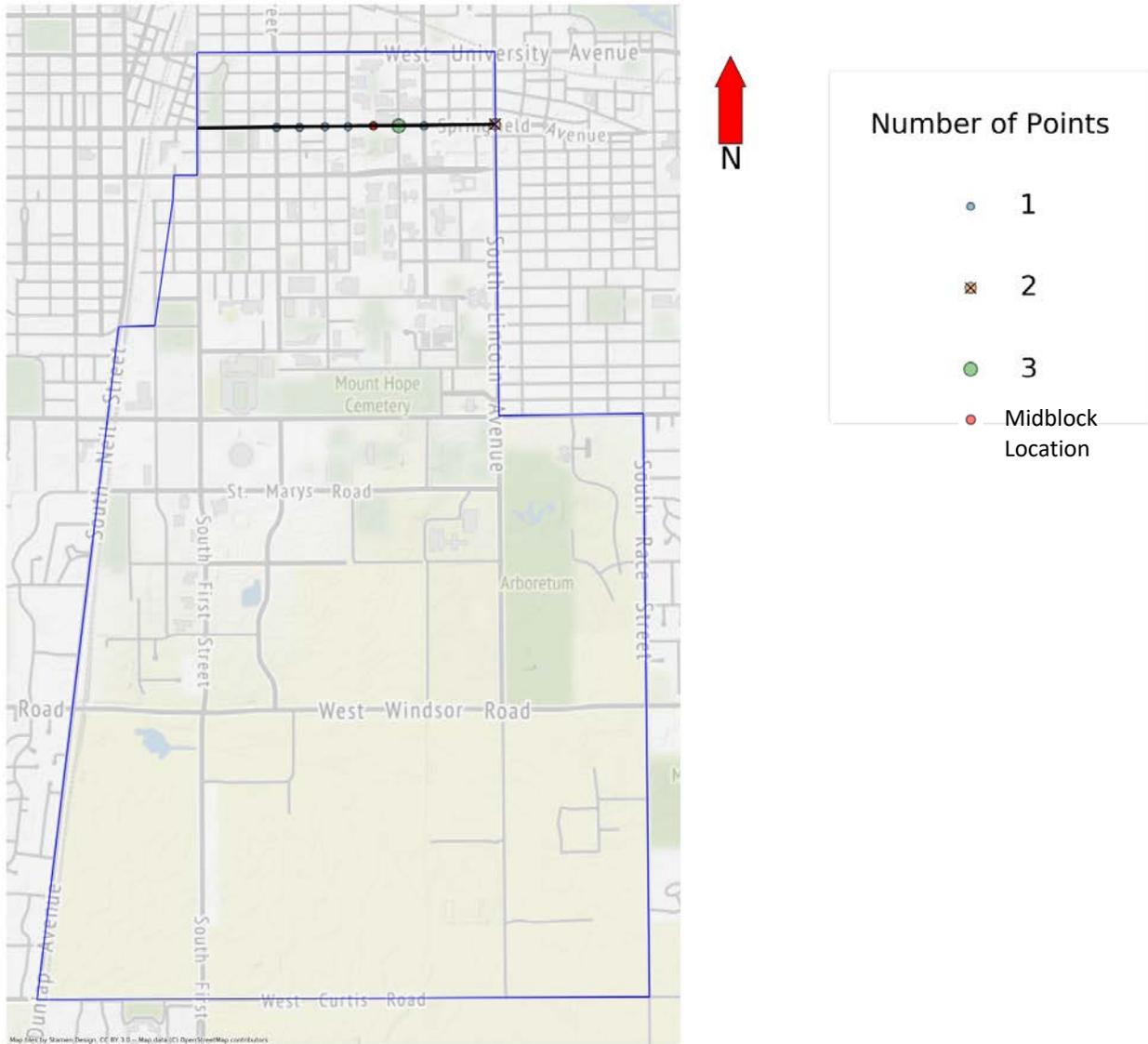


Figure 2.14: Near Miss locations along Springfield Ave.

Goodwin Ave.

Goodwin Ave runs in the north south direction with its end point on the north of the campus boundary at University avenue. Table 2.39 gives the intersections with reported near misses along Goodwin Ave.

Table 2.39: Near misses at intersections along Goodwin Ave.

Intersection Along Goodwin Ave	Number of Near Miss at Intersection
S Goodwin Ave and W Nevada St	3
S Goodwin Ave and W Pennsylvania Ave	2
S Goodwin Ave and W Illinois St	1

N Goodwin Ave and W University Ave	1
N Goodwin Ave and W Main St	1
S Goodwin Ave and Western Ave	1
Springfield Ave and N Goodwin Ave	1
S Goodwin Ave and W Oregon St	1

Along Goodwin Ave., all the near misses reported are at intersection and no mid-block near misses were reported during the survey. The intersection at Nevada St reported three near misses, Pennsylvania Ave had two. Intersections at Illinois, University, Main, Springfield and Oregon had one near miss. The intersection of Goodwin and Western Ave is located near the B1 parking lot and Engineering Sciences building. Table 2.40 gives the reported reasons for near misses along Goodwin Ave.

Table 2.40: Reasons (from survey) for near misses along Goodwin Ave.

Participant's reason for Near Miss	Number of times reason was marked	Category
Motor vehicle didn't stop at stop sign/red light at intersection	5	Motor vehicle issues
Motor vehicle was speeding	2	
Right turning motor vehicle violated WALK/DON'T WALK signal	1	
Left turning motor vehicle violated WALK/DON'T WALK signal	1	
Bicycle didn't stop at stop sign/red light at intersection	2	Bicycle issues
Bike had no light or reflecting gear	1	
The location was not well lit which caused the near miss	2	Visibility issues
Pedestrian was jaywalking	1	Pedestrian issues

The reasons for near miss along Goodwin Ave are categorized into motor vehicle issues, bicycle issues, visibility issues and pedestrian issues. Under motor vehicle issues, the most frequent one was that motor vehicle didn't stop at stop sign or red light at the intersection. This reason has been reported five times. Speeding motor vehicle, and issues due to turning vehicle violating the WALK/DON'T WALK signal has been reported twice each. Under bicycle issues, bikes not stopping at the stop sign or red light is reported twice. Bikes without light or reflecting gear has been marked once as a reason for near miss. Visibility issue was caused due to lack of adequate lighting and this has been reported twice. Pedestrian issue where the pedestrian was jaywalking was reported once. Figure 2.15 shows the locations with reported near misses along Goodwin Ave.

Near Miss Locations on Goodwin Ave. (from Survey)

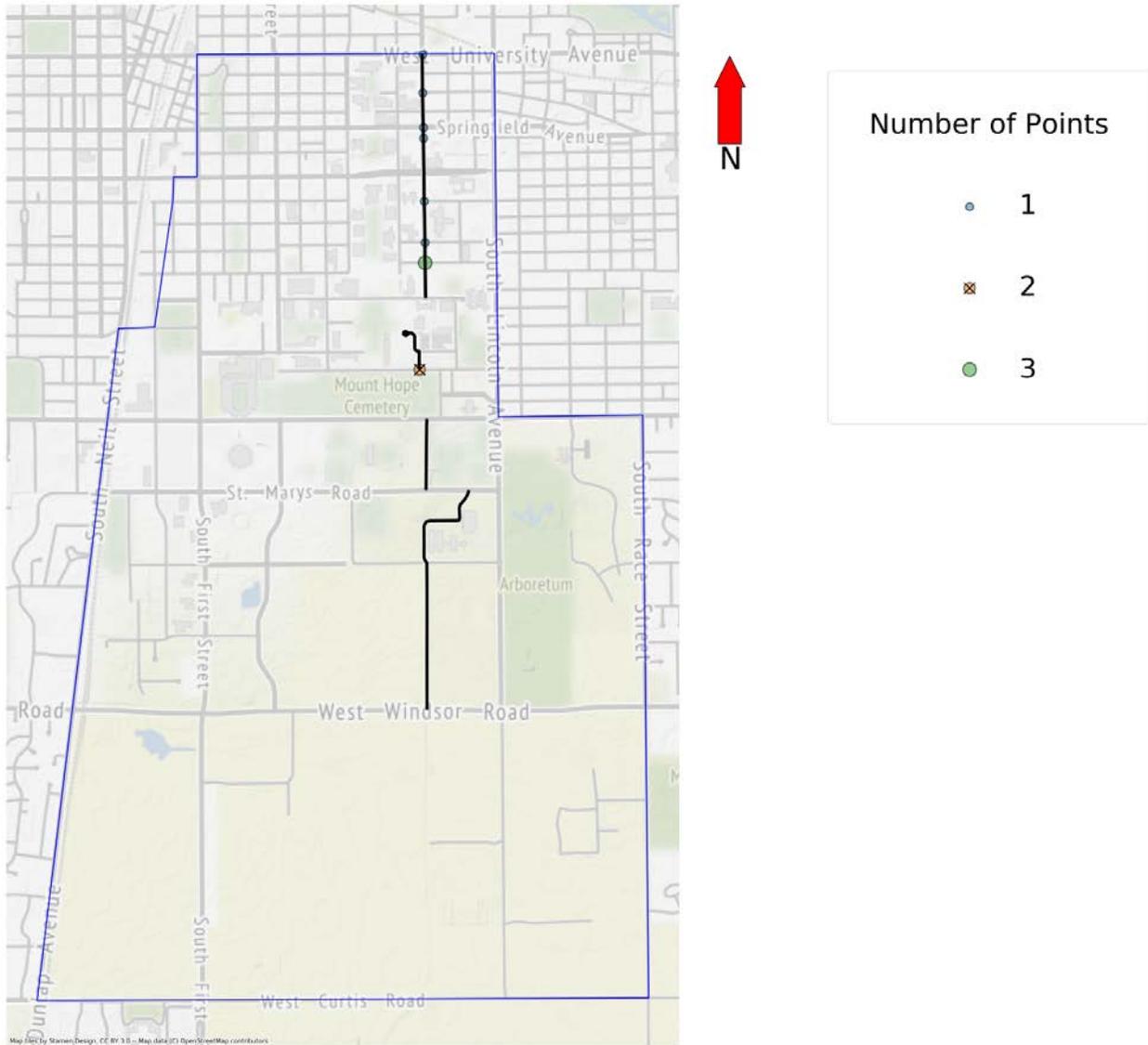


Figure 2.15: Near Miss Locations on Goodwin Ave (from Survey)

Pennsylvania Ave.

Pennsylvania Ave. runs in the east west direction from Lincoln Ave (at the campus boundary) on the East side till Mt. Hope cemetery on the west side. Table 2.41 shows the intersections along Pennsylvania Ave. which had near misses reported at them and the number of reported near misses.

Table 2.41: Near misses at intersections along Pennsylvania Ave.

Intersection Along Pennsylvania Ave	Number of Near Miss at Intersection
Lincoln Ave and W Pennsylvania Ave	3
S Goodwin Ave and W Pennsylvania Ave	2
W Pennsylvania Ave and Virginia Dr	1
S Maryland Dr and W Pennsylvania Ave	1
S 6th St and W Pennsylvania Ave	1

Along Pennsylvania Ave., all the near misses reported are at intersection and no mid-block near misses were reported during the survey. The intersection at Lincoln Ave reported three near misses while the intersection at Goodwin Ave reported 2. The intersections at Virginia Dr, Maryland Dr and Sixth St were reported once. Table 2.42 shows the reasons for near misses along Pennsylvania Ave.

Table 2.42: Reasons (from survey) for near misses along Pennsylvania Ave.

Participant's reason for Near Miss	Number of times reason was marked	Category
Motor vehicle was speeding	2	Motor vehicle issues
Left turning motor vehicle didn't yield to bicycle	1	
Motor vehicle didn't stop at stop sign/red light at intersection	1	
Left turning motor vehicle violated WALK/DON'T WALK signal	1	
Bike had no light or reflecting gear	1	Bicycle issues
Bicycle didn't stop at stop sign/red light at intersection	1	
I've had many near misses in this area as a cyclist driver and pedestrian. The bike lane is very bizarre here- it is on one side of the road then crosses/disappears at the 3-way stop. Hard to be a good cyclist here hard for drivers too	1	
Bicycle was lane splitting and swerving between cars to get to the light. Bicycle then positioned himself in the interesection to be first at the light. Bicycle was heading East on Pennsylvania.	1	Visibility issues
The location was not well lit which caused the near miss	1	
View of the bicyclist was obstructed by corner of the building	1	
Other, no further explanation provided	1	other

The reasons for near miss along Pennsylvania Ave included motor vehicle issues like speeding, not yielding, not stopping etc., bicycle issues like lack of light or reflecting gear, bikes not stopping or swerving and issues due to obstructed visibility for the driver. Figure 2.16 shows the locations along Pennsylvania Ave with reported near misses.

Near Locations on Pennsylvania Ave. (from Survey)

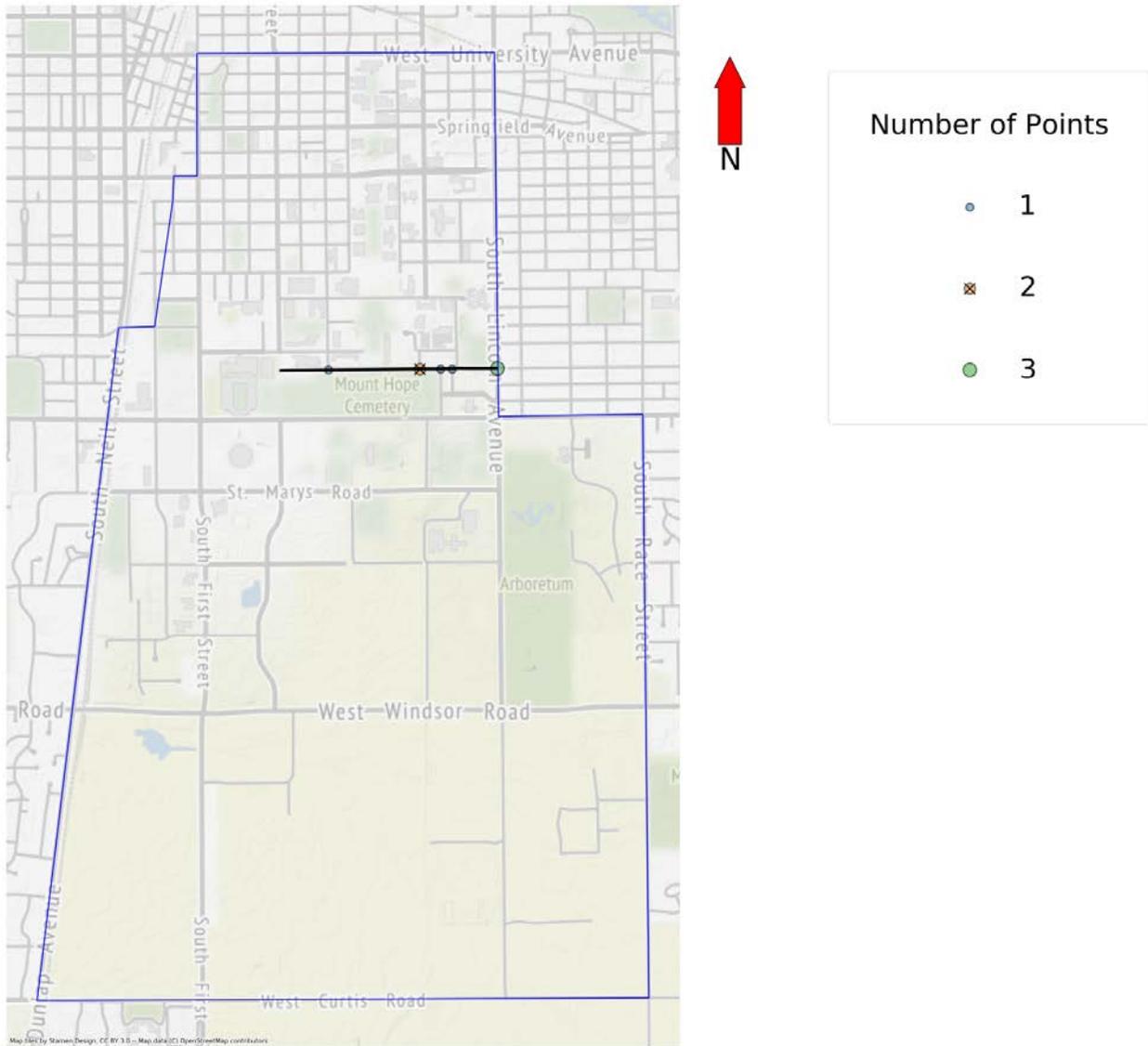


Figure 2.16: Near Miss locations along Pennsylvania Ave.

Crash Locations Identified from Survey

Table 2.43 below shows the type of highway users that were involved in the crashes (based on survey response).

Table 2.43: Type of Highway Users involved in crashes

Primary Highway User involved in Crash	Second Highway User involved in Crash	Number of Crashes
Motor Vehicle	Motor Vehicle	13
	Bicycle	3
	Motorcycle	1
Pedestrian	Motor Vehicle	6
	Bicycle	1
Bicycle	Motor Vehicle	11
	Bicycle	5
	Single Bicycle	1
	Pedestrian	1
other	other	1
Total		43

The most common crashes involved are between motor vehicles and bicycles which were reported fourteen (11+3) times. The second most common type of crash involved two motor vehicles which was reported thirteen times. Crashes between motor vehicles and pedestrians were reported six times while the crashes between two bicycles were reported five times.

Crash Intersections Identified from Survey

This section shows the most common intersections where crashes happened along with the reported reasons for crash. Table 2.44 shows the number of crashes at an intersection and the number of such intersections within campus.

Table 2.44: Number of crashes at Intersections

Number of Crashes at Intersection	Number of Intersections
1	20
2	4
3	1

Intersection of S. Mathews Ave and W. Green St.

This is an unsignalized intersection. Mathews Ave is a one way going north on the north side of Green St and going south on the south side of Green St. There are left turn lanes on the Green street approach on both sides. There are pedestrian crosswalks on all four approaches at this intersection. There is a bike lane on both sides on Green St.

Three crashes were reported from the survey at this intersection. Two of the reported crashes involved two bicycles, and the third crash involved a bicycle and a motor vehicle.

- a. View of the bicyclist was obstructed by fixed object on the road (1 participant marked this)
- b. "There were a lot of pedestrians and we were both trying to cross the street while trying to avoid hitting pedestrians" (1 participant wrote this)
- c. Bicycle(s) didn't stop at red light/stop sign at intersection (1 participant marked this)
- d. "vehicle did not see bicyclist reason unknown" (1 participant wrote this)

In two cases, the participants wrote obstructed visibility as the reason for crashes at this intersection. Other reasons include bikes not stopping at the red light

Additional Comment:

- a. "no injuries, bicyclist and car kept driving"

Intersection of S Lincoln Ave and W Iowa St

This is a three way unsignalized intersection with a stop sign at Iowa St. There are left turn lanes on Lincoln Ave. There is a marked crosswalk on Lincoln Ave.

Two crashes reported at this intersection involved a pedestrian and a motor vehicle.

- a. Pedestrian was jaywalking (1 participant marked this)
- b. Intentional hit and run. (1 participant wrote this)
- c. The location was not well lit which caused the collision (1 participant marked this)

The reasons marked for collision at this intersection include jay walking pedestrian, an intentional hit and run as well as lack of adequate lighting.

Additional Comment

- a. "A police report was taken, but no follow-up ever occurred, even though many went on record as witnesses and a full vehicle description and license plate was available. I got a great view of the license plate as the vehicle hit me dead center on the front"

Intersection of E Springfield Ave. and S 5th St

This is an unsignalized intersection with stop signs on Fifth St on both approaches. There are turning lanes on Springfield Ave on both approaches at this intersection.

Two crashes reported at this intersection involved two motor vehicles.

- a. Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection (2 participants marked this)
- b. Vehicle(s) was (were) following too closely (1 participant marked this)

The reported reasons for crashes at this intersection include motor vehicles not stopping at the stop sign which is marked twice and vehicles following too close to each other.

No additional comments were given about the crashes at this intersection.

Intersection of S. 5th St. and E. Green St.

This is an unsignalized intersection with a 2-way stop sign. The stop signs are on the fifth street. There are pedestrian cross walks on all four approaches at this intersection. The Green St. approach has a turning lane as well.

Two crashes were reported at this intersection. One of the crashes involved a bicycle and a motor vehicle and the second crash involved two motor vehicles.

- a. Left turning motor vehicle didn't yield to bicycle (1 participant marked this)
- b. "View of driver was obstructed by volume of cars and pedestrians" (1 participant wrote this)

The reported reasons for crashes at this intersection include motor vehicle not yielding to bicycle and view of motor vehicle being obstructed by the volume of vehicles.

Additional Comment:

- a. "It was the Friday before classes so Green was packed. He was at a stop sign and t-boned me trying to get across Green. Not sure what could be done about this but trying to cross Green at some of those stop signs is really difficult"

Intersection of S. 4th St. and Peabody Dr.

This is a signalized intersection. There are left turn lanes at all four approaches as well as bicycle lanes on all four approaches.

Two crashes reported at this intersection involved a bicycle and a motor vehicle.

- a. Left turning motor vehicle didn't yield to bicycle (1 participant marked this)
- b. View of the motor vehicle driver was obstructed by fixed object on the road (1 participant marked this)

The reasons for crashes at this intersection include motor vehicle not yielding to the bicycle and view of motor vehicle being obstructed by object on the road.

The additional comment provided at this intersection is:

- a. "I was in the bike lane going south on 4th Street, and a southbound car was overtaking me as we approached the intersection. The car made it through the intersection, and a second car turned left after the car and did not see me."

Furthermore, there are twenty other intersections where the participants reported one crash. These are given in Table 2.45 below.

Table 2.45: Intersections with one reported crash (from survey)

Intersection Name	Coordinates of Intersection
Lincoln Ave and W Ohio St	POINT (-88.219178 40.10368699907026)
S 5th St and E Armory Ave	POINT (-88.23195499999999 40.10542299907025)
W Pennsylvania Ave and Virginia Dr	POINT (-88.222083 40.10060799907026)
S 1st St and E Armory Ave	POINT (-88.23864399999997 40.10538699907026)
S 3rd St and E Chalmers St	POINT (-88.23535299999999 40.10655899907024)
S 3rd St and E Green St	POINT (-88.23538499999997 40.11024499907022)
S 5th St and E Stoughton St	POINT (-88.23208699999999 40.11347699907019)
S Wright St and E Armory Ave	POINT (-88.22885400000001 40.10546099907024)
E Armory Ave and Euclid St	POINT (-88.23449899999999 40.10540599907024)
S 1st St and E John St	POINT (-88.23868199999998 40.10900699907021)
Lincoln Ave and W California Ave	POINT (-88.219262 40.10823999907022)
Lincoln Ave and W Clark St	POINT (-88.21936999999998 40.11546199907018)
S Goodwin Ave and W Oregon St	POINT (-88.22385099999998 40.10698499907022)
S 4th St and E Green St	POINT (-88.233542 40.11026099907019)
S 1st St and E Daniel St	POINT (-88.23867199999998 40.10790699907022)
Lincoln Ave and W Nevada St	POINT (-88.21922699999999 40.10645899907021)
Lincoln Ave and W Oregon St	POINT (-88.21924699999997 40.10741999907024)
S 1st St and E Green St	POINT (-88.23869499999999 40.11021699907022)
S 6th St and Peabody Dr	POINT (-88.23021499999999 40.10148399907027)
S 4th St and E Healey St	POINT (-88.23356499999998 40.11147199907017)

Figure 2.17 shows the intersections with reported crash in the survey within the campus.

Crash Locations within Campus (from Survey)

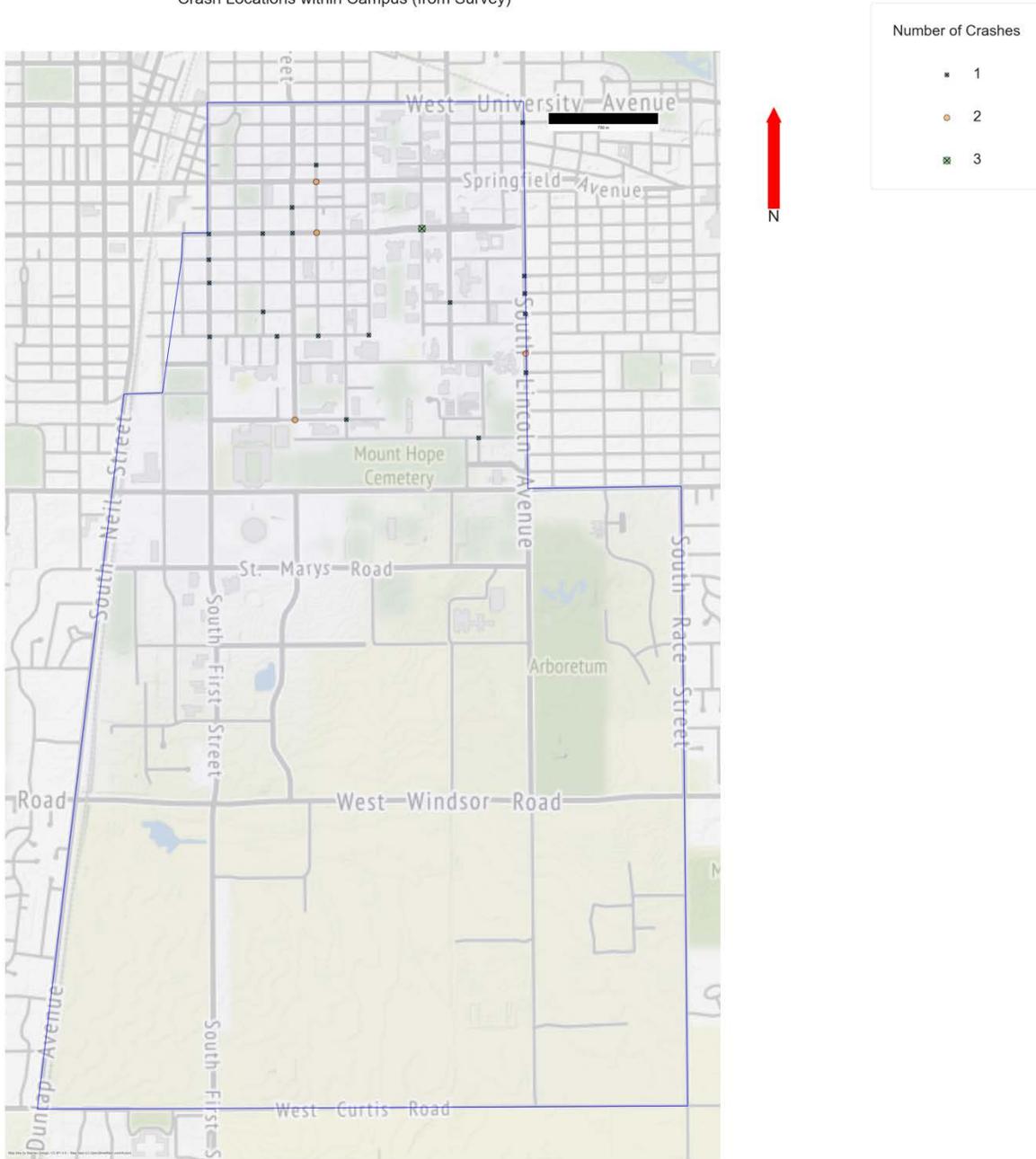


Figure 2.17: Crash locations at intersections (from Survey)

Mid-Block Crash Locations from the Survey

The crash locations on road identified from the survey is given in Table 2.46.

Table 2.46: Crash location along road as identified from the survey

Location	Coordinates of Location
Pennsylvania Ave. near College of Law and Mt. Hope Cemetery	POINT (-88.23224186894991 40.10049570692287)
6 th St. near entrance to College of Education	POINT (-88.23020155081487 40.10238302028863)
Lincoln Ave. near Alpha Chi Omega sorority	POINT (-88.2192116975543 40.10524104056336)
Lincoln Ave. near Alpha Chi Omega sorority	POINT (-88.21921080655527 40.10519481373491)
Dorner Dr. near Dorner Drive playing fields	POINT (-88.22184104751341 40.10338815565076)
Pennsylvania Ave. near Illini Grove	POINT (-88.22002999999994 40.100660000000006)
Green St. in front of Illini Union	POINT (-88.22807371613975 40.11032041699627)
Springfield Ave. in front of Grainger Library	POINT (-88.22713565387548 40.11275589702212)
Near intersection of Curtis Rd. and Dunlap Ave.	POINT (-88.24917954054237 40.06900472126062)

There were also 3 reported crashes in the survey that were not at any intersection nor at any road which are given in Table 2.47.

Table 2.47: Crash locations not at intersection nor along road

Location	Coordinates of Location
Near Kirby Ave. and Neil St.	POINT (-88.24363293223563 40.09793734105457)
Parking lot of Hendrick House	POINT (-88.22029494759541 40.11120542764701)
Alley between Engineering Hall and Material Science Building	POINT (-88.22649312946335 40.11064918133329)

Crashes along corridor

The above section discussed the top reported intersections and midblock sections. We also looked at locations along a corridor within the campus together.

In order to identify the most frequently marked corridors, the closest road to each crash location reported in the survey that are within 45 feet of the centerline of the road were identified. This is given in Table 2.48.

Table 2.48: Corridor and the number of crashes along it

Corridor Name	Number of crashes within 45 feet along centerline of corridor
Co Rd 1300 E (Lincoln Ave)	7
S 5th St	4
S 4th St	3
W Pennsylvania Ave	3
S 1st St	3
W Green St	2
S Mathews Ave	2
E Green St	2
S 6th St	2
E Armory Ave	1
S 3rd St	1
Co Rd 1300 N	1
W Oregon St	1
Euclid St	1
S Lincoln Ave	1
Dorner Dr	1
W Clark St	1
Springfield Ave	1
E Healey St	1

Lincoln Ave

Lincoln Avenue runs in the North-South direction and extends from University Ave. on the North till Curtis Road in the South. Table 2.49 shows the locations with crashes along Lincoln Ave. as identified from the survey.

Table 2.49: Crashes at intersections along Lincoln Ave

Intersection Along Lincoln Ave	Number of Crashes at Intersection
Lincoln Ave and W Iowa St	2
Lincoln Ave and W Ohio St	1
Lincoln Ave and W California Ave	1
Lincoln Ave and W Nevada St	1
Lincoln Ave and W Clark St	1
Lincoln Ave and W Oregon St	1

Table 2.50 shows the crashes along Lincoln Ave. at midblock locations.

Table 2.50: Crashes at mid-block locations along Lincoln Ave

Location	Coordinates of Location
Lincoln Ave near Alpha Chi Omega sorority	POINT (-88.2192116975543 40.10524104056336)

Lincoln Ave near Alpha Chi Omega sorority	POINT (-88.21921080655527 40.10519481373491)
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Seven crashes along Lincoln Ave. corridor has been reported at six intersections and two crashes at mid-block locations. Along intersection, the intersection at Iowa St reported two crashes, while the intersections at Ohio, California, Nevada, Clark and Oregon reported one crash each. Table 2.51 shows the reasons reported for crashes along Lincoln Ave.

Table 2.51: Reasons (from survey) for crash along Lincoln Ave.

Participant's reason for Crash	Number of times reason was marked	Category
Vehicle(s) was (were) following too closely	2	Motor Vehicle issues
Right turning motor vehicle didn't yield to bicycle	1	
Left turning motor vehicle violated WALK/DON'T WALK signal	1	
Intentional hit and run.	1	
Motor cycle was speeding	1	
Bicycle was travelling on wrong side of road	1	
Stop sign is too far back on Clark street so while car stopped it was before the intersection. Bicycle was on sidewalk (heading north on Lincoln on the west sidewalk of Lincoln) and did not stop when entering intersection.	1	Traffic signal issues
Pedestrian was jaywalking	1	Pedestrian issues
The location was not well lit which caused the collision	2	Visibility issues
view of the driver and bicyclist were obstructed by vehicles stopping and going on Lincoln Ave. during the noon hour rush.	1	
View of the motor cycle driver was obstructed by fixed object on the road	1	

Figure 2.18 shows the locations on Lincoln Ave. with reported crashes from survey.

Crash Locations on Lincoln Ave. (from Survey)

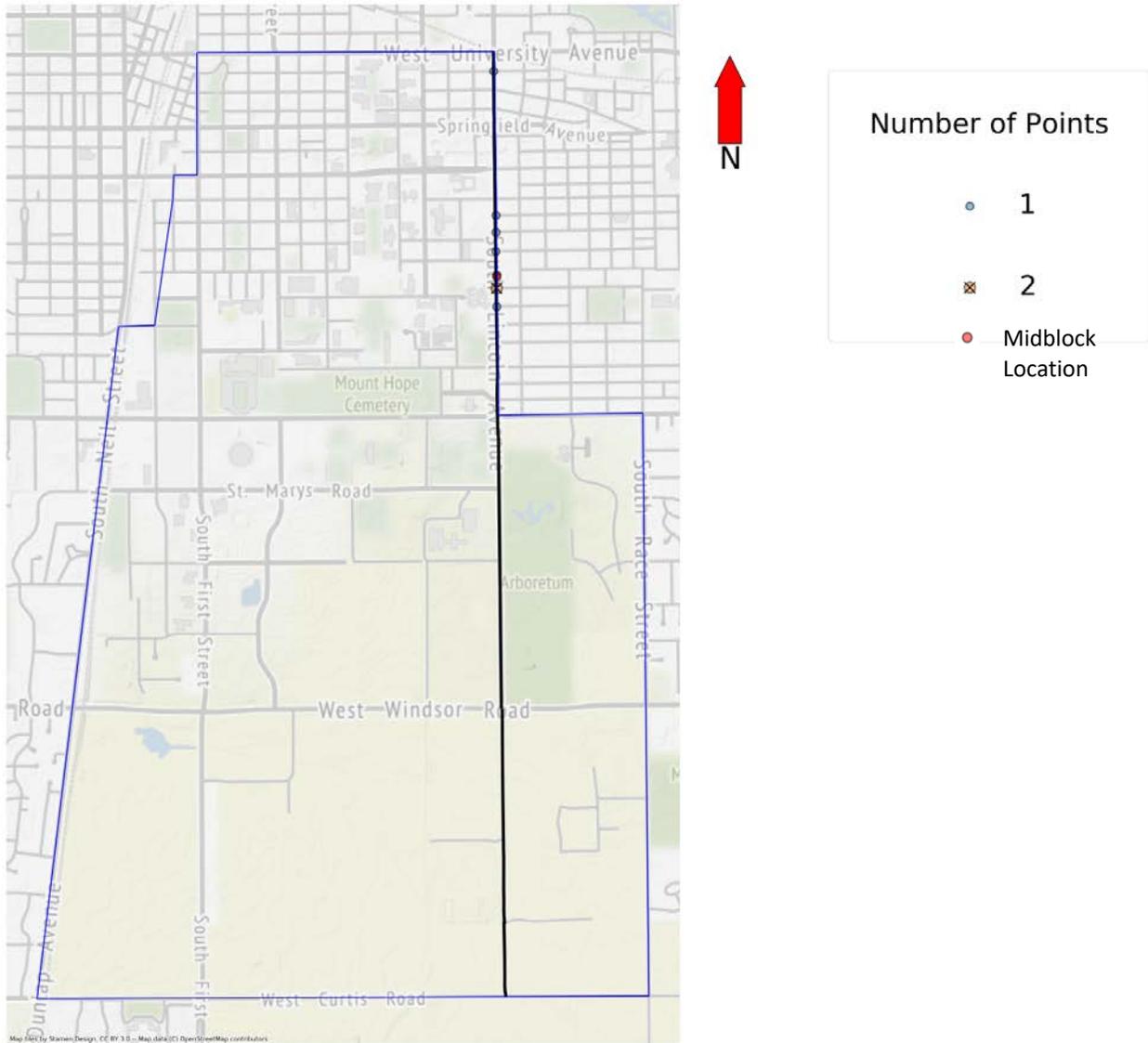


Figure 2.18: Crash locations along Lincoln Ave.

Green St.

Green Street runs in the East-West direction, with end points (at campus boundary) at Locust St. at the West and Lincoln Ave. on the East. Table 2.52 shows the intersections along Green St with reported crashes.

Table 2.52:Crashes at intersections along Green St.

Intersection Along Green St.	Number of Crashes at Intersection
S Mathews Ave and W Green St	3
S 5th St and E Green St	2
S 4th St and E Green St	1
S 3rd St and E Green St	1
S 1st St and E Green St	1

Along Green St. there was a reported crash in the survey in front of Everitt Laboratory and the Alma Mater. Table 2.52 shows the reasons reported for crashes along Green St.

Table 2.53: Reasons (from survey) for crash along Green St.

Participant's reason for Crash	Number of times reason was marked	Category
Left turning motor vehicle didn't yield to bicycle	1	Motor vehicle issues
Driver did not yield to me (the pedestrian) at the crosswalk	1	
Left turning motor vehicle violated WALK/DON'T WALK signal	1	
Motor vehicle was speeding	1	
Motor vehicle was pulling into or coming out of driveway and collided with bicycle	1	
There were a lot of pedestrians and we were both trying to cross the street while trying to avoid hitting pedestrians	1	Traffic issues
View of the bicyclist was obstructed by fixed object on the road	1	Sight issues
View of driver was obstructed by volume of cars and pedestrians	1	
vehicle did not see bicyclist reason unknown	1	
Bicycle(s) didn't stop at red light/stop sign at intersection	1	Bicycle issues
Left turning bicycle didn't yield to motor vehicle	1	

Crash Locations on Green St. (from Survey)

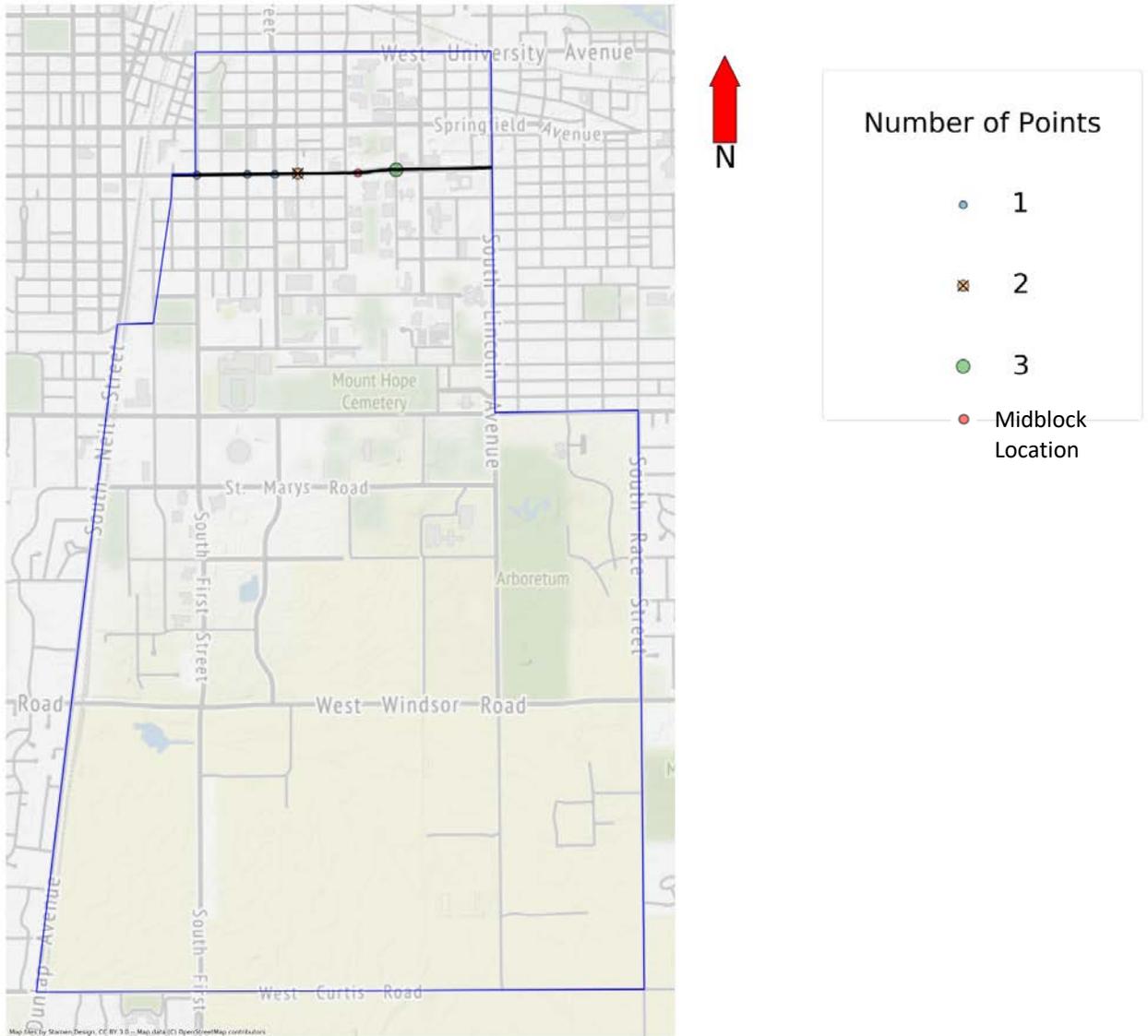


Figure 2.19: Crash locations along Green St.

Fifth St

Fifth Street runs in the North-South direction, with end points at University St. at the North and Armory Ave. on the South. Table 2.54 shows crashes at intersections along Fifth St.

Table 2.54: Crashes at intersections along Fifth St

Intersection Along Fifth St.	Number of Crashes at Intersection
Co Rd 1600 N (Springfield Ave) and S 5th St	2
S 5th St and E Green St	2
S 5th St and E Stoughton St	1
S 5th St and E Armory Ave	1

Along Fifth St., all the crashes reported are at intersection and no mid-block crashes were reported during the survey. Table 2.55 shows the reasons for crashes along Fifth St.

Table 2.55: Reasons (from survey) for crash along Fifth St.

Participant's reason for Crash	Number of times reason was marked	Category
Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection	3	Motor vehicle issues
Vehicle(s) was (were) following too closely	1	
Left turning motor vehicle didn't yield to bicycle	1	
View of the bicyclist was obstructed by fixed object on the road	1	Sight issues
View of the bicyclist was obstructed by corner of the building	1	
View of driver was obstructed by volume of cars and pedestrians	1	
Ramp going up and down to the Armory Bike racks were too narrow and hedges/bushes kept us from seeing each other.	1	

Along Fifth St. the reasons for crash are categorized into motor vehicle issues and sight issues. The most frequent motor vehicle issue is that motor vehicle didn't stop at stop sign or red light. Vehicle following too closely and vehicle not yielding to bicycles are other motor vehicle issues. Under sight issues, obstructed view due to fixed object or corner or building or buses are marked.

Figure 2.20 shows the locations along Fifth St with reported crashes.

Crash Locations on Fifth St. (from Survey)

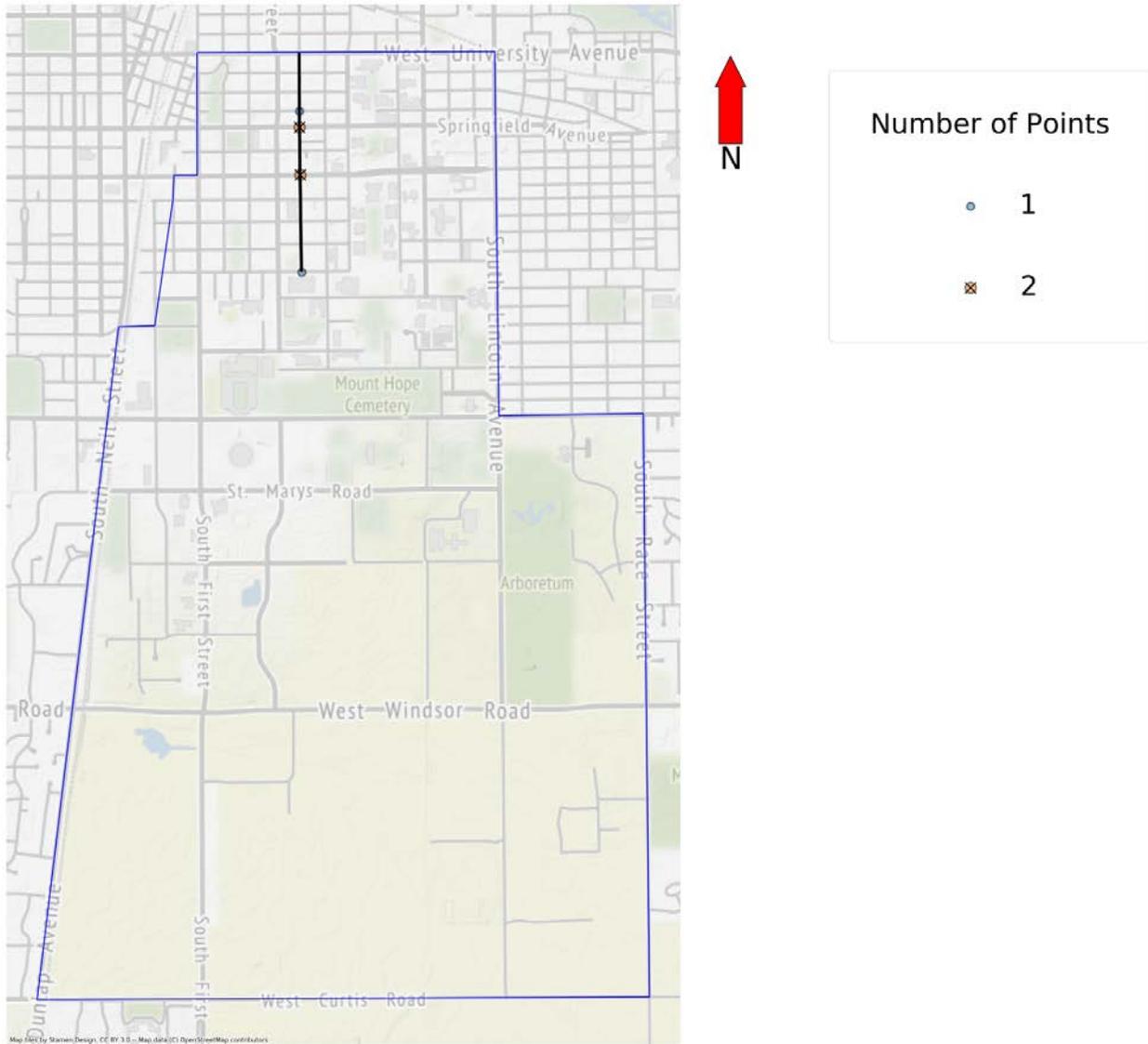


Figure 2.20: Crash locations along Fifth St.

Fourth St

Fourth Street runs in the North-South direction, with end points at University St. at the North and St. Mary’s Rd. on the South. Table 2.56 shows the intersections with reported crashes from the survey along Fourth St.

Table 2.56: Crashes at intersections along Fourth St

Intersection Along Fourth St.	Number of Crashes at Intersection
S 4th St and Peabody Dr	2
S 4th St and E Green St	1
S 4th St and E Healey St	1

Along Fourth St., all the crashes reported are at intersection and no mid-block crashes were reported during the survey. Table 2.57 shows the reasons for crashes reported along Fourth St.

Table 2.57: Reasons (from survey) for crash along Fourth St.

Participant's reason for Crash	Number of times reason was marked	Category
Left turning motor vehicle violated WALK/DON'T WALK signal	1	Motor Vehicle Issues
Motor Vehicle didn't stop at stop sign/red light at intersection	1	
Speeding vehicle	1	
Left turning motor vehicle didn't yield to bicycle	1	
The location was not well lit which caused the collision	1	Visibility and Sight Issues
View of the motor vehicle driver was obstructed by fixed object on the road	1	

The reasons for crashes along Fourth St. are categorized into motor vehicle issues and visibility and sight issues. Motor vehicle issues include violation of WALK/DON'T signal, not yielding to bicycle, violation of red light/stop sign, and speeding vehicle. Visibility issue due to lack of adequate lighting and sight issues due to obstruction of view by object on the road are also marked along this corridor.

Figure 2.21 shows the locations along Fourth St with reported crashes from the survey.

Crash Locations on Fourth St. (from Survey)

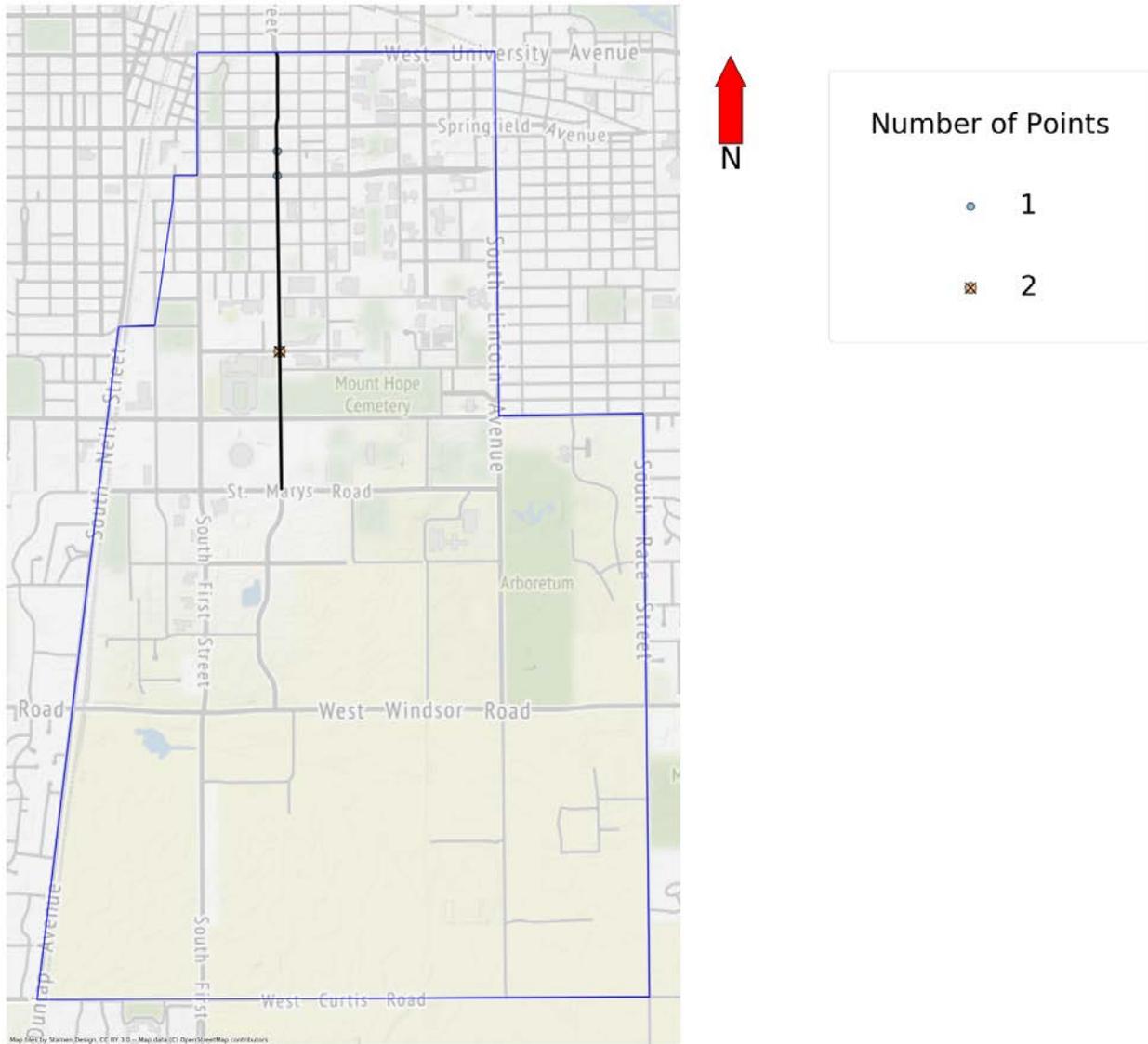


Figure 2.21: Crash locations along Fourth St.

First St.

First St. is a long corridor that runs in the north south direction. On the north side, it is bounded at University Ave. and on the south side it is bounded at Curtis Rd. Table 2.58 shows the intersections along First St with survey reported crashes.

Table 2.58: Crashes at intersections along First St

Intersection Along First St.	Number of Crashes at Intersection
S 1st St and E John St	1
S 1st St and E Green St	1
S 1st St and E Daniel St	1
S 1st St and E Armory Ave	1

Table 2.59 shows the reasons from the survey for crashes along First St.

Table 2.59: Reasons (from survey) for crash along First St.

Participant's reason for Crash	Number of times reason was marked	Category
Motor Vehicle didn't stop at stop sign/red light at intersection	1	Motor vehicle issues
Motor vehicle was speeding	1	
The other driver was probably distracted by phones or something	1	
The location was not well lit which caused the collision	1	Visibility issues
Left turning bicycle didn't yield to motor vehicle	1	Bicycle issues
Other vehicles involved. Reason not collected	1	other

The reported reasons for crashes along First St. are categorized into motor vehicle issues, visibility issues, bicycle issues and others. Under motor vehicle issues, vehicle not stopping at stop signs, speeding vehicle, and distracted driver. Visibility issue along this corridor is caused due to lack of adequate lighting. The bicycle issue was due to a left turning bicycle not yielding to a motor vehicle.

Figure 2.22 shows the locations along First St. with crashes identified from the survey.

Crash Locations on First St. (from Survey)

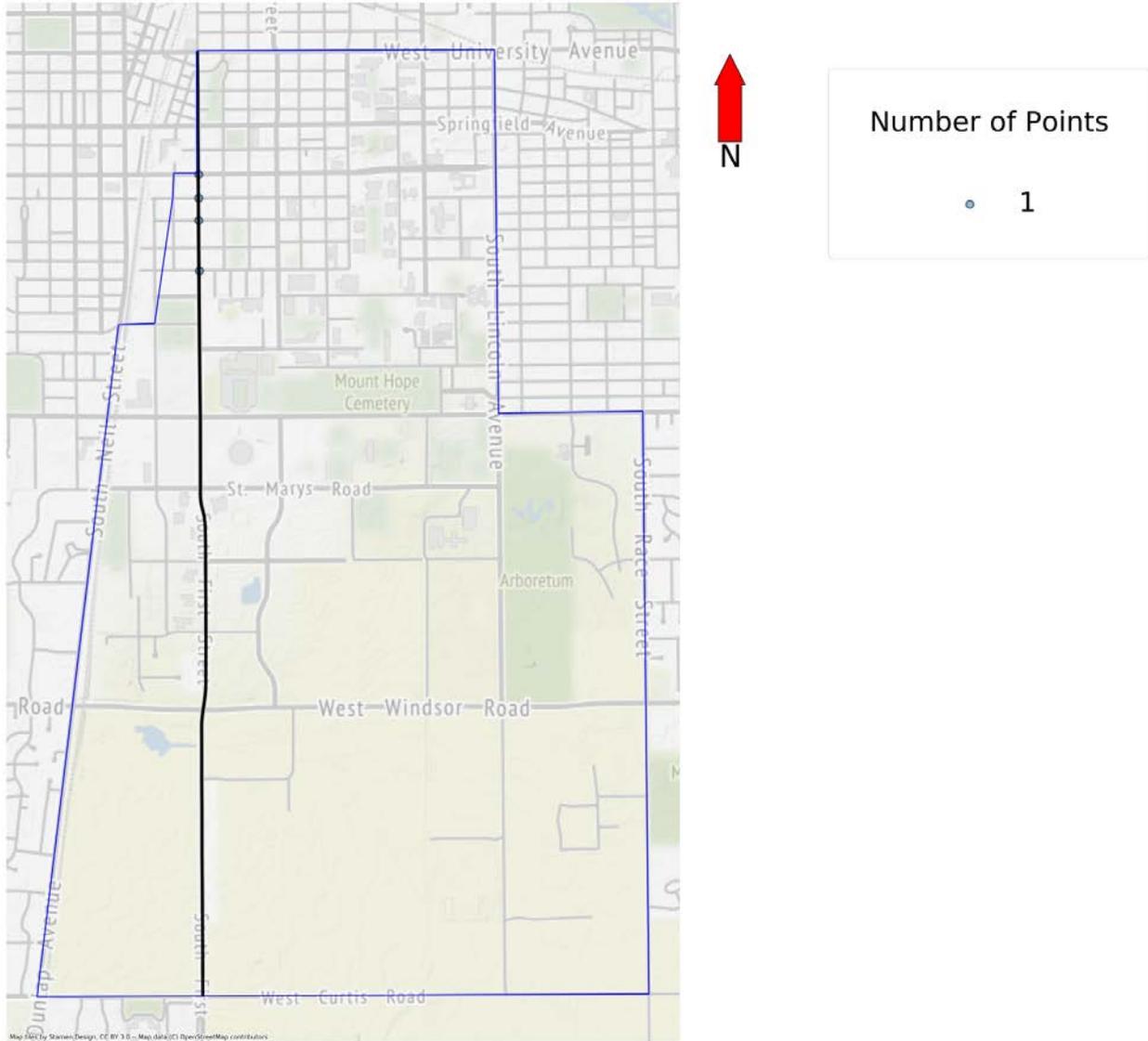


Figure 2.22: Crash locations along First St.

Pennsylvania Ave.

Pennsylvania Ave. runs in the east west direction from Lincoln Ave (at the campus boundary) on the East side till Mt. Hope cemetery on the west side. Along Pennsylvania Ave. there were three reported crashes. One of them was at the intersection of W Pennsylvania Ave and Virginia Dr. The other two crashes occurred near Mt. Hope Cemetery and near Stanley Illini Grove. Table 2.60 shows the locations along mid-block of Pennsylvania Ave. with reported crashes.

Table 2.60: Crashes at mid-block locations along Pennsylvania Ave

Location	Coordinates of Location
Near University College of Law and Mt. Hope Cemetery	POINT (-88.23224186894991 40.10049570692287)
Near Stanley Illini Grove	POINT (-88.22002999999994 40.100660000000006)

Table 2.61 shows the participant’s reasons for crashes along Pennsylvania Ave.

Table 2.61: Reasons (from survey) for crash along Pennsylvania Ave.

Participant’s reason for Crash	Number of times reason was marked	Category
Right turning motor vehicle didn't yield to bicycle	1	Motor vehicle issues
Motor vehicle didn't stay in the same lane	1	
Bicycle was riding on sidewalk for pedestrian	1	Bicycle issues

The reported crash reasons along Pennsylvania Ave are categorized into motor vehicle issues and bicycle issues. Under motor vehicle issues, the motor vehicle not yielding to bicycle and not staying in the lane have been reported. The bicycle riding on the sidewalk was the bicycle issue along this corridor.

Crash Locations on Pennsylvania Ave. (from Survey)

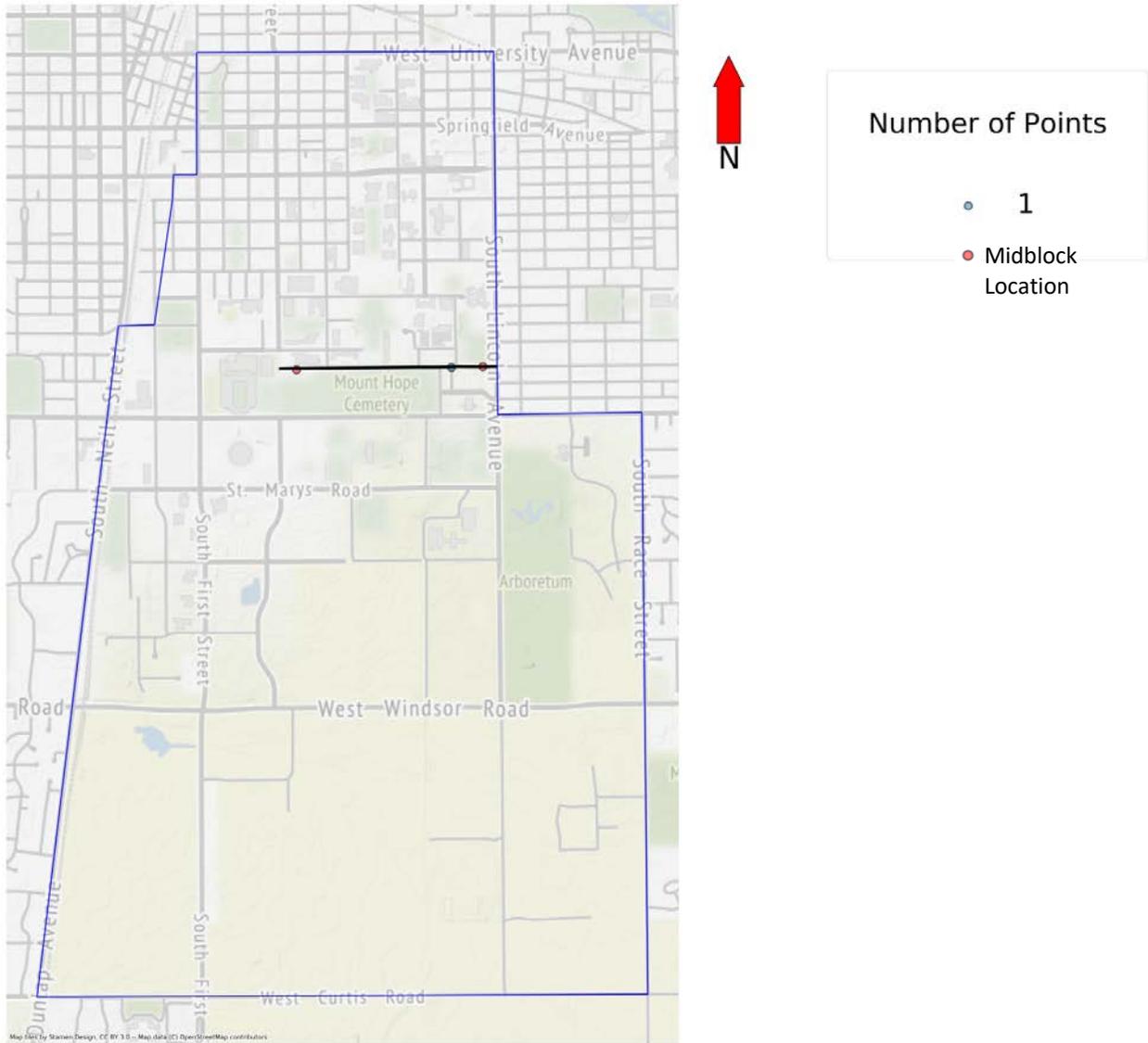


Figure 2.23: Crash locations along Pennsylvania Ave.

Chapter 3: Analysis of Crash Data from IDOT

When trying to address the safety concerns on campus, the spatial distribution of campus crashes must be studied. Particularly, there is a need to locate the places in which most crashes are occurring to be able to come up with long term sustainable solutions to mitigate the safety risks on those locations. There are several groups of concern regarding crashes in the campus network: pedestrians, bike, injury, and fatal crashes. The one fatal accident that occurred in this time period occurred at the intersection of University Ave. and Lincoln Ave. We looked at crashes at intersections followed by crashes along a roadway.

Crashes at Intersections

Crashes are clustered based on proximity of the crash to an intersection. A crash is associated with an intersection if it falls within 250 feet of the intersection. The Figure 3.1 shows the frequency of intersection crashes within campus during 2014-2018.

Crash Locations at Intersections within Campus (from IDOT)

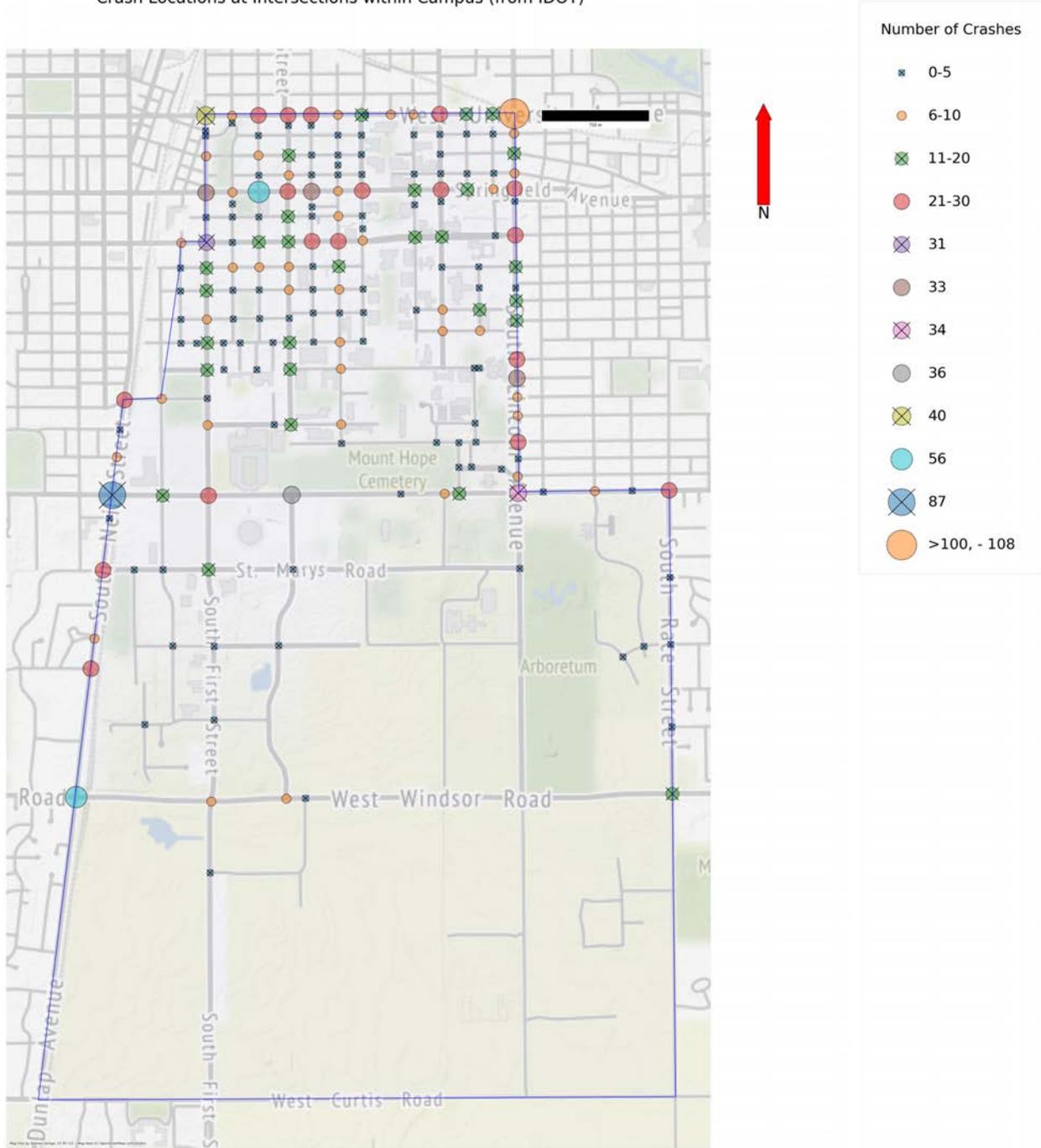


Figure 3.1: Crashes at intersection within UIUC Campus

Among 2174 crashes that were reported in campus during the years 2014-2018, 1926 (88.59%) crashes occurred at intersections. The number of crashes reported at an intersection and the number of such intersections are given below in Table 3.1. About 28% of the intersection crashes occurred at 6% of intersections (11 intersections). Forty eight percent of the intersections had

more than five crashes and this accounts for eighty-seven percent of all the crashes at the intersections.

Table 3.1: Number of crashes per intersection within UIUC campus

Number of crashes reported at an intersection	Number of such intersections	Cumulative Number of Intersections	Cumulative Percentage of Intersections	Number of Crashes	Cumulative Number of Crashes	Cumulative Percentage of Crashes
0 to 5	101	101	52%	246	246	13%
6 to 10	38	139	71%	291	537	28%
11 to 20	28	167	85%	393	930	48%
20 to 30	18	185	94%	449	1379	72%
31	1	186	95%	31	1410	73%
33	3	189	96%	99	1509	78%
34	1	190	97%	34	1543	80%
36	1	191	97%	36	1579	82%
40	1	192	98%	40	1619	84%
56	2	194	99%	112	1731	90%
87	1	195	99%	87	1818	94%
108	1	196	100%	108	1926	100%
	196			1926		

The crash severity breakdown of intersection crashes is given in Table 3.2. Around 78% of the intersection crashes were property damage only type and nearly 22% were injury type crashes. There was one fatal crash that happened at an intersection (University Ave and Lincoln Ave) during the five-year time period.

Table 3.2: Crash severity of intersection crashes at UIUC

Crash Severity	Number of Crashes	Percentage
Property Damage Only	1503	78.03%
Injury Crashes	422	21.91%
Fatal Crashes	1	0.00%
Total	1926	100%

IDOT characterizes the collision type into 15 categories. The frequency of each category is given in Table 3.3.

Table 3.3: Collision type of intersection crashes within UIUC campus

Collision Type Code (from IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-end	599	31.10%
15	Angle	396	20.56%
10	Turning	377	19.57%
9	Parked Motor vehicle	171	8.88%
12	Sideswipe-same direc	122	6.33%
6	Fixed Object	88	4.57%
2	Pedalcyclist	61	3.17%
1	Pedestrian	55	2.86%
13	Sideswipe-opposite di	15	0.78%
7	Other Object	12	0.62%
14	Head-on	10	0.52%
4	Animal	7	0.36%
5	Overtuned	7	0.36%
8	Other non-collision	6	0.31%
3	Train	0	0.00%

The most frequent collision type was rear-end (31.1%) followed by angle (20.6%) and turning (19.8%). These three crash types account for 71.5% the crashes. It was interesting to see that collision type “Parked Motor Vehicle” is the fourth most frequent collision types (8.9%). The eight most common collision type at intersections are Rear-end, Angle, Turning, Parked motor vehicle, Sideswipe-same direction, Fixed Object, Pedalcyclist, and Pedestrian Collisions. Together they represent 97.04% of all collisions at the intersections.

The names of intersections that had 5 or more collisions are given Table 3.4 along with the severity of crashes. The top five intersection are: Lincoln Ave. and University Ave, Kirby Ave. and Neil St, Windsor Rd. and Neil, Springfield Ave. and 3rd St, and 1st St and University Ave.

Table 3.4: Crash severity at intersections with more than 5 crashes

Intersection Name	Coordinates of Intersection	Total Crashes	PDO	Type C	Type B	Type A	Fatal Crash
S Lincoln Ave. and W University Ave	POINT (-88.219374 40.11642699907019)	108	83	15	7	2	1
W Kirby Ave. and S Neil St	POINT (-88.244596 40.09806899907028)	87	68	8	9	2	0
E Windsor Rd. and S Neil (N Dunlap St)	POINT (-88.24686999999999 40.08355699907035)	56	38	10	7	1	0
E Springfield Ave. and S 3rd St	POINT (-88.2354 40.11265499907019)	56	47	7	2	0	0
N 1st St and E University Ave.	POINT (-88.23874199999999 40.11633199907016)	40	34	1	5	0	0
W Kirby Ave. and S 4th St	POINT (-88.23332299999998 40.09807799907028)	36	25	4	6	1	0
W Florida Ave and S. Lincoln Ave	POINT (-88.21911399999998 40.09816799907029)	34	28	5	1	0	0
E Springfield Ave and S 5th St	POINT (-88.23208299999999 40.11268899907018)	33	29	2	2	0	0
S Lincoln Ave and W Ohio St	POINT (-88.219178 40.10368699907026)	33	24	5	2	2	0
E Springfield Ave and S 1st St	POINT (-88.23871799999998 40.11262899907019)	33	27	4	2	0	0
S 1st St and E Green St	POINT (-88.23869499999999 40.11021699907022)	31	26	3	2	0	0
E University Ave and S 4th St	POINT (-88.23357399999998 40.11635099907018)	29	24	1	2	2	0
S Neil St and Devonshire Dr	POINT (-88.24594399999998 40.08973199907032)	28	23	2	3	0	0
S Neil St and St Marys Rd	POINT (-88.24518599999998 40.09446299907026)	28	19	5	3	1	0
E University Ave and S 5th St	POINT (-88.23210499999998 40.11635699907017)	27	20	2	3	2	0
S 5th St and E Green St	POINT (-88.23205799999997 40.11028399907021)	27	21	3	1	2	0
S Goodwin Ave and W Springfield Ave	POINT (-88.223967 40.11275499907018)	27	18	3	4	2	0
W Kirby Ave and S First St	POINT (-88.238553 40.09803499907027)	26	17	4	3	2	0
N Lincoln Ave and W Springfield Ave	POINT (-88.21933699999998 40.1128099990702)	26	23	1	2	0	0
N Goodwin Ave and W University Ave	POINT (-88.22404199999998 40.11639599907017)	25	16	5	2	2	0
W Florida Ave and Race St	POINT (-88.20963699999999 40.09829299907028)	25	17	3	4	1	0
S Neil St and Stadium Dr	POINT (-88.24384400000001 40.10265299907024)	24	20	1	1	2	0
S Lincoln Ave and W Pennsylvania Ave	POINT (-88.219116 40.10062599907025)	23	21	0	2	0	0
S Lincoln Ave and W Green St	POINT (-88.21928699999999 40.11057899907021)	23	19	3	1	0	0
E University Ave and S 3rd St	POINT (-88.23541899999999 40.11634199907019)	23	19	2	1	1	0
S Lincoln Ave and W Iowa St	POINT (-88.21919799999998 40.10459999907022)	23	17	3	0	3	0
E Springfield Ave and S Wright St	POINT (-88.228911 40.11271399907019)	22	18	3	1	0	0

E Springfield Ave and S 4th St	POINT (-88.23359199999999 40.11267599907021)	22	19	0	3	0	0
S 6th St and E Green St	POINT (-88.23039099999998 40.1102879990702)	21	16	3	1	1	0
S 3rd St and E Green St	POINT (-88.23538499999997 40.11024499907022)	19	13	3	2	1	0
S Lincoln and W Oregon St	POINT (-88.21924699999997 40.10741999907024)	19	14	2	3	0	0
E Springfield and N Mathews Ave	POINT (-88.22562399999998 40.1127469990702)	19	16	1	2	0	0
S 1st St and E Armory Ave	POINT (-88.23864399999997 40.10538699907026)	17	15	0	1	1	0
S Lincoln Ave and W Nevada St	POINT (-88.21922699999999 40.10645899907021)	17	13	3	1	0	0
S Goodwin Ave and W Green St	POINT (-88.22391399999999 40.1105069990702)	16	9	2	4	1	0
E Windsor Rd and Race St	POINT (-88.20941999999999 40.08372399907035)	16	13	0	3	0	0
S 4th St and E Gregory Dr	POINT (-88.23343 40.10412699907024)	16	15	1	0	0	0
S 1st St and E Daniel St	POINT (-88.23867199999998 40.10790699907022)	16	13	1	2	0	0
N Wright St and S Wright St	POINT (-88.228948 40.11636899907018)	15	9	3	2	1	0
N Harvey St and W University Ave	POINT (-88.22237899999998 40.11640699907016)	15	14	1	0	0	0
Kirby Ave and S Oak St	POINT (-88.24144699999998 40.09805199907026)	14	12	0	2	0	0
S 4th St and E Green St	POINT (-88.233542 40.11026099907019)	14	9	4	1	0	0
S Gregory St and W Oregon St	POINT (-88.22153100000001 40.10699799907022)	13	12	1	0	0	0
S 1st St and E Gregory Dr	POINT (-88.23863599999997 40.10409399907023)	13	9	2	2	0	0
S Lincoln Ave and W Illinois St	POINT (-88.21927099999999 40.10906499907021)	13	6	3	4	0	0
Kirby Ave and S Maryland Dr	POINT (-88.22280499999999 40.09814999907027)	13	9	4	0	0	0
S 4th St and E Healey St	POINT (-88.23356499999998 40.11147199907017)	13	13	0	0	0	0
S 1st St and St Marys Rd	POINT (-88.23854599999997 40.09448099907029)	12	9	0	1	2	0
S 4th St and E Armory Ave	POINT (-88.233452 40.10541299907023)	12	11	0	1	0	0
S Mathews Ave and W Green St	POINT (-88.225583 40.1104729990702)	12	9	0	1	2	0
S 4th St and E White St	POINT (-88.233521 40.11442099907018)	12	9	2	1	0	0
N Gregory St and W University Ave	POINT (-88.22072799999998 40.11641799907016)	12	7	2	1	2	0
S Lincoln Ave and W Main St	POINT (-88.21935999999999 40.11451599907018)	11	9	2	0	0	0
S 1st St and E John St	POINT (-88.23868199999998 40.10900699907021)	11	8	1	2	0	0
S 6th St and E John St	POINT (-88.230367 40.10907899907021)	11	8	0	3	0	0
S 4th St and Peabody Dr	POINT (-88.23338299999999 40.10146399907024)	11	8	1	2	0	0
E Springfield Ave and N Harvey St	POINT (-88.222291 40.11277899907017)	11	10	0	1	0	0

S 4th St and E Daniel St	POINT (-88.2334999999999 40.10794999907022)	10	8	2	0	0	0
S Neil St and Carriage Centre Ct	POINT (-88.24571299999999 40.09118599907032)	10	6	0	2	2	0
S 1st St and E White St	POINT (-88.238721 40.11437199907019)	10	6	3	0	1	0
S 6th St and E Armory Ave	POINT (-88.230295 40.10543599907026)	10	7	1	2	0	0
E Springfield Ave and N Gregory St	POINT (-88.220671 40.11278999907019)	10	9	1	0	0	0
N 2nd St and E University Ave	POINT (-88.23707999999999 40.1163329990702)	10	9	0	1	0	0
S 1st St and E Chalmers St	POINT (-88.23865999999998 40.10653199907023)	10	7	0	3	0	0
S Lincoln Ave and W Michigan Ave	POINT (-88.21914199999998 40.10187699907028)	9	8	1	0	0	0
E Springfield Ave and S 6th St	POINT (-88.230431 40.11269999907019)	9	5	0	4	0	0
S 4th St and E John St	POINT (-88.23352 40.10904999907021)	9	7	2	0	0	0
N Romine St and W University Ave	POINT (-88.22711799999999 40.11638299907015)	8	4	4	0	0	0
S Gregory St and W Nevada St	POINT (-88.22151399999998 40.10597399907021)	8	7	1	0	0	0
N Mathews Ave and W University Ave	POINT (-88.225696 40.11638999907018)	8	4	2	1	1	0
S 1st St and W Windsor Rd	POINT (-88.23837199999997 40.08334499907038)	8	7	1	0	0	0
S 1st St and E Peabody Dr	POINT (-88.238607 40.10143599907025)	8	7	0	0	1	0
S Fourth St and W Windsor Rd	POINT (-88.23365699999997 40.08348699907036)	8	6	1	0	1	0
S 6th St and E Daniel St	POINT (-88.230345 40.10796899907024)	8	7	1	0	0	0
S 2nd St and E John St	POINT (-88.23702699999998 40.10902199907019)	8	6	2	0	0	0
Kirby Ave and S Goodwin Ave	POINT (-88.22372799999998 40.09813999907028)	8	6	0	2	0	0
S 4th St and E Stoughton St	POINT (-88.23351199999998 40.11346899907019)	7	6	0	0	1	0
S 3rd St and E White St	POINT (-88.23541299999999 40.11441499907018)	7	7	0	0	0	0
S 6th St and Peabody Dr	POINT (-88.23021499999999 40.10148399907027)	7	7	0	0	0	0
S Wright St and E Green St	POINT (-88.22887399999998 40.11031699907021)	7	5	2	0	0	0
N 6th St and S 6th St	POINT (-88.230431 40.11636399907018)	7	6	1	0	0	0
S Lincoln Ave and W Delaware Ave	POINT (-88.21913299999999 40.09896799907026)	7	6	0	1	0	0
S Lincoln Ave and W Indiana Ave	POINT (-88.21916099999999 40.10278099907023)	7	6	1	0	0	0
S Goodwin Ave and W Nevada St	POINT (-88.22384599999998 40.10595899907022)	7	6	1	0	0	0
Kirby Ave and S Orchard St	POINT (-88.21430799999999 40.09824899907028)	6	6	0	0	0	0
S Neil St and Birch St	POINT (-88.24431199999999 40.09988699907027)	6	5	0	1	0	0
S Goodwin Ave and W Oregon St	POINT (-88.22385099999998 40.10698499907022)	6	5	0	1	0	0

S Locust St and E Green St	POINT (-88.24026499999998 40.11020499907023)	6	6	0	0	0	0
S Oak St and Stadium Dr	POINT (-88.24149299999999 40.10270199907025)	6	3	1	2	0	0
E Springfield Ave and S 2nd St	POINT (-88.23705699999999 40.11264099907019)	6	6	0	0	0	0
S 6th St and E Healey St	POINT (-88.23041200000002 40.11149999907018)	6	6	0	0	0	0
S 3rd St and E John St	POINT (-88.235373 40.10903499907023)	6	6	0	0	0	0
S Lincoln Ave and W Clark St	POINT (-88.21936999999998 40.11546199907018)	6	4	1	1	0	0
S Lincoln Ave and W Stoughton St	POINT (-88.21935099999997 40.11355499907018)	6	5	0	1	0	0
S 6th St and W Gregory Dr	POINT (-88.230262 40.10415099907023)	6	4	1	0	1	0

The frequency of the 8 most common collision types are given in Table 3.5 and their proportions are given in Table 3.6. Table 3.5 shows that the most frequent crash type is not the same at the top five intersections. The most frequent crash type was Turning at the intersections of University Ave and Lincoln Ave as well as Windsor Ave and Neil St, while it was Rear-end at Kirby and Neil as well as 1st St and University Ave intersections. The most frequent crash type at Springfield and 3rd St (which is an unsignalized intersection) was Angle.

Table 3.5: Frequency of the Most Common Crash Types at Intersections with More Than 5 Crashes

Intersection Name	Total Crashes	Rear End	Angle	Turning	Parked Motor Vehicle	Sideswipe-same direction	Fixed Object	Pedalcyclist	Pedestrian
S Lincoln Ave. and W University Ave	108	34	10	45	0	10	2	0	1
W Kirby Ave. and S Neil St	87	33	12	25	0	9	4	0	1
E Windsor Rd. and S Neil (N Dunlap St)	56	22	5	26	0	1	0	0	0
E Springfield Ave. and S 3rd St	56	6	39	6	1	1	0	0	3
N 1st St and E University Ave.	40	13	4	11	0	6	2	2	1
W Kirby Ave. and S 4th St	36	16	2	9	0	2	4	1	1
W Florida Ave and S. Lincoln Ave	34	13	9	6	0	5	1	0	0
E Springfield Ave and S 5th St	33	5	22	4	0	1	0	1	0
S Lincoln Ave and W Ohio St	33	21	1	1	2	0	1	2	5
E Springfield Ave and S 1st St	33	16	9	6	1	1	0	0	0
S 1st St and E Green St	31	10	10	7	0	2	1	0	1
E University Ave and S 4th St	29	8	3	10	1	3	2	0	1
S Neil St and Devonshire Dr	28	14	2	6	0	2	2	0	0
S Neil St and St Marys Rd	28	14	2	8	0	1	3	0	0
E University Ave and S 5th St	27	4	9	8	0	2	0	2	1
S 5th St and E Green St	27	1	15	3	5	0	1	1	1
S Goodwin Ave and W Springfield Ave	27	8	3	3	5	1	2	3	2
W Kirby Ave and S First St	26	7	3	3	2	2	3	1	2
N Lincoln Ave and W Springfield Ave	26	4	11	9	0	1	1	0	0
N Goodwin Ave and W University Ave	25	8	1	10	2	0	1	1	1
W Florida Ave and Race St	25	4	19	2	0	0	0	0	0
S Neil St and Stadium Dr	24	10	4	8	0	1	1	0	0
S Lincoln Ave and W Pennsylvania Ave	23	11	2	7	0	1	2	0	0
S Lincoln Ave and W Green St	23	13	0	6	0	2	0	0	1

E University Ave and S 3rd St	23	8	4	7	1	2	1	0	0
S Lincoln Ave and W Iowa St	23	20	1	0	0	0	1	0	1
E Springfield Ave and S Wright St	22	14	4	3	0	0	1	0	0
E Springfield Ave and S 4th St	22	9	3	8	0	0	0	2	0
S 6th St and E Green St	21	7	2	1	3	3	1	1	1
S 3rd St and E Green St	19	2	6	3	1	2	0	2	2
S Lincoln and W Oregon St	19	7	1	4	1	2	2	1	1
E Springfield and N Mathews Ave	19	11	3	2	0	1	1	0	1
S 1st St and E Armory Ave	17	2	10	3	1	0	1	0	0
S Lincoln Ave and W Nevada St	17	9	1	1	3	1	1	0	1
S Goodwin Ave and W Green St	16	7	0	1	1	1	1	4	0
E Windsor Rd and Race St	16	4	2	3	0	0	1	1	1
S 4th St and E Gregory Dr	16	5	2	3	3	2	0	0	0
S 1st St and E Daniel St	16	4	4	3	2	0	1	1	0
N Wright St and S Wright St	15	6	2	2	0	1	1	2	1
N Harvey St and W University Ave	15	11	1	1	1	1	0	0	0
Kirby Ave and S Oak St	14	5	2	3	1	0	1	1	0
S 4th St and E Green St	14	7	2	1	0	1	1	2	0
S Gregory St and W Oregon St	13	1	5	1	3	1	0	1	0
S 1st St and E Gregory Dr	13	4	2	1	2	0	1	0	2
S Lincoln Ave and W Illinois St	13	4	2	1	0	3	0	2	1
Kirby Ave and S Maryland Dr	13	9	0	2	0	2	0	0	0
S 4th St and E Healey St	13	0	4	3	6	0	0	0	0
S 1st St and St Marys Rd	12	1	5	3	0	1	0	1	1
S 4th St and E Armory Ave	12	0	4	3	1	1	1	1	0
S Mathews Ave and W Green St	12	5	0	0	4	0	1	2	0
S 4th St and E White St	12	0	8	1	2	0	0	0	0
N Gregory St and W University Ave	12	2	2	5	0	1	0	1	0
S Lincoln Ave and W Main St	11	1	2	7	1	0	0	0	0
S 1st St and E John St	11	5	2	0	3	0	0	0	1

S 6th St and E John St	11	0	2	0	4	0	2	1	1
S 4th St and Peabody Dr	11	1	2	2	1	1	1	1	2
E Springfield Ave and N Harvey St	11	2	1	2	5	0	0	0	0
S 4th St and E Daniel St	10	6	1	2	1	0	0	0	0
S Neil St and Carriage Centre Ct	10	6	1	2	0	1	0	0	0
S 1st St and E White St	10	1	7	2	0	0	0	0	0
S 6th St and E Armory Ave	10	0	0	2	4	1	1	2	0
E Springfield Ave and N Gregory St	10	3	4	1	2	0	0	0	0
N 2nd St and E University Ave	10	2	2	3	1	2	0	0	0
S 1st St and E Chalmers St	10	2	5	0	2	0	0	0	1
S Lincoln Ave and W Michigan Ave	9	8	0	0	0	1	0	0	0
E Springfield Ave and S 6th St	9	0	7	0	0	1	0	0	0
S 4th St and E John St	9	4	3	2	0	0	0	0	0
N Romine St and W University Ave	8	4	0	3	0	0	0	0	0
S Gregory St and W Nevada St	8	0	2	0	4	1	0	1	0
N Mathews Ave and W University Ave	8	2	2	3	0	1	0	0	0
S 1st St and W Windsor Rd	8	4	1	1	2	0	0	0	0
S 1st St and E Peabody Dr	8	1	1	1	2	2	1	0	0
S Fourth St and W Windsor Rd	8	7	0	0	0	0	0	0	0
S 6th St and E Daniel St	8	2	0	1	0	3	1	0	1
S 2nd St and E John St	8	0	6	0	1	0	1	0	0
Kirby Ave and S Goodwin Ave	8	5	0	1	0	0	2	0	0
S 4th St and E Stoughton St	7	0	2	3	0	1	0	0	1
S 3rd St and E White St	7	0	5	1	0	1	0	0	0
S 6th St and Peabody Dr	7	2	0	0	4	0	1	0	0
S Wright St and E Green St	7	4	0	1	1	1	0	0	0
N 6th St and S 6th St	7	3	1	1	0	1	0	0	0
S Lincoln Ave and W Delaware Ave	7	3	2	2	0	0	0	0	0
S Lincoln Ave and W Indiana Ave	7	4	0	2	0	0	0	1	0

S Goodwin Ave and W Nevada St	7	2	1	0	0	2	1	0	1
Kirby Ave and S Orchard St	6	2	1	1	1	0	0	0	0
S Neil St and Birch St	6	3	1	0	0	1	0	0	0
S Goodwin Ave and W Oregon St	6	0	0	0	2	1	1	1	0
S Locust St and E Green St	6	2	0	1	0	1	0	0	0
S Oak St and Stadium Dr	6	0	1	2	1	0	1	1	0
E Springfield Ave and S 2nd St	6	5	1	0	0	0	0	0	0
S 6th St and E Healey St	6	2	2	0	2	0	0	0	0
S 3rd St and E John St	6	0	3	0	2	0	1	0	0
S Lincoln Ave and W Clark St	6	0	2	0	0	1	0	2	0
S Lincoln Ave and W Stoughton St	6	2	0	0	2	0	2	0	0
S 6th St and W Gregory Dr	6	1	0	0	1	0	2	1	1

Table 3.6: Proportion of the Most Common Crash Types at Intersections with More Than 5 Crashes

Intersection Name	Rear End	Angle	Turning	Parked Motor Vehicle	Sideswipe-same direction	Fixed Object	Pedalcyclist	Pedestrian	Bike+Ped
S Lincoln Ave. and W University Ave	31	9	42	0	9	2	0	1	1
W Kirby Ave. and S Neil St	38	14	29	0	10	5	0	1	1
E Windsor Rd. and N Dunlap St	39	9	46	0	2	0	0	0	0
E Springfield Ave. and S 3rd St	11	70	11	2	2	0	0	5	5
N 1st St and E University Ave.	33	10	28	0	15	5	5	3	8
W Kirby Ave. and S 4th St	44	6	25	0	6	11	3	3	6
W Florida Ave and S. Lincoln Ave	38	26	18	0	15	3	0	0	0
E Springfield Ave and S 5th St	15	67	12	0	3	0	3	0	3
S Lincoln Ave and W Ohio St	64	3	3	6	0	3	6	15	21
E Springfield Ave and S 1st St	48	27	18	3	3	0	0	0	0
S 1st St and E Green St	32	32	23	0	6	3	0	3	3
E University Ave and S 4th St	28	10	34	3	10	7	0	3	3
S Neil St and Devonshire Dr	50	7	21	0	7	7	0	0	0
S Neil St and St Marys Rd	50	7	29	0	4	11	0	0	0
E University Ave and S 5th St	15	33	30	0	7	0	7	4	11
S 5th St and E Green St	4	56	11	19	0	4	4	4	7
S Goodwin Ave and W Springfield Ave	30	11	11	19	4	7	11	7	19
W Kirby Ave and S First St	27	12	12	8	8	12	4	8	12
N Lincoln Ave and W Springfield Ave	15	42	35	0	4	4	0	0	0
N Goodwin Ave and W University Ave	32	4	40	8	0	4	4	4	8
W Florida Ave and Race St	16	76	8	0	0	0	0	0	0
S Neil St and Stadium Dr	42	17	33	0	4	4	0	0	0
S Lincoln Ave and W Pennsylvania Ave	48	9	30	0	4	9	0	0	0
S Lincoln Ave and W Green St	57	0	26	0	9	0	0	4	4
E University Ave and S 3rd St	35	17	30	4	9	4	0	0	0

S Lincoln Ave and W Iowa St	87	4	0	0	0	4	0	4	4
E Springfield Ave and S Wright St	64	18	14	0	0	5	0	0	0
E Springfield Ave and S 4th St	41	14	36	0	0	0	9	0	9
S 6th St and E Green St	33	10	5	14	14	5	5	5	10
S 3rd St and E Green St	11	32	16	5	11	0	11	11	21
S Lincoln and W Oregon St	37	5	21	5	11	11	5	5	11
E Springfield and N Mathews Ave	58	16	11	0	5	5	0	5	5
S 1st St and E Armory Ave	12	59	18	6	0	6	0	0	0
S Lincoln Ave and W Nevada St	53	6	6	18	6	6	0	6	6
S Goodwin Ave and W Green St	44	0	6	6	6	6	25	0	25
E Windsor Rd and Race St	25	13	19	0	0	6	6	6	13
S 4th St and E Gregory Dr	31	13	19	19	13	0	0	0	0
S 1st St and E Daniel St	25	25	19	13	0	6	6	0	6
N Wright St and S Wright St	40	13	13	0	7	7	13	7	20
N Harvey St. and W University Ave	73	7	7	7	7	0	0	0	0
Kirby Ave and S Oak St	36	14	21	7	0	7	7	0	7
S 4th St and E Green St	50	14	7	0	7	7	14	0	14
S Gregory St and W Oregon St	8	38	8	23	8	0	8	0	8
S 1st St and E Gregory Dr	31	15	8	15	0	8	0	15	15
S Lincoln Ave and W Illinois St	31	15	8	0	23	0	15	8	23
Kirby Ave and S Maryland Dr	69	0	15	0	15	0	0	0	0
S 4th St and E Healey St	0	31	23	46	0	0	0	0	0
S 1st St and St Marys Rd	8	42	25	0	8	0	8	8	17
S 4th St and E Armory Ave	0	33	25	8	8	8	8	0	8
S Mathews Ave and W Green St	42	0	0	33	0	8	17	0	17
S 4th St and E White St	0	67	8	17	0	0	0	0	0
N Gregory St and W University Ave	17	17	42	0	8	0	8	0	8
S Lincoln Ave and W Main St	9	18	64	9	0	0	0	0	0
S 1st St and E John St	45	18	0	27	0	0	0	9	9
S 6th St and E John St	0	18	0	36	0	18	9	9	18

S 4th St and Peabody Dr	9	18	18	9	9	9	9	18	27
E Springfield Ave and N Harvey St	18	9	18	45	0	0	0	0	0
S 4th St and E Daniel St	60	10	20	10	0	0	0	0	0
S Neil St and Carriage Centre Ct	60	10	20	0	10	0	0	0	0
S 1st St and E White St	10	70	20	0	0	0	0	0	0
S 6th St and E Armory Ave	0	0	20	40	10	10	20	0	20
E Springfield Ave and N Gregory St	30	40	10	20	0	0	0	0	0
N 2nd St and E University Ave	20	20	30	10	20	0	0	0	0
S 1st St and E Chalmers St	20	50	0	20	0	0	0	10	10
S Lincoln Ave and W Michigan Ave	89	0	0	0	11	0	0	0	0
E Springfield Ave and S 6th St	0	78	0	0	11	0	0	0	0
S 4th St and E John St	44	33	22	0	0	0	0	0	0
N Romine St and W University Ave	50	0	38	0	0	0	0	0	0
S Gregory St and W Nevada St	0	25	0	50	13	0	13	0	13
N Mathews Ave and W University Ave	25	25	38	0	13	0	0	0	0
S 1st St and W Windsor Rd	50	13	13	25	0	0	0	0	0
S 1st St and E Peabody Dr	13	13	13	25	25	13	0	0	0
S Fourth St and W Windsor Rd	88	0	0	0	0	0	0	0	0
S 6th St and E Daniel St	25	0	13	0	38	13	0	13	13
S 2nd St and E John St	0	75	0	13	0	13	0	0	0
Kirby Ave and S Goodwin Ave	63	0	13	0	0	25	0	0	0
S 4th St and E Stoughton St	0	29	43	0	14	0	0	14	14
S 3rd St and E White St	0	71	14	0	14	0	0	0	0
S 6th St and Peabody Dr	29	0	0	57	0	14	0	0	0
S Wright St and E Green St	57	0	14	14	14	0	0	0	0
N 6th St and S 6th St	43	14	14	0	14	0	0	0	0
S Lincoln Ave and W Delaware Ave	43	29	29	0	0	0	0	0	0
S Lincoln Ave and W Indiana Ave	57	0	29	0	0	0	14	0	14
S Goodwin Ave and W Nevada St	29	14	0	0	29	14	0	14	14
Kirby Ave and S Orchard St	33	17	17	17	0	0	0	0	0

S Neil St and Birch St	50	17	0	0	17	0	0	0	0
S Goodwin Ave and W Oregon St	0	0	0	33	17	17	17	0	17
S Locust St and E Green St	33	0	17	0	17	0	0	0	0
S Oak St and Stadium Dr	0	17	33	17	0	17	17	0	17
E Springfield Ave and S 2nd St	83	17	0	0	0	0	0	0	0
S 6th St and E Healey St	33	33	0	33	0	0	0	0	0
S 3rd St and E John St	0	50	0	33	0	17	0	0	0
S Lincoln Ave and W Clark St	0	33	0	0	17	0	33	0	33
S Lincoln Ave and W Stoughton St	33	0	0	33	0	33	0	0	0
S 6th St and W Gregory Dr	17	0	0	17	0	33	17	17	33

Rear End Crashes

The Figure 3.2 shows the proportion of rear-end crashes at intersections with 5 or more crashes within campus.

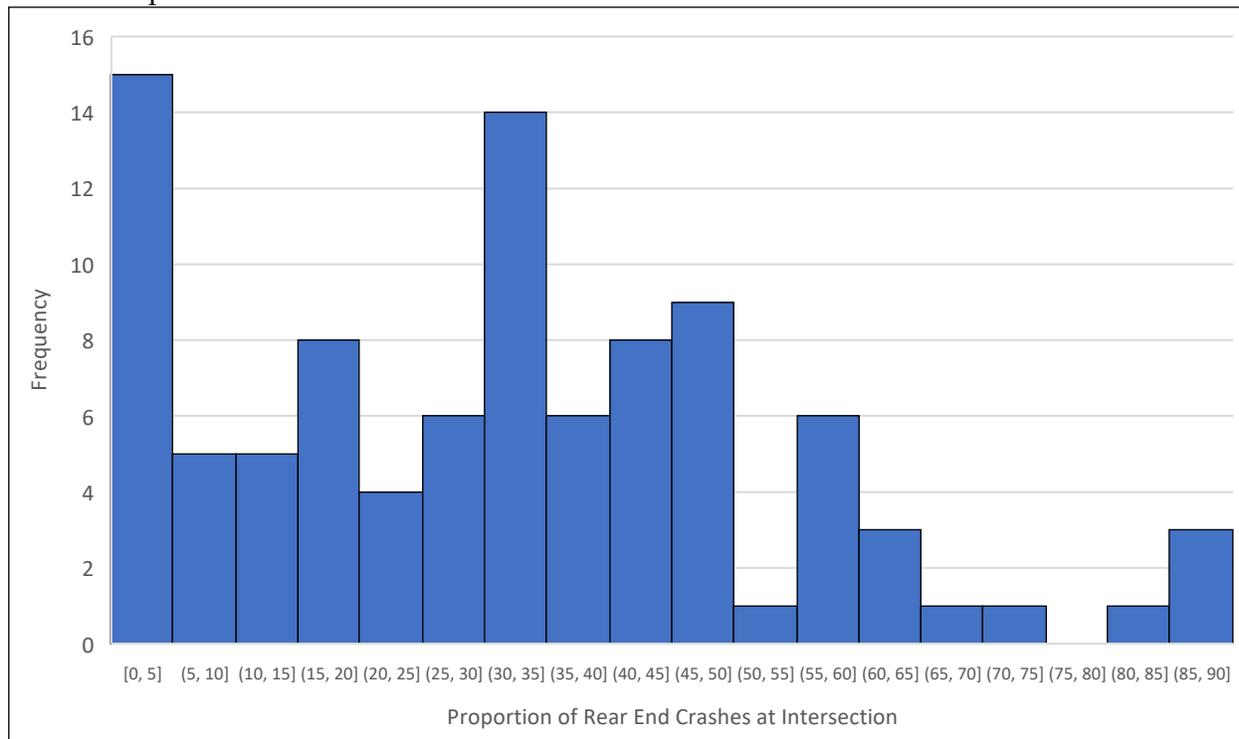


Figure 3.2: Proportion of rear-end crashes at intersections with more than 5 crashes (95 intersections)

Rear end crashes are the most common collision type at intersection within campus. In 54 out of the 95 intersections considered, rear-end collision was the most frequent collision type. As shown in Figure 3.2, in 16 intersections more than 50% of the crashes were rear-end collision. The names of these intersections are given in Table 3.7.

Table 3.7: Intersections with more than 50% rear-end crashes

Intersection Name	Total Crashes	Rear End	Rear End Crashes (%)
S Lincoln Ave and W Michigan Ave	9	8	88.889
S Fourth St and W Windsor Rd	8	7	87.500
S Lincoln Ave and W Iowa St	23	20	86.957
E Springfield Ave and S 2nd St	6	5	83.333
N Harvey St and W University Ave	15	11	73.333
Kirby Ave and S Maryland Dr	13	9	69.231
S Lincoln Ave and W Ohio St	33	21	63.636
E Springfield Ave and S Wright St	22	14	63.636

Kirby Ave and S Goodwin Ave	8	5	62.500
S 4th St and E Daniel St	10	6	60.000
S Neil St and Carriage Centre Ct	10	6	60.000
E Springfield and N Mathews Ave	19	11	57.895
S Wright St and E Green St	7	4	57.143
S Lincoln Ave and W Indiana Ave	7	4	57.143
S Lincoln Ave and W Green St	23	13	56.522
S Lincoln Ave and W Nevada St	17	9	52.941

There are several intersections with a high number of rear-end crashes. Table 3.8 shows the intersections with 10 or more rear end crashes.

Table 3.8: Intersections with 10 or more rear end crashes

Intersection Name	Total Crashes	Rear End	Rear End (%)
S Lincoln Ave. and W University Ave	108	34	31.481
W Kirby Ave. and S Neil St	87	33	37.931
E Windsor Rd. and N Neil St	56	22	39.286
S Lincoln Ave and W Ohio St	33	21	63.636
S Lincoln Ave and W Iowa St	23	20	86.957
E Springfield Ave and S 1st St	33	16	48.485
W Kirby Ave. and S 4th St	36	16	44.444
E Springfield Ave and S Wright St	22	14	63.636
S Neil St and Devonshire Dr	28	14	50.000
S Neil St and St Marys Rd	28	14	50.000
S Lincoln Ave and W Green St	23	13	56.522
W Florida Ave and S. Lincoln Ave	34	13	38.235
N 1st St and E University Ave.	40	13	32.500
N Harvey St and W University Ave	15	11	73.333
E Springfield and N Mathews Ave	19	11	57.895
S Lincoln Ave and W Pennsylvania Ave	23	11	47.826
S Neil St and Stadium Dr	24	10	41.667
S 1st St and E Green St	31	10	32.258

Comparing the above two tables, it can be seen that the intersections on Lincoln Ave (Lincoln and Ohio, and Lincoln and Iowa) and along Springfield Ave (Springfield and Mathews, and Springfield and Wright) have both a high absolute count of rear end crashes as well as a high proportion of rear end crashes. Other intersections along Lincoln Ave. have a high proportion of rear end crashes (Lincoln and Michigan, Lincoln and Indiana, Lincoln and Green, and Lincoln and Nevada), and intersection along Springfield (Springfield and Second) also has a high proportion of rear end crashes. Therefore, the two corridors (Lincoln Ave. and Springfield Ave.)

are the ones that require attention in terms of Rear-end collisions. Figure 3.3. shows the rear end crash locations at intersections within campus between 2014-2018.

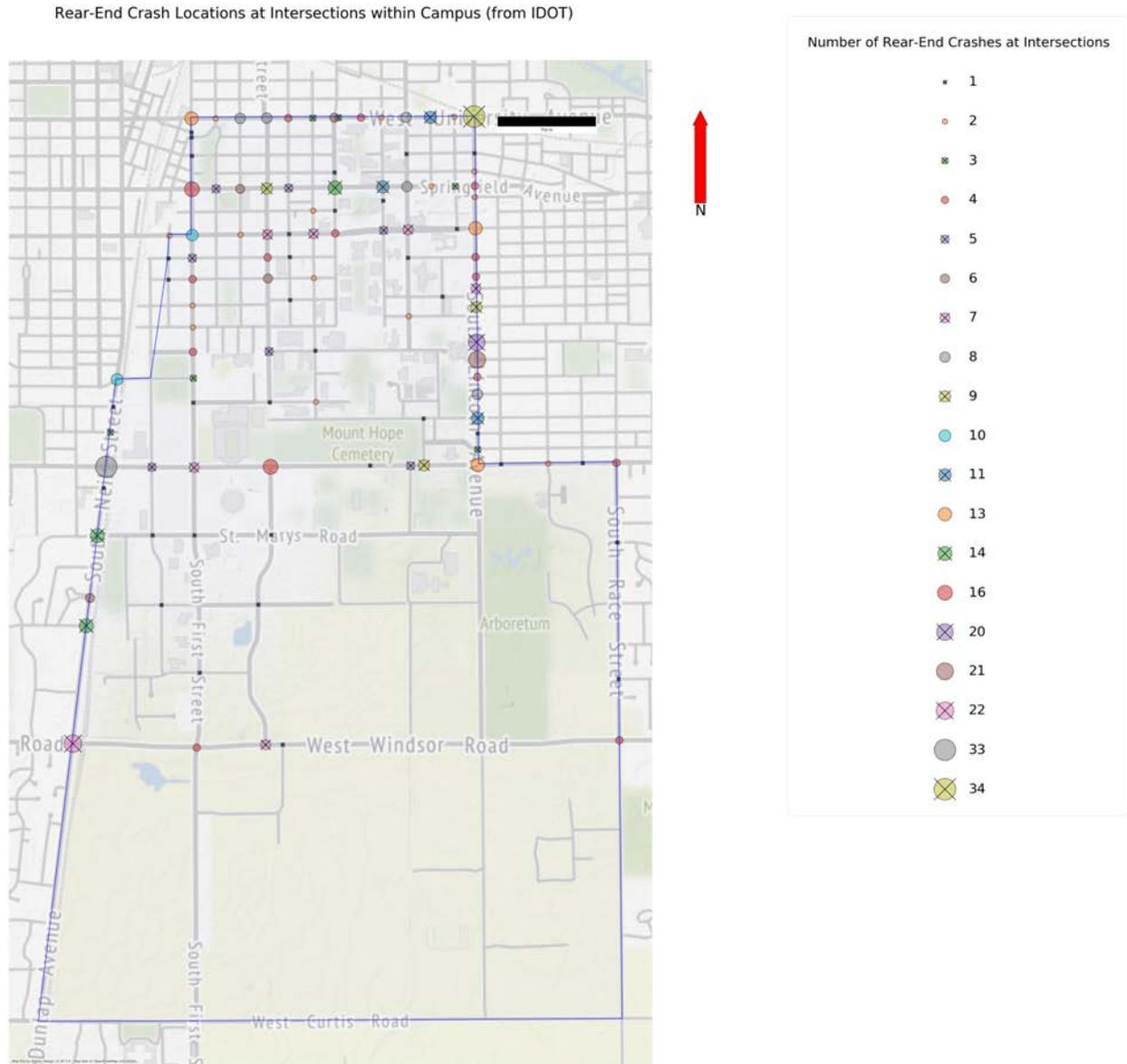


Figure 3.3: Rear end crash locations at intersections in campus

Angle Crashes

The Figure 3.4 shows the proportion of angle crashes at intersections at the top ninety-five intersections within campus.

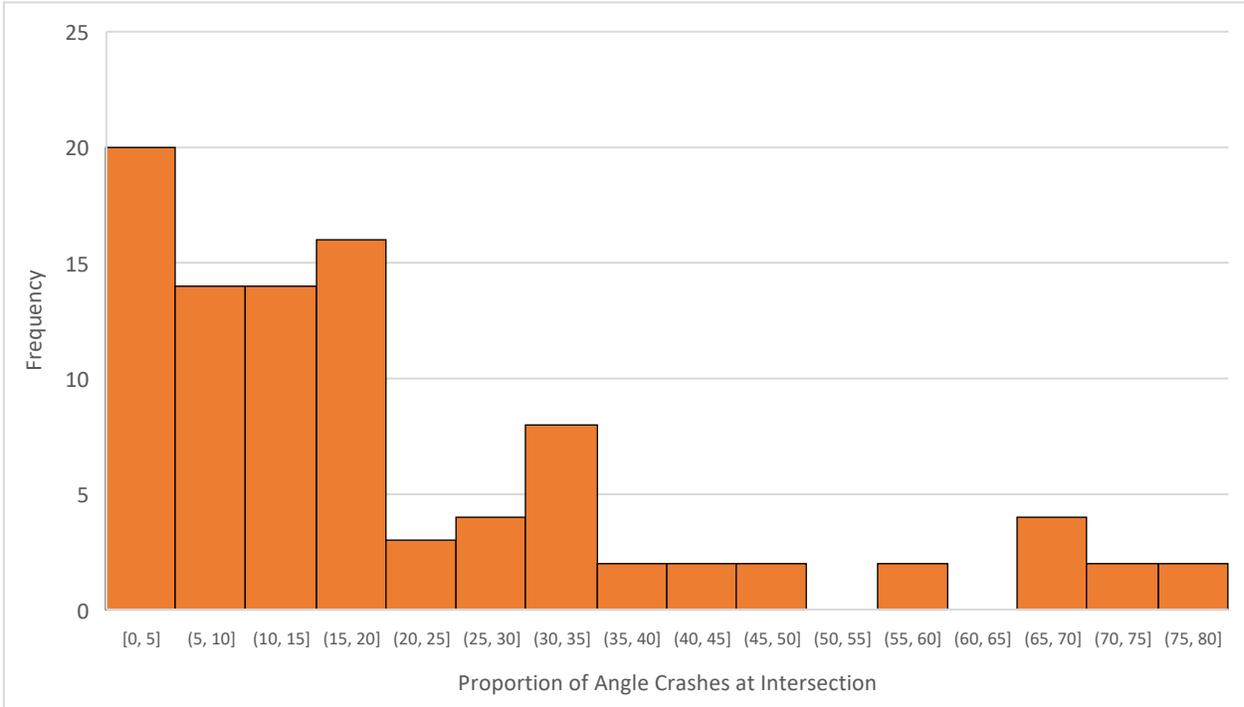


Figure 3.4: Proportion of angle crashes at intersections with more than 5 crashes (95 intersections)

There were 10 intersections where Angle crashes constituted more than 50 percent of all crashes at the intersection. They are given in Table 3.9 below.

Table 3.9: Intersections where Angle collisions constitute more than fifty percent of crashes

Intersection Name	Total Crashes	Angle	Angle (%)
E Springfield Ave and S 6th St	9	7	77.778
W Florida Ave and Race St	25	19	76.000
S 2nd St and E John St	8	6	75.000
S 3rd St and E White St	7	5	71.429
S 1st St and E White St	10	7	70.000
E Springfield Ave. and S 3rd St	56	39	69.643
E Springfield Ave and S 5th St	33	22	66.667
S 4th St and E White St	12	8	66.667
S 1st St and E Armory Ave	17	10	58.824
S 5th St and E Green St	27	15	55.556

There are other intersections with a high number of angle crashes, but the proportion of angle crashes may not be as high as the ones in the table reported above. The intersections with 10 or more angle crashes reported are given in Table 3.10.

Table 3.10: Intersections with 10 or more angle crashes

Intersection Name	Total Crashes	Angle	Angle (%)
E Springfield Ave. and S 3rd St	56	39	69.643
E Springfield Ave and S 5th St	33	22	66.667
W Florida Ave and Race St	25	19	76.000
S 5th St and E Green St	27	15	55.556
W Kirby Ave. and S Neil St	87	12	13.793
N Lincoln Ave and W Springfield Ave	26	11	42.308
S 1st St and E Armory Ave	17	10	58.824
S 1st St and E Green St	31	10	32.258
S Lincoln Ave. and W University Ave	108	10	9.259

Comparing the tables above, we can see that intersections on Springfield Ave (Springfield and 3rd, Springfield and 5th, Springfield and Lincoln) have both a high number and a high proportion of angle crashes. The intersections on 5th St (5th and Green, and 5th and Springfield) also has a high number and proportion of angle crashes. On the other hand, intersections along White St., have a high proportion of angle crashes (White and 1st, White and 3rd, and White and 4th). The three corridors, (Springfield Ave, 5th and White St) are the ones that require attention in terms of Angle crashes.

Figure 3.5 shows the IDOT reported angle crashes at intersections within campus between 2014-2018.

Angle Crash Locations at Intersections within Campus (from IDOT)

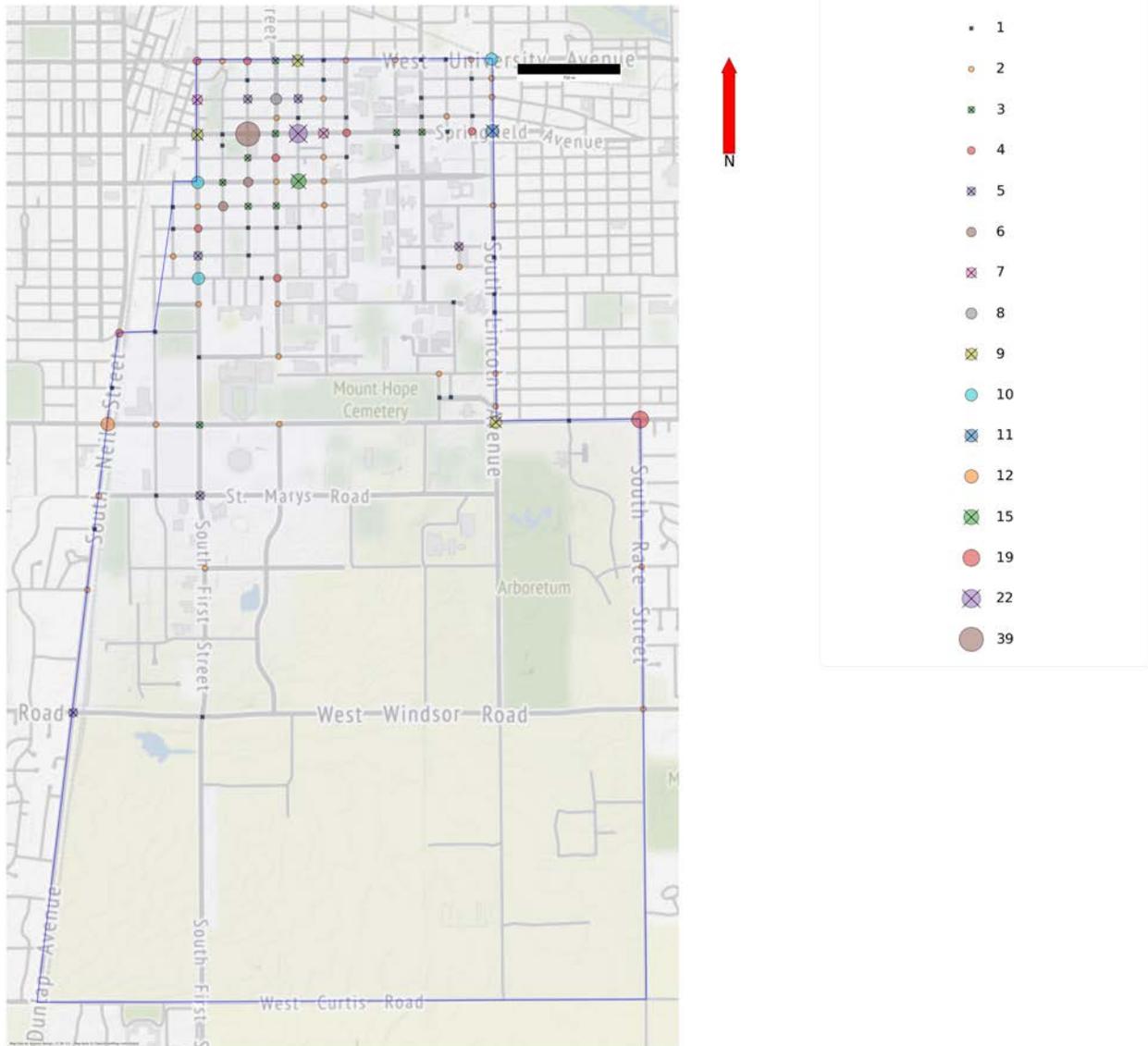


Figure 3.5: Angle crash locations at intersections in campus

Turning Crashes

Figure 3.6 shows the proportion of turning crashes at intersections at the top ninety-five intersections within campus.

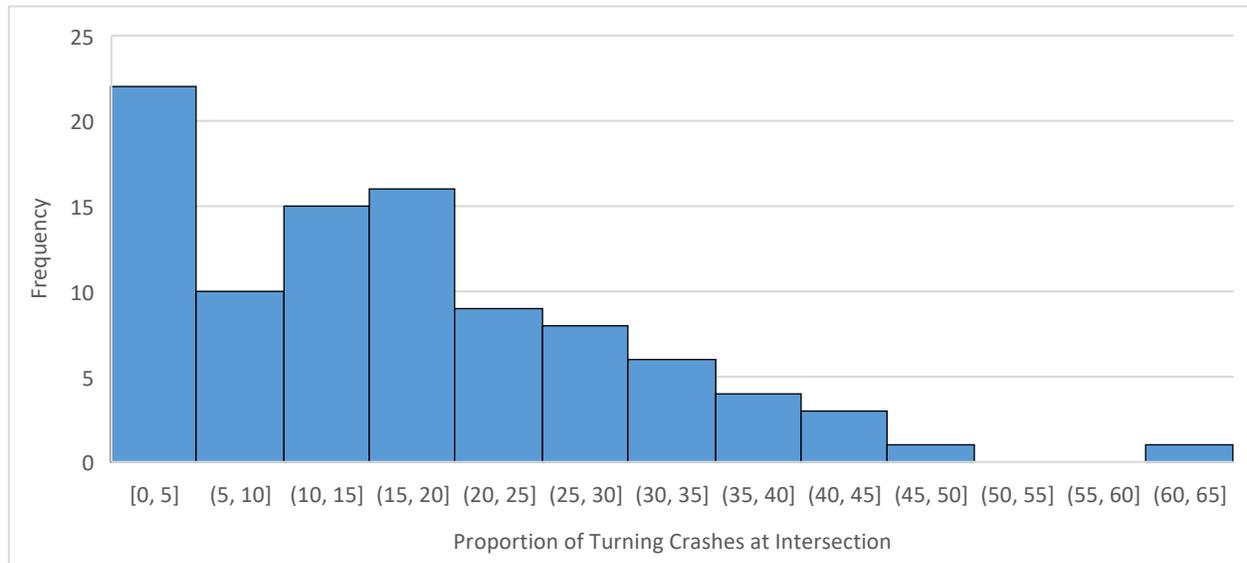


Figure 3.6: Proportion of Turning crashes at intersections with more than 5 crashes (95 intersections)

In terms of turning crashes, only one intersection had a high (>50%) proportion of turning crashes. This intersection is Lincoln and Main, which had 11 reported crashes, 7 of which were turning crashes. Table 3.11 shows intersections with 10 or more reported turning crashes.

Table 3.11: Intersections with 10 or more turning crashes

Intersection Name	Total Crashes	Turning	Turning (%)
S Lincoln Ave. and W University Ave	108	45	41.667
E Windsor Rd. and Neil St (N Dunlap St)	56	26	46.429
W Kirby Ave. and S Neil St	87	25	28.736
N 1st St and E University Ave.	40	11	27.500
N Goodwin Ave and W University Ave	25	10	40.000
E University Ave and S 4th St	29	10	34.483

Among the six intersections with ten or more crashes, turning crashes were the most common crash type in four of the intersections (Lincoln and University, Windsor and Neil, Goodwin and University, and University and 4th). Based on this, turning crashes seem to be a problem along the two corridors, a) Lincoln Ave. and b) University Ave.

Figure 3.5 shows the IDOT reported angle crashes at intersections within campus between 2014-2018.

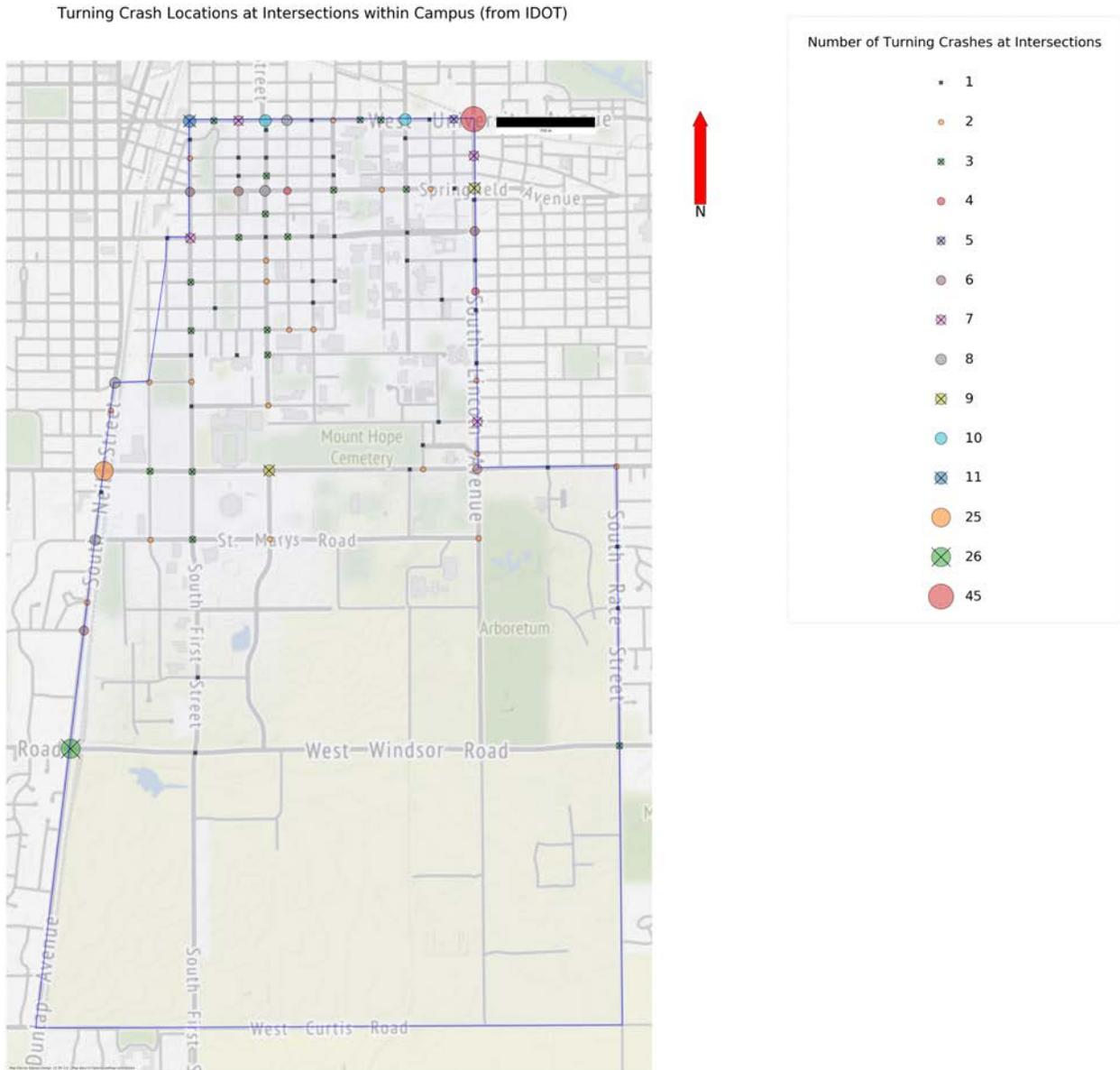


Figure 3.7: Angle crash locations at intersections in campus

Parked Motor Vehicle Crashes

Figure 3.8 shows the proportion of parked motor vehicle crashes at intersections at the top ninety-five intersections within campus.

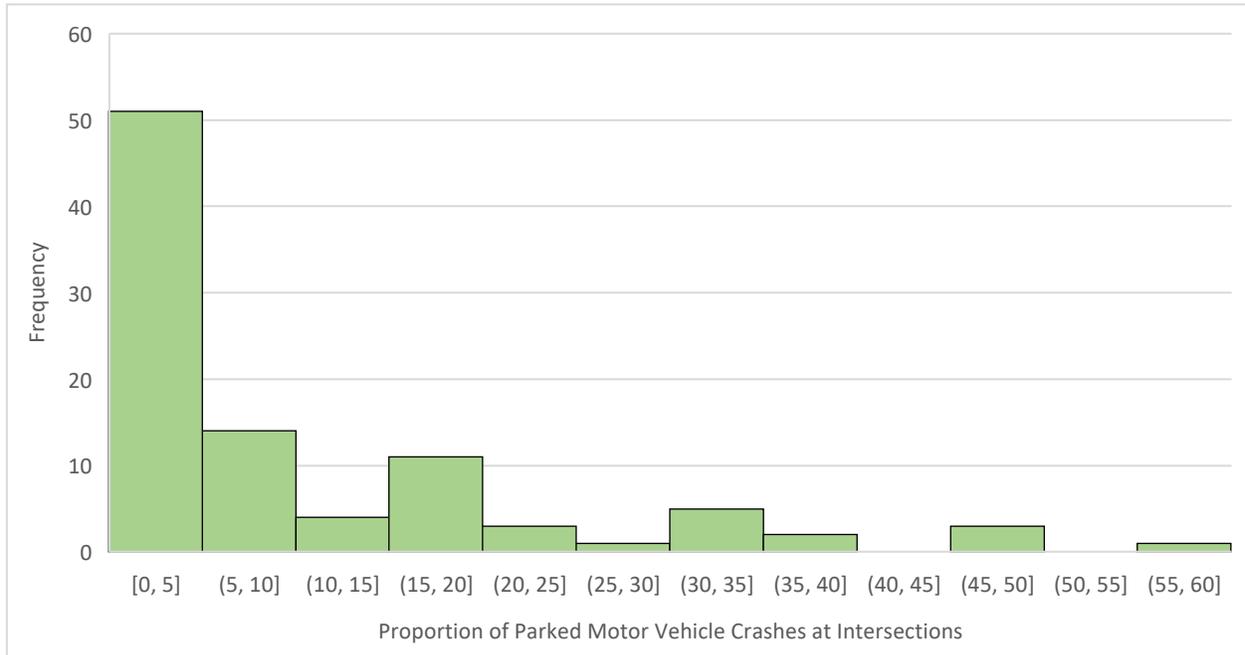


Figure 3.8: Proportion of Parked Motor Vehicle crashes at the top 95 intersections (intersections with more than 5 crashes)

Among all intersections, only one intersection had more than 50% of crashes involving a parked motor vehicle. This intersection was 6th and Peabody, which had 7 crashes, 4 of which were parked motor vehicle crashes. Based on the count of parked motor vehicle crashes, the highest count of parked motor vehicle crashes at an intersection was six.

Intersections with the most frequent parked motor vehicle crashes are given in Figure 3.9 and Table 3.12.

Parked Motor Vehicle Crash Locations at Intersections within Campus (from IDOT)

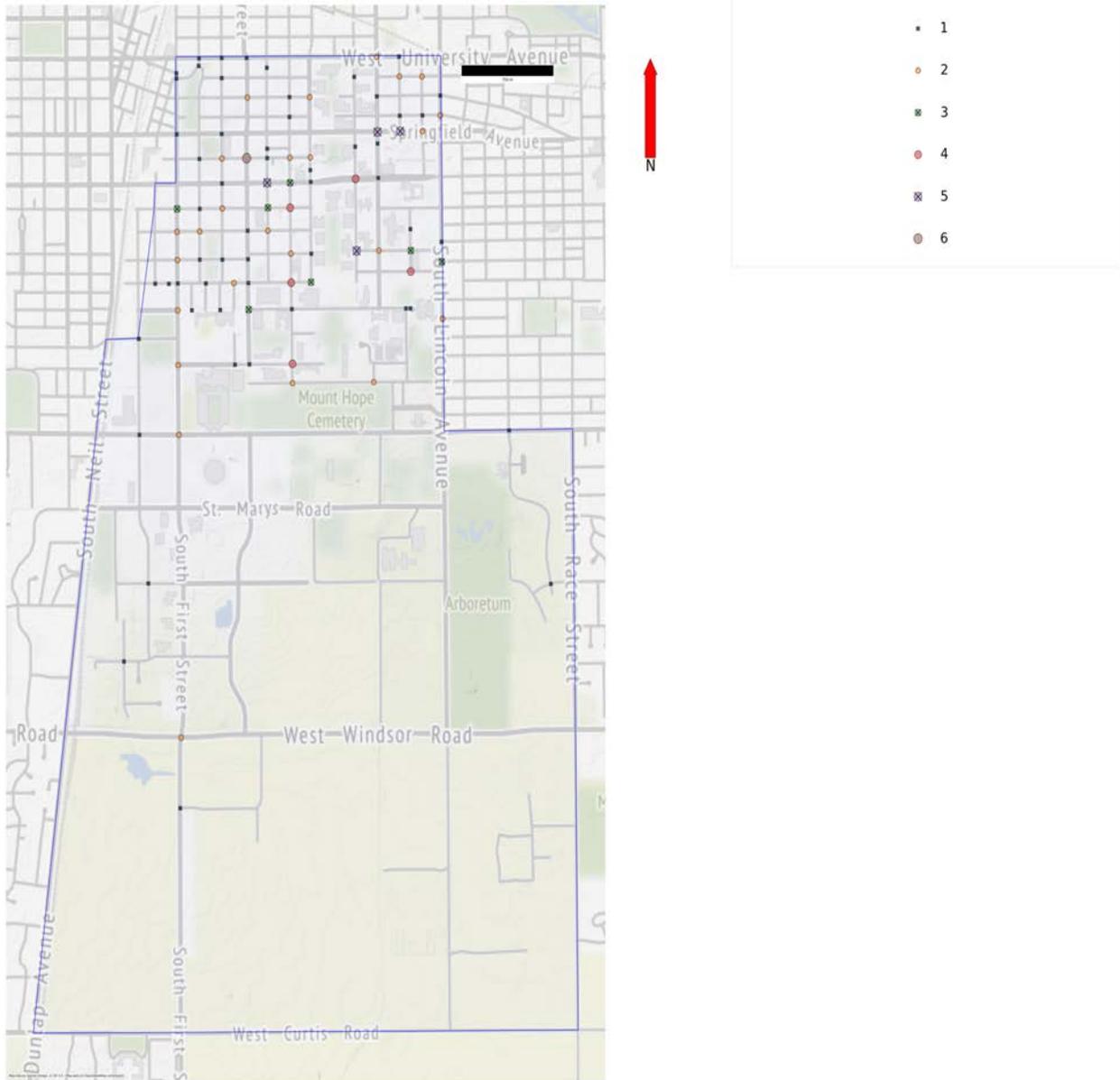


Figure 3.9: Parked Motor Vehicle crash locations at intersections in campus

Table 3.12: Intersections with more than three collisions involving parked motor vehicle

Intersection Name	Total Crashes	Parked Motor Vehicle	Parked Motor Vehicle (%)
S 4th St and E Healey St	13	6	46.154
S Goodwin Ave and W Springfield Ave	27	5	18.519
S 5th St and E Green St	27	5	18.519
E Springfield Ave and N Harvey St	11	5	45.455
S 6th St and E Armory Ave	10	4	40.000
S Gregory St and W Nevada St	8	4	50.000
S 6th St and E John St	11	4	36.364
S Mathews Ave and W Green St	12	4	33.333
S 6th St and Peabody Dr	7	4	57.143
S 6th St and E Green St	21	3	14.286
S 4th St and E Gregory Dr	16	3	18.750
S Lincoln Ave and W Nevada St	17	3	17.647
S Gregory St and W Oregon St	13	3	23.077
S 1st St and E John St	11	3	27.273

Table 3.12 shows some of the locations where collisions involving parked motor vehicles are common. They include 6th St. (6th and John, 6th and Peabody, 6th and Armory, and, 6th and Green), Springfield Ave. (Springfield and Harvey, and Springfield and Goodwin), and 4th St. (4th and Healey, and 4th and Gregory). All the three streets identified above, allows street parking on both sides of the road at least along some sections of it which may contribute to the collisions involving parked vehicles.

Sideswipe-Same Direction Crashes

Figure 3.10 shows the proportion of sideswipe-same direction crashes at intersections at the top ninety-five intersections within campus.

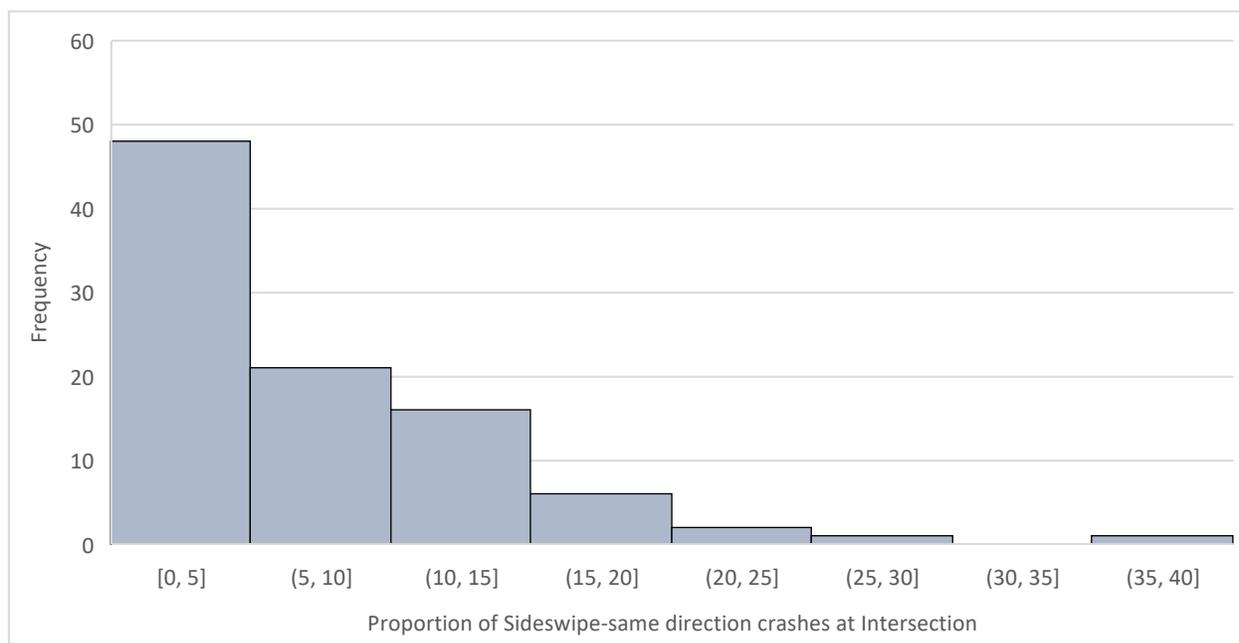


Figure 3.10: Proportion of Sideswipe-same direction crashes at intersections with more than 5 crashes (95 intersections)

Sideswipe-same direction crashes are the fifth most common type of crashes at intersections. None of the intersections had more than forty percent of the crashes within this type, however at three intersections, this was the most commonly reported crash type. These intersections are a) 6th and Daniel, b) Goodwin and Nevada, and c) 1st and Peabody which had 3, 2, and 2 sideswipe-same direction crashes respectively. The intersections with three or more sideswipe-same direction crashes are given in Table 3.14 and Figure 3.11.

Table 3.13: Intersections with 3 or more sideswipe-same direction crashes

Intersection Name	Total Crashes	Sideswipe-same direction	Sideswipe-same direction (%)
S Lincoln Ave. and W University Ave	108	10	9.259
W Kirby Ave. and S Neil St	87	9	10.345
N 1st St and E University Ave.	40	6	15.000
W Florida Ave and S. Lincoln Ave	34	5	14.706
S Lincoln Ave and W Illinois St	13	3	23.077
S 6th St and E Green St	21	3	14.286
E University Ave and S 4th St	29	3	10.345
S 6th St and E Daniel St	8	3	37.500

Sideswipe-Same Direction Crash Locations at Intersections within Campus (from IDOT)

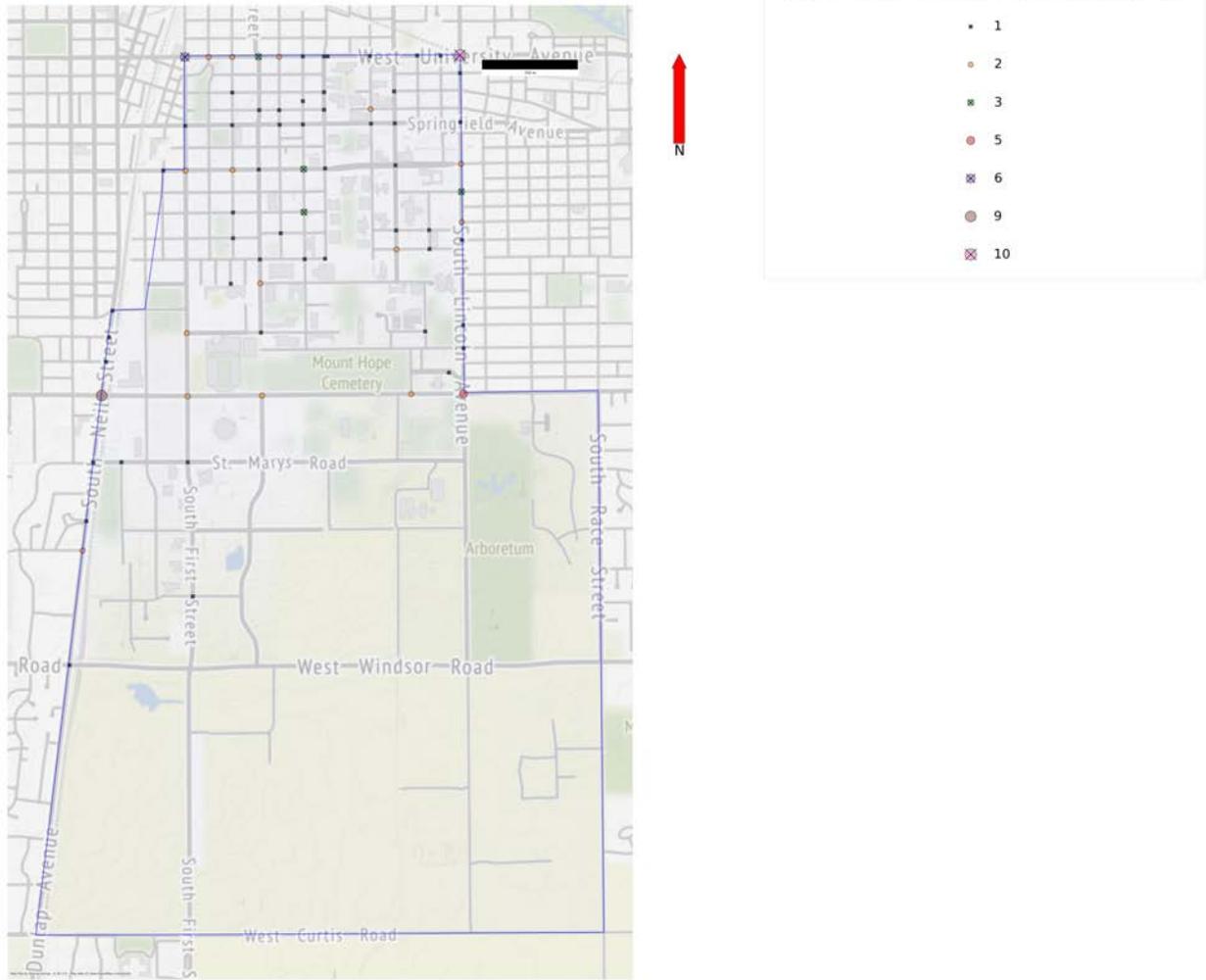


Figure 3.11: Sideswipe-same direction crash locations at intersections in campus

Fixed Object Crashes

Figure 3.12 shows the proportion of fixed object crashes at intersections at the top ninety-five intersections within campus.

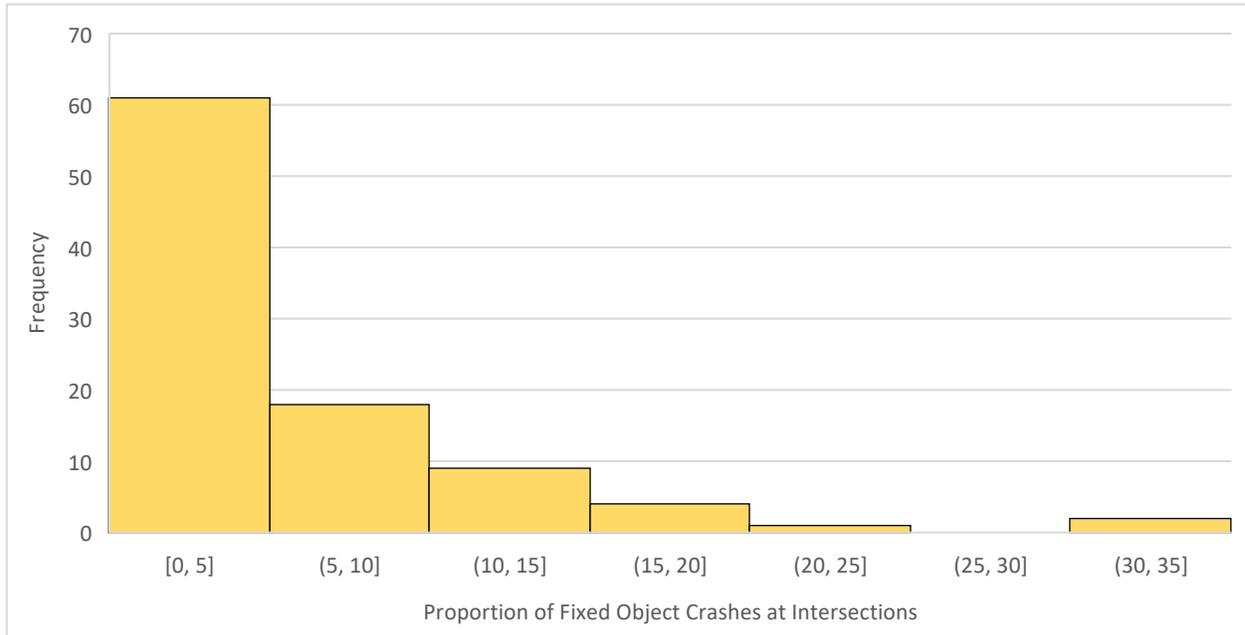


Figure 3.12: Proportion of Fixed Object crashes at intersections with more than 5 crashes (95 intersections)

Fixed object crashes are the sixth most common crash type at intersections. At two intersections (Lincoln and Stoughton, and 6th and Gregory), this was the most common crash type (both intersections had six crashes, two of which (33%) were fixed object crashes). The intersections with 2 or more Fixed object crashes are given in Table 3.14 and Figure 3.13.

Table 3.14: Intersections with 2 or more fixed object crashes

Intersection Name	Total Crashes	Fixed Object	Fixed Object (%)
W Kirby Ave. and S Neil St	87	4	4.598
W Kirby Ave. and S 4th St	36	4	11.111
W Kirby Ave and S First St	26	3	11.538
S Neil St and St Marys Rd	28	3	10.714
S Goodwin Ave and W Springfield Ave	27	2	7.407
S 6th St and E John St	11	2	18.182
S Lincoln Ave and W Stoughton St	6	2	33.333
E University Ave and S 4th St	29	2	6.897
S Lincoln and W Oregon St	19	2	10.526
S 6th St and W Gregory Dr	6	2	33.333

S Lincoln Ave. and W University Ave	108	2	1.852
N 1st St and E University Ave.	40	2	5.000
S Neil St and Devonshire Dr	28	2	7.143
S Lincoln Ave and W Pennsylvania Ave	23	2	8.696
Kirby Ave and S Goodwin Ave	8	2	25.000

It can be seen from the table, that the intersections along Kirby Ave (Kirby and Neil, Kirby and 4th, Kirby and 1st, and Kirby and Goodwin) have multiple fixed object crashes. Lincoln Ave (Lincoln and Stoughton, Lincoln and Oregon, Lincoln and University, and Lincoln and Pennsylvania) and University Ave. (University and 1st, University and 4th) also has several intersections which reported multiple fixed object crashes.

Fixed Object Crash Locations at Intersections within Campus (from IDOT)

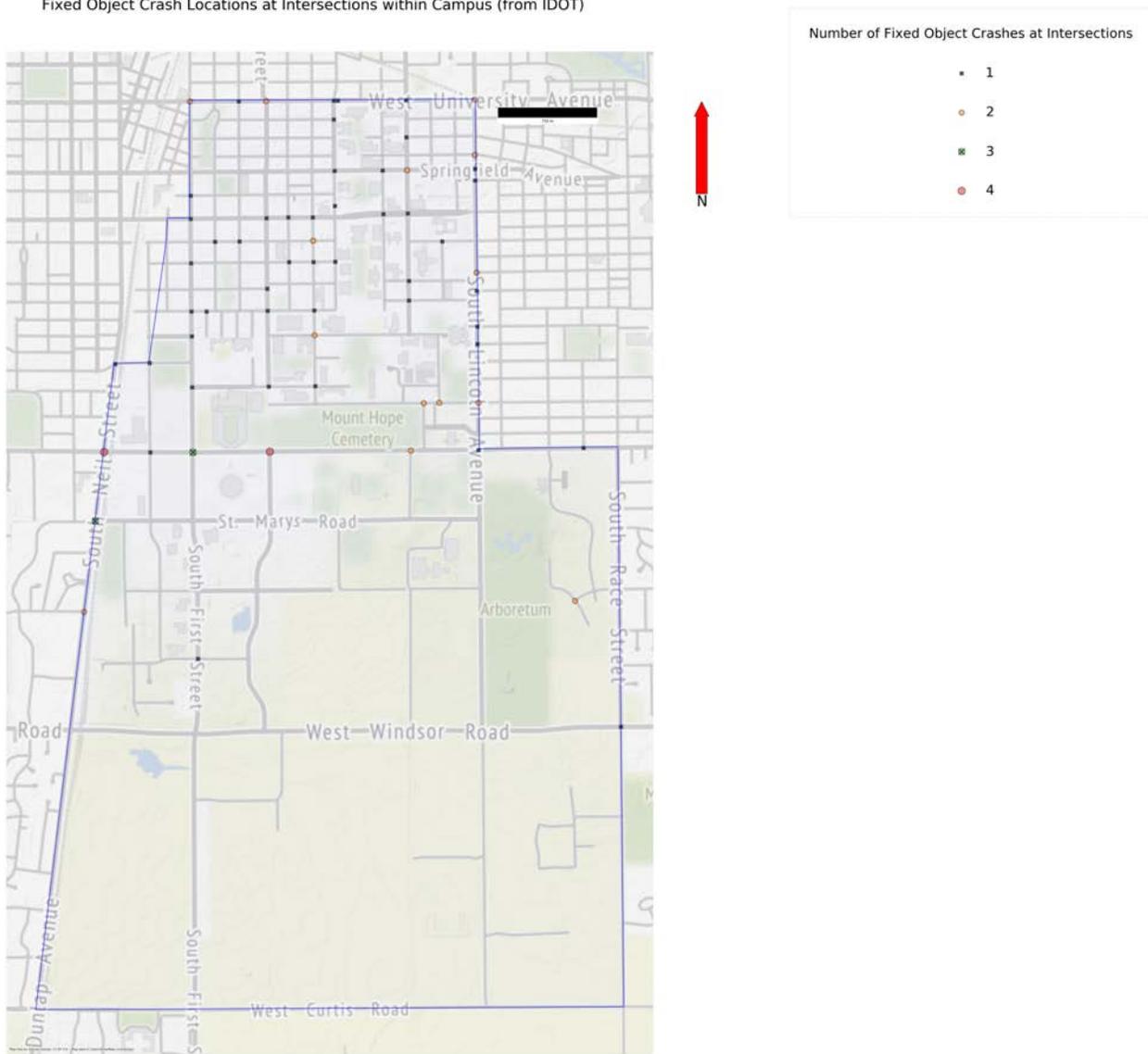


Figure 3.13: Fixed Object crash locations at intersections in campus

Pedalcyclist Crashes and Pedestrian Crashes

Figure 3.14 shows the proportion of Pedalcyclist crashes at intersections at the top ninety-five intersections within campus.

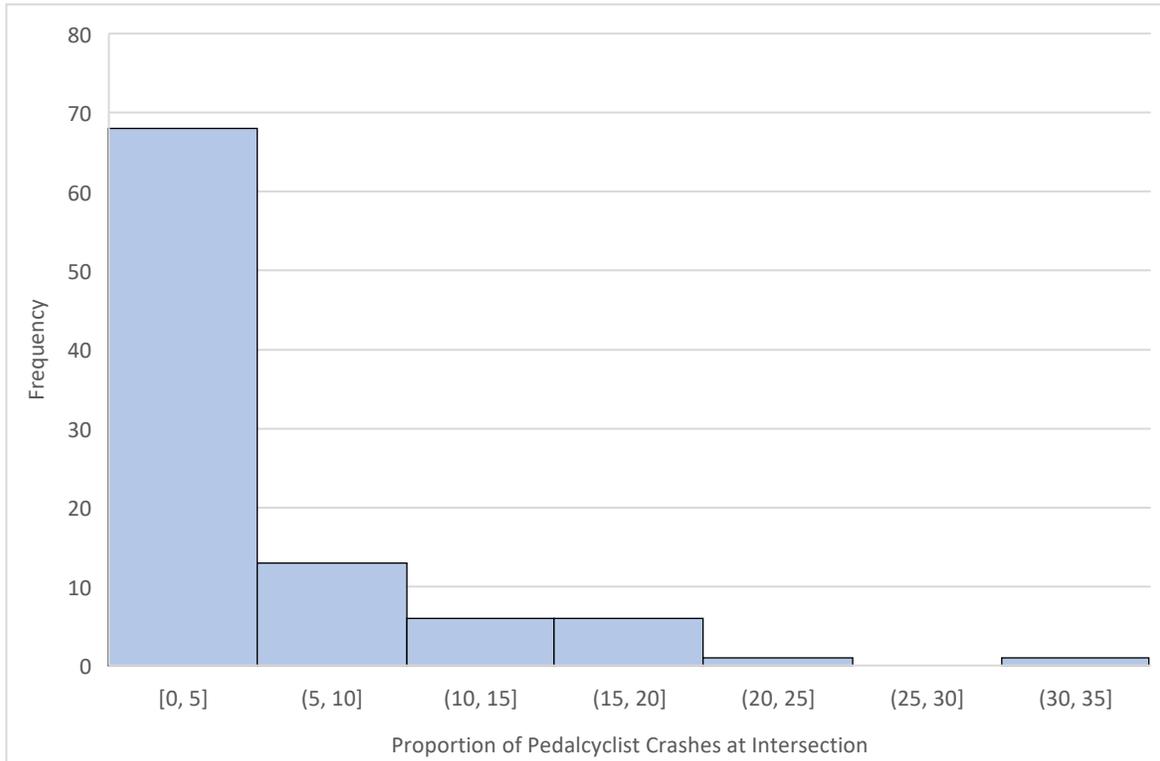


Figure 3.14: Proportion of Pedalcyclist crashes at intersections with more than 5 crashes (95 intersections)

Figure 3.15 shows the proportion of pedestrian crashes at intersections at the top ninety-five intersections within campus.

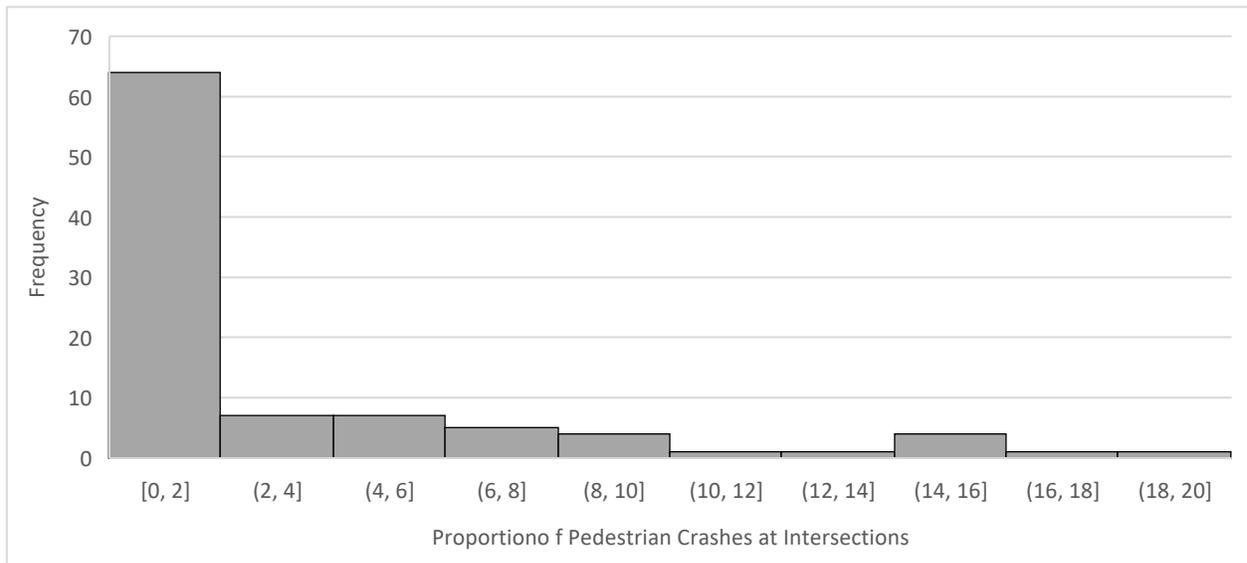


Figure 3.15: Proportion of Pedestrian crashes at intersections with more than 5 crashes (95 intersections)

Figure 3.16 shows the proportion of pedestrian and pedalcyclist crashes at intersections at the top ninety-five intersections within campus.

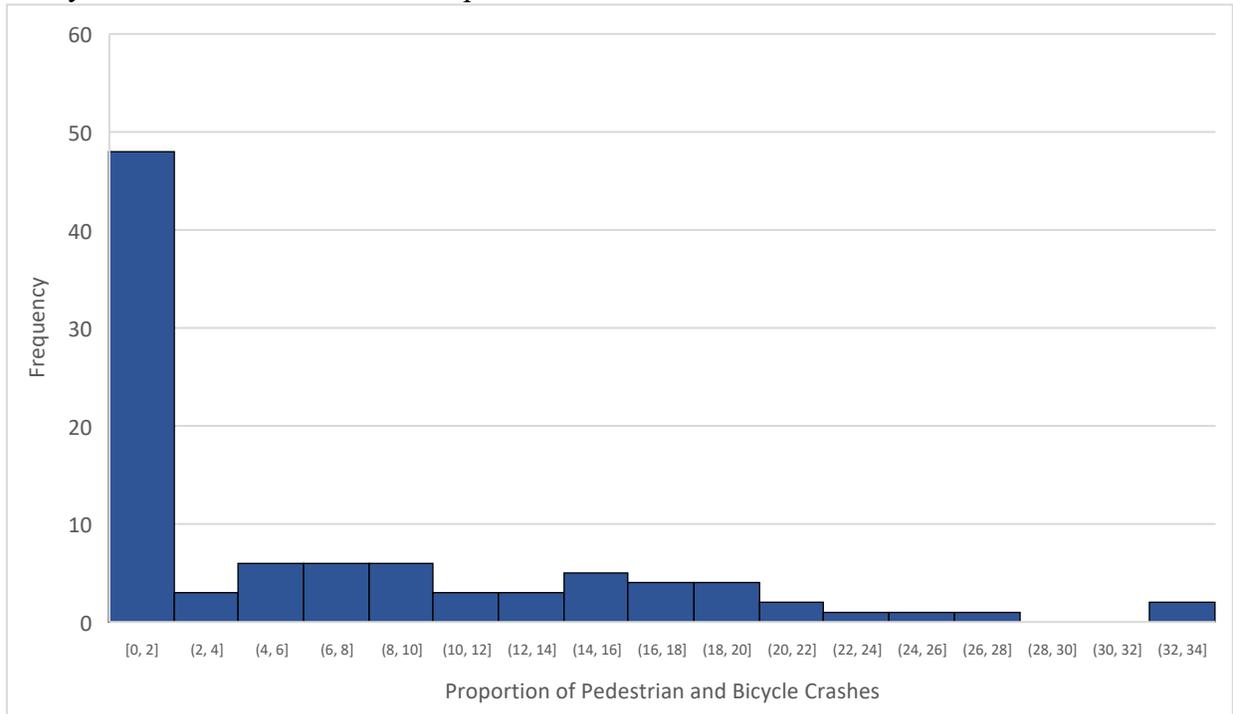


Figure 3.16: Proportion of Pedestrian and Pedalcyclist crashes at the top 95 intersections (intersections with more than 5 crashes)

Table 3.15: Intersections with 3 or more Pedestrian+Bike (pedalcyclist) crashes

Intersection Name	Total Crashes	Bike	Pedestrian	Bike+ Ped	Bike (%)	Pedestrian (%)	Bike+ Ped (%)
S Lincoln Ave and W Ohio St	33	2	5	7	6.06	15.15	21.21
S Goodwin Ave and W Springfield Ave	27	3	2	5	11.11	7.41	18.52
S Goodwin Ave and W Green St	16	4	0	4	25.00	0.00	25.00
S 3rd St and E Green St	19	2	2	4	10.52	10.53	21.05
W Kirby Ave and S First St	26	1	2	3	3.84	7.69	11.54
N 1st St and E University Ave.	40	2	1	3	5.00	2.50	7.50
S 4th St and Peabody Dr	11	1	2	3	9.09	18.18	27.27
University Ave and S Wright St	15	2	1	3	13.33	6.67	20.00
E Springfield Ave. and S 3rd St	56	0	3	3	0.00	5.36	5.36
S Lincoln Ave and W Illinois St	13	2	1	3	15.38	7.69	23.08
E University Ave and S 5th St	27	2	1	3	7.41	3.70	11.11

Some of the locations with high pedestrian/bike traffic are given in the Table 3.15. Intersections along University Ave, Goodwin Ave, Neil St and Lincoln Ave tend to have a high number of ped/bike crashes. This is important also because among the collision types, ped/bike crashes have a high proportion of injuries. Figure 3.17 shows the IDOT reported pedestrian/pedalcyclist crashes at intersections within campus between 2014-2018.

Ped or Bike Crash Locations at Intersections within Campus (from IDOT)

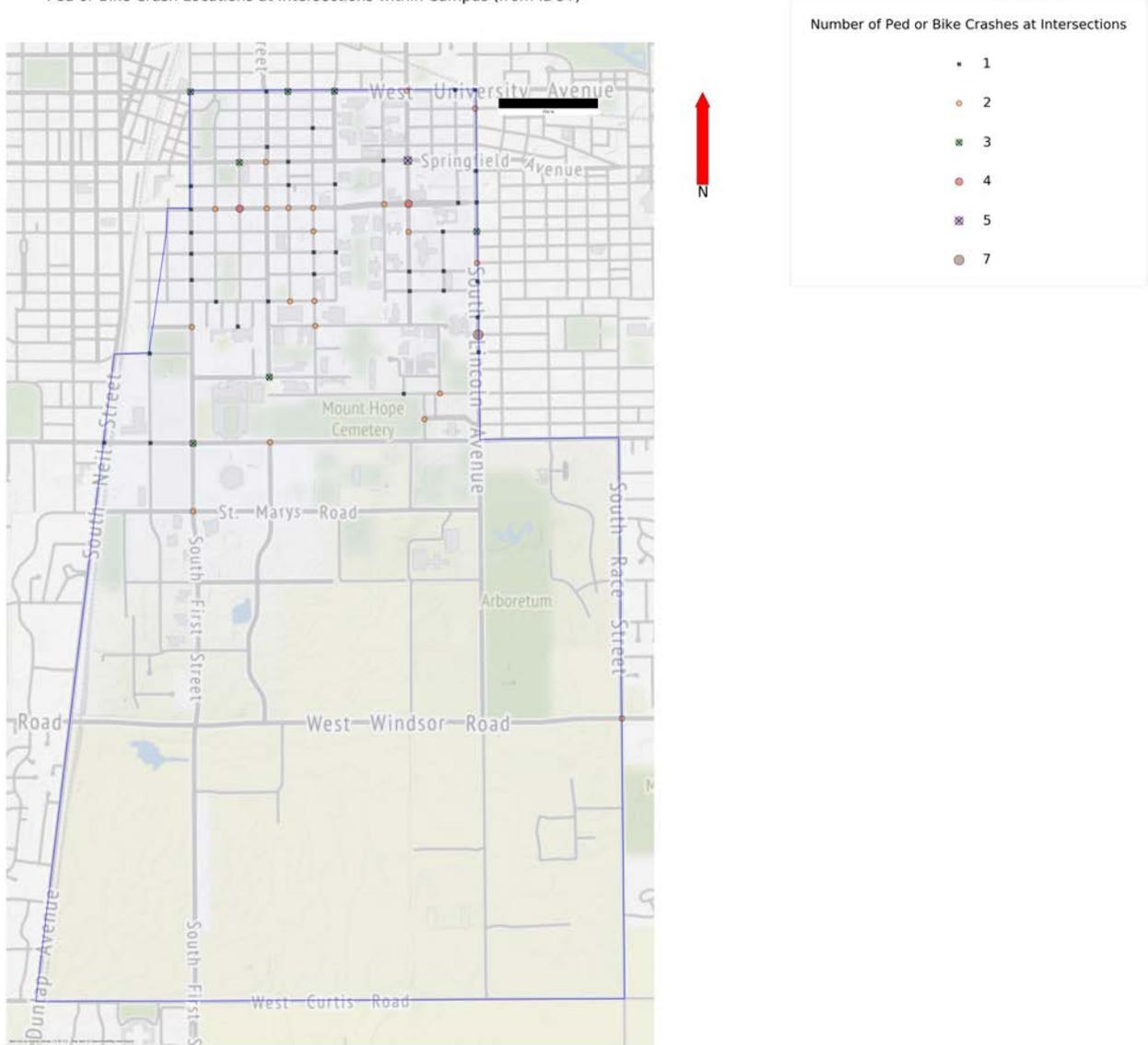


Figure 3.17: Pedestrian or bike crash locations at intersections in campus

It is also important to look at locations with the highest number of crashes that resulted in injuries and fatalities. Table 3.16 and Figure 3.18 show the intersections with non-PDO crashes at an intersection.

Table 3.16: Number of non-PDO crashes per intersection within UIUC campus

Number of non-PDO Crashes at Intersections	Number of intersections	Cumulative Number of Intersections	Percentage of Intersections	Number of non-PDO Crashes	Cumulative Number of non-PDO Crashes	Cumulative Percentage of non-PDO Crashes
1	46	46	37%	46	46	11%
2	22	68	54%	44	90	21%
3	16	84	67%	48	138	33%
4	13	97	78%	52	190	45%
5	7	104	83%	35	225	53%
6	7	111	89%	42	267	63%
7	3	114	91%	21	288	68%
9	6	120	96%	54	342	81%
8	1	121	97%	8	350	83%
11	1	122	98%	11	361	85%
18	1	123	98%	18	379	90%
19	1	124	99%	19	398	94%
25	1	125	100%	25	423	100%

Non-PDO Crash Locations at Intersections within Campus (from IDOT)

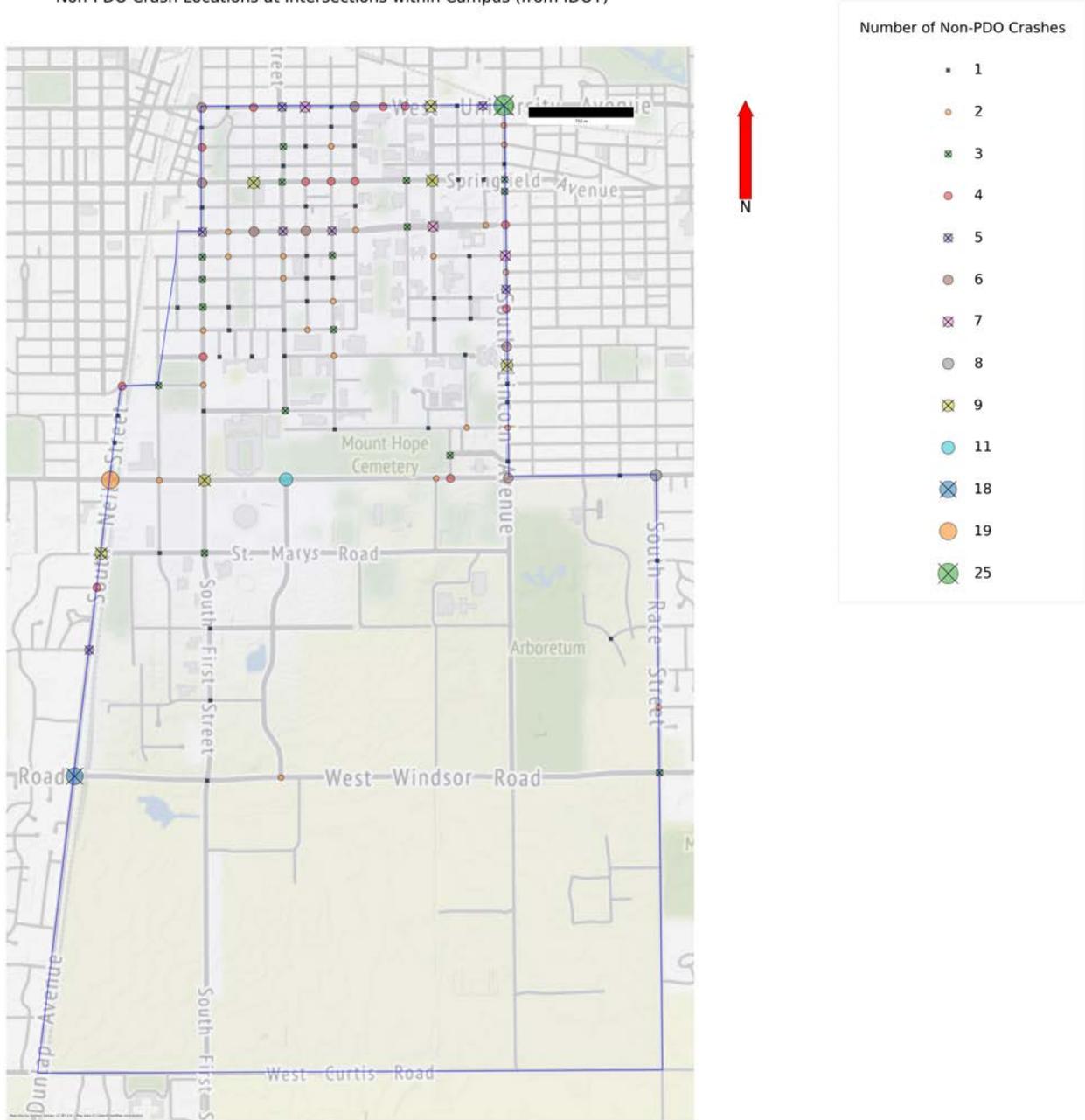


Figure 3.18: Non-PDO Crashes within UIUC Campus

Table 3.17 lists out them collision types of non-PDO crashes that happened at intersections within the UIUC campus.

Table 3.17: Collision type of non-PDO intersection crashes within UIUC campus

Collision Type Code (from IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-end	115	27.19%
15	Angle	84	19.86%
10	Turning	67	15.84%
2	Pedalcyclist	58	13.71%
1	Pedestrian	55	13.00%
6	Fixed Object	13	3.07%
9	Parked Motor vehicle	10	2.36%
5	Overtuned	6	1.42%
12	Sideswipe-same direction	5	1.18%
8	Other non-collision	4	0.95%
14	Head-on	3	0.71%
13	Sideswipe-opposite direction	2	0.47%
7	Other Object	1	0.24%

The five most common types of collisions that resulted in injury are rear-end, angle, turning, pedalcyclist, and pedestrian collisions. They collectively account for 89.60% of all injury crashes. It is interesting and important to note that the pedestrian collisions and pedalcyclist (bicycle) collisions constitute more than a quarter of injury crashes within campus. It is important because a vast majority of the campus users are pedestrians or bicyclists, and therefore, making the infrastructure safe for them would help reduce risk considerably.

Table 3.18 shows the intersections with five or more injury crashes at intersections within the UIUC campus. This ranking shows the difference in priority from looking at the locations focusing on injury crashes as opposed to all crashes. Table 3.19 shows the ranking of the top intersections with five or more non-PDO crashes (i.e. crashes that resulted in injury or fatality).

S 4th St and E Green St	POINT (-88.233542 40.11026099907019)	5	2	1	1	0
E University Ave and S 4th St	POINT (-88.23357399999998 40.11635099907018)	5	3	0	3	0
S 1st St and E Green St	POINT (-88.23869499999999 40.11021699907022)	5	3	1	0	0
N Gregory St and W University Ave	POINT (-88.22072799999998 40.11641799907016)	5	0	3	0	0
Kirby Ave and S Maryland Dr	POINT (-88.22280499999999 40.09814999907027)	4	3	1	1	0
S 1st St and E White St	POINT (-88.238721 40.11437199907019)	4	3	2	1	0
S Neil St and Stadium Dr	POINT (-88.24384400000001 40.10265299907024)	4	2	3	0	0
University Ave and S 3rd St	POINT (-88.23541899999999 40.11634199907019)	4	1	2	0	0
Springfield Ave and S 5th St	POINT (-88.23208299999999 40.11268899907018)	4	0	1	1	0
N Romine St and W University Ave	POINT (-88.22711799999999 40.11638299907015)	4	3	1	0	0
S Neil St and Carriage Centre Ct	POINT (-88.24546299999999 40.09279999907031)	4	2	4	1	0
Springfield Ave and S 6th St	POINT (-88.230431 40.11269999907019)	4	0	3	0	0
S 1st St and E Gregory Dr	POINT (-88.23863599999997 40.10409399907023)	4	1	0	0	0
Lincoln Ave and W Green St	POINT (-88.21928699999999 40.11057899907021)	4	1	2	0	0
Springfield Ave and Wright St	POINT (-88.228911 40.11271399907019)	4	3	2	1	0
Lincoln Ave and W Nevada St	POINT (-88.21922699999999 40.10645899907021)	4	1	0	0	0
N Mathews Ave and W University Ave	POINT (-88.225696 40.11638999907018)	4	0	2	0	0
Lincoln Ave and Western Ave	POINT (-88.21932899999999 40.11221999907019)	3	4	1	0	0
S 1st St and St Marys Rd	POINT (-88.23854599999997 40.09448099907029)	3	1	0	0	0
S Mathews Ave and W Green St	POINT (-88.225583 40.1104729990702)	3	2	2	0	0
S Oak St and Stadium Dr	POINT (-88.24149299999999 40.10270199907025)	3	3	4	0	0
S 1st St and E Chalmers St	POINT (-88.23865999999998 40.10653199907023)	3	4	0	0	0
S 6th St and E John St	POINT (-88.230367 40.10907899907021)	3	0	0	0	0
S Maryland Dr and W College Ct	POINT (-88.222827 40.09927299907025)	3	0	1	2	0
S 4th St and Peabody Dr	POINT (-88.23338299999999 40.10146399907024)	3	0	1	0	0
Springfield Ave and S 4th St	POINT (-88.23359199999999 40.11267599907021)	3	0	1	2	0
Windsor Rd and Race St	POINT (-88.20941999999999 40.08372399907035)	3	2	1	0	0

S 1st St and E John St	POINT (-88.23868199999998 40.10900699907021)	3	2	1	2	0
S 4th St and E White St	POINT (-88.233521 40.11442099907018)	3	2	0	0	0
Springfield Ave and Lincoln Ave	POINT (-88.21933699999998 40.1128099990702)	3	1	2	0	0
S 6th St and E Armory Ave	POINT (-88.230295 40.10543599907026)	3	0	3	0	0
S 1st St and E Daniel St	POINT (-88.23867199999998 40.10790699907022)	3	1	2	0	0
Springfield Ave and N Mathews Ave	POINT (-88.22562399999998 40.1127469990702)	3	0	1	0	0
Race St and W McHenry St	POINT (-88.20946199999999 40.08692999907033)	2	2	0	0	0
S 6th St and E White St	POINT (-88.23043299999998 40.11443599907018)	2	0	2	2	0
Lincoln Ave and W California Ave	POINT (-88.219262 40.10823999907022)	2	3	0	1	0
S Fourth St and W Windsor Rd	POINT (-88.23365699999997 40.08348699907036)	2	1	2	0	0
Lincoln Ave and W Pennsylvania Ave	POINT (-88.219116 40.10062599907025)	2	1	0	0	0
Lincoln Ave and W Main St	POINT (-88.21935999999999 40.11451599907018)	2	0	1	0	0
S 2nd St and E Green St	POINT (-88.23704499999999 40.11023099907022)	2	0	3	0	0
Kirby Ave and S Goodwin Ave	POINT (-88.22372799999998 40.09813999907028)	2	1	0	0	0
W Pennsylvania Ave and Dorner Dr	POINT (-88.22177299999998 40.10062099907027)	2	0	4	0	0
S Goodwin Ave and W Illinois St	POINT (-88.223905 40.10903599907022)	2	2	0	0	0
S 5th St and E Armory Ave	POINT (-88.23195499999999 40.10542299907025)	2	4	0	0	0
S Gregory St and W Green St	POINT (-88.22054099999998 40.11054799907021)	2	1	0	0	0
S 4th St and E John St	POINT (-88.23352 40.10904999907021)	2	2	1	1	0
S 1st St and E Armory Ave	POINT (-88.23864399999997 40.10538699907026)	2	1	0	0	0
S Wright St and E Green St	POINT (-88.22887399999998 40.11031699907021)	2	0	0	1	0
S 6th St and E Chalmers St	POINT (-88.23031999999999 40.10683699907022)	2	1	0	1	0
S 6th St and W Gregory Dr	POINT (-88.230262 40.10415099907023)	2	1	0	0	0
S 2nd St and E John St	POINT (-88.23702699999998 40.10902199907019)	2	2	0	0	0
Lincoln Ave and W Clark St	POINT (-88.21936999999998 40.11546199907018)	2	0	2	0	0
S 1st St and Stadium Dr	POINT (-88.23862199999999 40.10271699907024)	2	0	0	1	0
S 4th St and E Daniel St	POINT (-88.23349999999999 40.10794999907022)	2	0	0	0	0

Kirby Ave and S Oak St	POINT (-88.24144699999998 40.09805199907026)	2	0	0	0	0
Hazelwood Dr and W George Huff Dr	POINT (-88.21252899999999 40.09030499907031)	1	2	0	0	0
S Gregory St and W Illinois St	POINT (-88.22158 40.10904799907021)	1	1	0	0	0
N Harvey St and W University Ave	POINT (-88.22237899999998 40.11640699907016)	1	0	1	0	0
Lincoln Ave and W Delaware Ave	POINT (-88.21913299999999 40.09896799907026)	1	1	0	0	0
S Neil St and Birch St	POINT (-88.24431199999999 40.09988699907027)	1	1	0	0	0
S 1st St and E Healey St	POINT (-88.23870399999997 40.11142799907021)	1	0	0	0	0
Springfield Ave and N Harvey St	POINT (-88.222291 40.11277899907017)	1	0	1	0	0
S 6th St and E Clark St	POINT (-88.230434 40.11538999907018)	1	0	1	0	0
S 1st St and Hazelwood Dr	POINT (-88.23820899999997 40.09081199907031)	1	0	0	0	0
S Goodwin Ave and W Nevada St	POINT (-88.22384599999998 40.10595899907022)	1	1	2	0	0
S 6th St and E Daniel St	POINT (-88.230345 40.10796899907024)	1	0	0	0	0
S 2nd St and E Gregory Dr	POINT (-88.23758999999998 40.10409699907024)	1	0	0	0	0
Lincoln Ave and W Indiana Ave	POINT (-88.21916099999999 40.10278099907023)	1	0	0	0	0
S 5th St and E John St	POINT (-88.23201899999999 40.1090669990702)	1	1	1	0	0
S 5th St and E Healey St	POINT (-88.23206400000001 40.11148499907019)	1	0	1	0	0
S 3rd St and E Gregory Dr	POINT (-88.235518 40.10410699907023)	1	1	0	1	0
S Gregory St and W Oregon St	POINT (-88.22153100000001 40.10699799907022)	1	0	0	0	0
S 4th St and E Armory Ave	POINT (-88.233452 40.10541299907023)	1	1	1	0	0
S Gregory St and W Nevada St	POINT (-88.22151399999998 40.10597399907021)	1	0	1	0	0
E University Ave and S 6th St	POINT (-88.230431 40.11636399907018)	1	0	1	0	0
Lincoln Ave and W Michigan Ave	POINT (-88.21914199999998 40.10187699907028)	1	0	1	0	0
S Goodwin Ave and W Oregon St	POINT (-88.22385099999998 40.10698499907022)	1	2	1	0	0
S Neil St and Buena Vista Dr	POINT (-88.244103 40.10121599907026)	1	0	0	0	0
S 5th St and E Daniel St	POINT (-88.23200899999999 40.10795599907021)	1	0	0	0	0
S 1st St and W Windsor Rd	POINT (-88.23837199999997 40.08334499907038)	1	1	1	0	0
S 5th St and E White St	POINT (-88.23209499999999 40.11443099907016)	1	2	0	0	0

S 1st St and S Locust St	POINT (-88.2387289999999 40.11535299907018)	1	1	0	0	0
S 5th St and E Chalmers St	POINT (-88.23198499999998 40.10682499907025)	1	0	0	0	0
N 2nd St and E University Ave	POINT (-88.23707999999999 40.1163329990702)	1	0	0	0	0
S 2nd St and E Armory Ave	POINT (-88.23699699999999 40.10539399907023)	1	0	2	0	0
S Wright St and E White St	POINT (-88.22894699999999 40.11444599907018)	1	1	1	0	0
S 2nd St and E Chalmers St	POINT (-88.23701099999998 40.10654599907024)	1	0	0	1	0
S Oak St and St Marys Rd	POINT (-88.24141899999996 40.0944709990703)	1	0	1	0	0
W Gregory Dr and Dorner Dr	POINT (-88.22187699999998 40.10418799907023)	1	0	0	1	0
S 6th St and W Pennsylvania Ave	POINT (-88.23019999999998 40.10055499907023)	1	1	0	0	0
S 1st St and Gerty St	POINT (-88.23818799999998 40.08726899907033)	1	1	1	0	0
S 4th St and E Gregory Dr	POINT (-88.23343 40.10412699907024)	1	1	1	0	0
Kirby Ave and Carle Ave	POINT (-88.21194799999999 40.09827399907028)	1	0	1	0	0
S Locust St and E Chalmers St	POINT (-88.24029400000001 40.10651999907021)	1	0	2	0	0
S 4th St and E Stoughton St	POINT (-88.23351199999998 40.11346899907019)	1	2	1	0	0
Springfield Ave and N Gregory St	POINT (-88.220671 40.11278999907019)	1	0	0	0	0
S Goodwin Ave and W Pennsylvania Ave	POINT (-88.22422799999998 40.10059999907027)	1	0	0	0	0
Lincoln Ave and W Stoughton St	POINT (-88.21935099999997 40.11355499907018)	1	0	0	0	0
S Wright St and E Healey St	POINT (-88.228899 40.1115099990702)	1	0	0	0	0
Race St and W Mumford Dr	POINT (-88.20957799999999 40.09410899907031)	1	0	0	0	0
S 1st St and E Peabody Dr	POINT (-88.238607 40.10143599907025)	1	0	0	0	0

Table 3.19: Crash Type at Intersections with Non-PDO Crashes

Intersection Name	Total Number of PDO Crashes	Rear End	Angle	Turning	Pedestrian	Pedalcyclist
Lincoln Ave and W University Ave	25	7	4	10	0	1
Kirby Ave and S Neil St	19	9	4	3	0	1
Windsor Rd and Neil St (N Dunlap St)	18	5	3	9	0	0
Kirby Ave and S 4th St	11	5	1	2	1	1
N Goodwin Ave and W University Ave	9	3	1	2	1	1
Kirby Ave and S 1st St	9	4	0	0	1	2
Lincoln Ave and W Ohio St	9	2	0	0	2	5
S Neil St and St Marys Rd	9	3	1	3	0	0
Springfield Ave and N Goodwin Ave	9	3	0	1	3	2
Springfield Ave and S 3rd St	9	1	5	0	0	3
Florida Ave and Race St	8	2	6	0	0	0
E University Ave and S 5th St	7	0	2	1	2	1
Lincoln Ave and W Illinois St	7	3	0	0	2	1
S Goodwin Ave and W Green St	7	3	0	0	4	0
S 3rd St and E Green St	6	0	2	0	2	2
E University Ave and S Wright St	6	3	0	1	1	1
S 5th St and E Green St	6	1	4	0	0	1
Springfield Ave and S 1st St	6	3	2	1	0	0
E University Ave and S 1st St	6	1	0	2	2	1
Lincoln Ave and W Iowa St	6	5	0	0	0	1
Kirby Ave and Lincoln Ave	6	2	2	2	0	0
S Neil St and Devonshire Dr	5	1	1	1	0	0
S 6th St and E Green St	5	0	0	0	1	1

Lincoln Ave and W Oregon St	5	2	0	1	1	1
S 4th St and E Green St	5	3	0	0	2	0
E University Ave and S 4th St	5	1	1	2	0	1
S 1st St and E Green St	5	1	3	0	0	1
N Gregory St and W University Ave	5	2	1	0	1	0
Kirby Ave and S Maryland Dr	4	3	0	1	0	0
S 1st St and E White St	4	0	3	1	0	0
S Neil St and Stadium Dr	4	1	2	1	0	0
University Ave and S 3rd St	4	0	1	3	0	0
Springfield Ave and S 5th St	4	0	2	1	1	0
N Romine St and W University Ave	4	2	0	2	0	0
S Neil St and Carriage Centre Ct	4	2	1	1	0	0
Springfield Ave and S 6th St	4	0	3	0	0	0
S 1st St and E Gregory Dr	4	1	0	1	0	2
Lincoln Ave and W Green St	4	1	0	1	0	1
Springfield Ave and Wright St	4	2	1	0	0	0
Lincoln Ave and W Nevada St	4	2	0	0	0	1
N Mathews Ave and W University Ave	4	1	1	2	0	0
Lincoln Ave and Western Ave	3	1	0	0	0	1
S 1st St and St Marys Rd	3	0	1	0	1	1
S Mathews Ave and W Green St	3	1	0	0	2	0
S Oak St and Stadium Dr	3	0	0	1	1	0
S 1st St and E Chalmers St	3	0	2	0	0	1
S 6th St and E John St	3	0	0	0	1	1
S Maryland Dr and W College Ct	3	0	0	1	1	1
S 4th St and Peabody Dr	3	0	0	0	1	2
Springfield Ave and S 4th St	3	0	1	0	2	0

Windsor Rd and Race St	3	0	0	1	1	1
S 1st St and E John St	3	0	1	0	0	1
S 4th St and E White St	3	0	2	0	0	0
Springfield Ave and Lincoln Ave	3	0	3	0	0	0
S 6th St and E Armory Ave	3	0	0	1	2	0
S 1st St and E Daniel St	3	0	2	0	1	0
Springfield Ave and N Mathews Ave	3	2	0	0	0	1
Race St and W McHenry St	2	1	0	0	0	0
S 6th St and E White St	2	0	1	0	1	0
Lincoln Ave and W California Ave	2	1	0	0	0	0
S Fourth St and W Windsor Rd	2	2	0	0	0	0
Lincoln Ave and W Pennsylvania Ave	2	0	1	0	0	0
Lincoln Ave and W Main St	2	0	0	1	0	0
S 2nd St and E Green St	2	0	0	0	1	1
Kirby Ave and S Goodwin Ave	2	0	0	1	0	0
W Pennsylvania Ave and Dorner Dr	2	0	0	0	1	1
S Goodwin Ave and W Illinois St	2	0	0	0	1	1
S 5th St and E Armory Ave	2	0	0	0	0	2
S Gregory St and W Green St	2	1	0	0	0	1
S 4th St and E John St	2	1	1	0	0	0
S 1st St and E Armory Ave	2	0	2	0	0	0
S Wright St and E Green St	2	2	0	0	0	0
S 6th St and E Chalmers St	2	0	0	0	0	1
S 6th St and W Gregory Dr	2	0	0	0	1	1
S 2nd St and E John St	2	0	2	0	0	0
Lincoln Ave and W Clark St	2	0	0	0	2	0
S 1st St and Stadium Dr	2	2	0	0	0	0

S 4th St and E Daniel St	2	2	0	0	0	0
Kirby Ave and S Oak St	2	0	1	0	1	0
Hazelwood Dr and W George Huff Dr	1	0	0	0	0	0
S Gregory St and W Illinois St	1	0	0	0	1	0
N Harvey St and W University Ave	1	1	0	0	0	0
Lincoln Ave and W Delaware Ave	1	0	0	1	0	0
S Neil St and Birch St	1	0	0	0	0	0
S 1st St and E Healey St	1	0	0	0	0	1
Springfield Ave and N Harvey St	1	0	0	1	0	0
S 6th St and E Clark St	1	0	1	0	0	0
S 1st St and Hazelwood Dr	1	0	1	0	0	0
S Goodwin Ave and W Nevada St	1	0	0	0	0	1
S 6th St and E Daniel St	1	0	0	0	0	1
S 2nd St and E Gregory Dr	1	0	0	0	0	0
Lincoln Ave and W Indiana Ave	1	0	0	0	1	0
S 5th St and E John St	1	0	0	0	0	0
S 5th St and E Healey St	1	0	0	0	1	0
S 3rd St and E Gregory Dr	1	0	0	0	1	0
S Gregory St and W Oregon St	1	0	0	0	1	0
S 4th St and E Armory Ave	1	0	0	0	1	0
S Gregory St and W Nevada St	1	0	0	0	1	0
E University Ave and S 6th St	1	1	0	0	0	0
Lincoln Ave and W Michigan Ave	1	1	0	0	0	0
S Goodwin Ave and W Oregon St	1	0	0	0	1	0
S Neil St and Buena Vista Dr	1	1	0	0	0	0
S 5th St and E Daniel St	1	0	0	0	0	0
S 1st St and W Windsor Rd	1	1	0	0	0	0

S 5th St and E White St	1	0	1	0	0	0
S 1st St and S Locust St	1	0	0	1	0	0
S 5th St and E Chalmers St	1	1	0	0	0	0
N 2nd St and E University Ave	1	0	0	0	0	0
S 2nd St and E Armory Ave	1	0	0	0	1	0
S Wright St and E White St	1	0	0	0	0	0
S 2nd St and E Chalmers St	1	0	0	1	0	0
S Oak St and St Marys Rd	1	0	1	0	0	0
W Gregory Dr and Dorner Dr	1	0	1	0	0	0
S 6th St and W Pennsylvania Ave	1	0	0	0	0	0
S 1st St and Gerty St	1	1	0	0	0	0
S 4th St and E Gregory Dr	1	0	1	0	0	0
Kirby Ave and Carle Ave	1	1	0	0	0	0
S Locust St and E Chalmers St	1	0	1	0	0	0
S 4th St and E Stoughton St	1	0	0	0	0	1
Springfield Ave and N Gregory St	1	1	0	0	0	0
S Goodwin Ave and W Pennsylvania Ave	1	0	0	0	1	0
Lincoln Ave and W Stoughton St	1	0	0	0	0	0
S Wright St and E Healey St	1	0	0	0	0	1
Race St and W Mumford Dr	1	0	0	1	0	0
S 1st St and E Peabody Dr	1	0	0	1	0	0

Table 3.21 shows the intersections with the number and proportion of rear end crashes with two or more rear end crashes that resulted in an injury.

Table 3.21: Intersections with 2 or more rear end (non-PDO) crashes

Intersection Name	Total Number of Non-PDO Crashes	Rear End	Rear-end (%)
Kirby Ave and S Neil St	19	9	47%
Lincoln Ave and W University Ave	25	7	28%
Lincoln Ave and W Iowa St	6	5	83%
Kirby Ave and S 4th St	11	5	45%
Windsor Rd and Neil (N Dunlap St)	18	5	28%
Kirby Ave and S 1st St	9	4	44%
Kirby Ave and S Maryland Dr	4	3	75%
S 4th St and E Green St	5	3	60%
E University Ave and S Wright St	6	3	50%
Springfield Ave and S 1st St	6	3	50%
Lincoln Ave and W Illinois St	7	3	43%
S Goodwin Ave and W Green St	7	3	43%
N Goodwin Ave and W University Ave	9	3	33%
S Neil St and St Mary's Rd	9	3	33%
Springfield Ave and N Goodwin Ave	9	3	33%
S Fourth St and W Windsor Rd	2	2	100%
S Wright St and E Green St	2	2	100%
S 1st St and Stadium Dr	2	2	100%
S 4th St and E Daniel St	2	2	100%
Springfield Ave and N Mathews Ave	3	2	67%
N Romine St and W University Ave	4	2	50%
S Neil St and Carriage Centre Ct	4	2	50%
Springfield Ave and Wright St	4	2	50%
Lincoln Ave and W Nevada St	4	2	50%
Lincoln Ave and W Oregon St	5	2	40%
N Gregory St and W University Ave	5	2	40%
Kirby Ave and Lincoln Ave	6	2	33%
Florida Ave and Race St	8	2	25%
Lincoln Ave and W Ohio St	9	2	22%

Out of the nineteen non PDO crashes at Kirby and Neil, nine of them were rear end crashes (47%). Among the 25 non-PDO crashes at the intersection of Lincoln and University, 7 of them

were rear end crashes (28%). Lincoln and Iowa had 5 rear end crashes among the 6 non-PDO crashes (83%). The intersections of Kirby and 4th, and Windsor and Neil also had 5 rear end crashes each, but they constitute a lower proportion of crashes (45% and 28%) as compared to Lincoln and Iowa. Three out of the six non-PDO crashes at University and Wright and Springfield and 1st are rear end crashes. Kirby and Maryland, and 4th and Green St. had 3 rear end non-PDO crashes, and Springfield and Mathews had 2 rear end non-PDO crashes which account for over 60% of the crashes at the intersections. The intersections of 4th and Windsor, Wright and Green, 1st and Stadium, and 4th and Daniel had only 2 non-PDO crashes each but all of them were rear-end crashes. Figure 3.19 shows the IDOT reported non-PDO rear end crashes at intersections within campus between 2014-2018.

Rear-End (non-PDO) Crash Locations at Intersections within Campus (from IDOT)

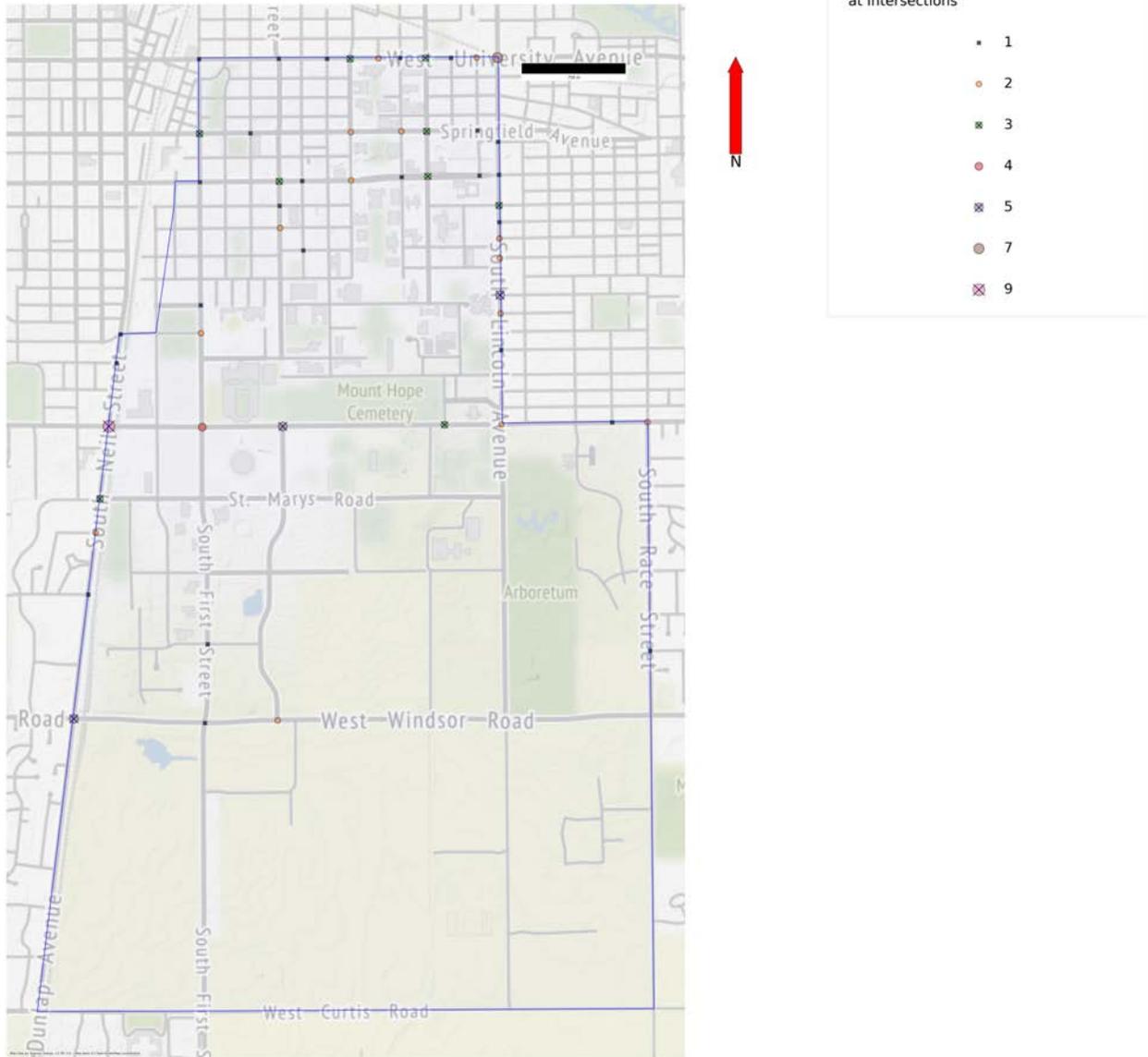


Figure 3.19: Rear-end (non-PDO) crashes at intersections in campus

Non PDO Angle Crashes

Angle crashes are the second most common crash type resulting in injuries at an intersection with around 20% of the injury accidents being an angle collision. Table 3.22 shows the number of non-PDO angle crashes and the number of intersections. From Table 3.23, the number of non-PDO angle crashes at an intersection range from 1 to 6. Among all intersections with only one non-PDO angle crash is 24 which accounts for 53% of all intersections, but only 29% of all non-PDO angle crashes. The remaining 47% of the intersections had 71% of all non-PDO angle crashes.

Table 3.22: Number of (non-PDO) Angle crashes and number of intersections

Number of Angle crashes (Non-PDO) at intersection	Number of intersections	Cumulative Number of Intersections	Cumulative Percentage of Intersections	Number of Angle (Non-PDO) Crashes	Cumulative number of Angle (Non-PDO) Crashes	Cumulative Percentage
1	24	24	53%	24	24	29%
2	11	35	78%	22	46	55%
3	5	40	89%	15	61	73%
4	3	43	96%	12	73	87%
5	1	44	98%	5	78	93%
6	1	45	100%	6	84	100%
Sum	45		Sum	84		

Table 3.23 shows the intersections with two or more angle crashes that resulted in an injury.

Table 3.23: Intersections with two or more angle (non-PDO) crashes

Intersection Name	Total Number of Non-PDO Crashes	Angle	Angle (%)
Florida Ave and Race St	8	6	75%
Springfield Ave and S 3rd St	9	5	56%
Kirby Ave and S Neil St	19	4	21%
Lincoln Ave and W University Ave	25	4	16%
S 5th St and E Green St	6	4	67%
Windsor Rd and Neil (N Dunlap St)	18	3	17%
S 1st St and E Green St	5	3	60%
S 1st St and E White St	4	3	75%
Springfield Ave and S 6th St	4	3	75%
Springfield Ave and Lincoln Ave	3	3	100%
S 1st St and E Armory Ave	2	2	100%
S 2nd St and E John St	2	2	100%
S 1st St and E Chalmers St	3	2	67%
S 4th St and E White St	3	2	67%
S 1st St and E Daniel St	3	2	67%
S Neil St and Stadium Dr	4	2	50%
Springfield Ave and S 5th St	4	2	50%
Springfield Ave and S 1st St	6	2	33%

Kirby Ave and Lincoln Ave	6	2	33%
S 3rd St and E Green St	6	2	33%
E University Ave and S 5th St	7	2	29%

The intersection of Florida and Race St. had both a high number and a high proportion of turning crash that resulted in an injury. Except for two intersections (Lincoln and University, and Windsor and Neil), angle crashes represent more than twenty percent of all crashes at intersections with two or more angle crashes. All the non-PDO crashes at the intersections of Springfield and Lincoln, 1st and Armory, and 2nd and John St. were angle crashes, however those intersections had a total of only two non-PDO crashes. Figure 3.20 shows the non-PDO angle crashes at intersections within campus between 2014-2018.

Angle (non-PDO) Crash Locations at Intersections within Campus (from IDOT)

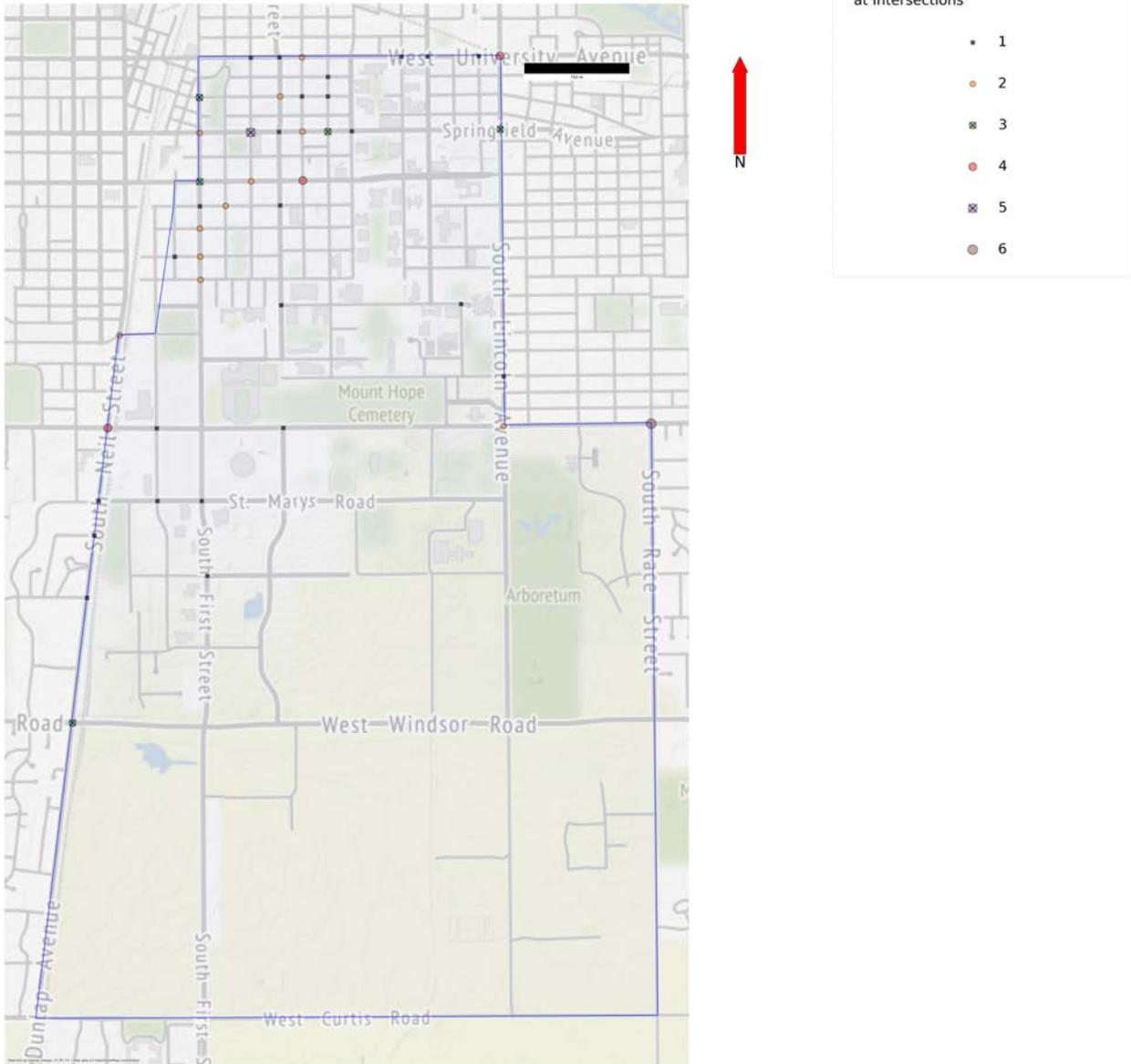


Figure 3.20: Angle (non-PDO) crashes at intersections in campus

Non PDO Turning Crashes

Turning crashes accounted for nearly 16% of all crashes that resulted in an injury. The number of turning crash at an intersection range from 1 to 10. From Table 3.24, among all the intersections that had turning crashes, the intersections that had only one turning crash accounts for 68% of the intersections but only had 37% of the turning crashes. At the remaining 32% of the intersections with two or more turning crashes, the remaining 63% of the crashes occurred.

Table 3.24: Number of (non-PDO) Turning crashes and number of intersections

Number of Turning crashes (Non-PDO) at intersection	Number of intersections	Cumulative # of Intersections	Cumulative Percentage of Intersections	Number of Turning (Non-PDO) Crashes	Cumulative number of Turning (Non-PDO) Crashes	Cumulative Percentage
1	25	25	68%	25	25	37%
2	7	32	86%	14	39	58%
3	3	35	95%	9	48	72%
9	1	36	97%	9	57	85%
10	1	37	100%	10	67	100%
Sum	37		Sum	67		

Table 3.25 shows the locations that had two or more turning crash that resulted in an injury.

Table 3.25: Intersections with two or more Turning (non-PDO) crashes

Intersection Name	Total Number of Non-PDO Crashes	Turning	Turning (%)
Lincoln Ave and W University Ave	25	10	40%
Windsor Rd and Neil (N Dunlap St)	18	9	50%
University Ave and S 3rd St	4	3	75%
S Neil St and St Marys Rd	9	3	33%
Kirby Ave and S Neil St	19	3	16%
N Mathews Ave and W University Ave	4	2	50%
N Romine St and W University Ave	4	2	50%
E University Ave and S 4th St	5	2	40%
Kirby Ave and Lincoln Ave	6	2	33%
E University Ave and S 1st St	6	2	33%
N Goodwin Ave and W University Ave	9	2	22%
Kirby Ave and S 4th St	11	2	18%

Turning crash is one of the most common type of crash type at Lincoln Ave and University Ave and Windsor Rd and Neil St. At University and 3rd St, turning crash accounted for a three fourth of all crashes among the four crashes that occurred. At the intersection of S. Neil and St. Mary's Rd, turning crashes were a third of the nine crashes that happened. Other intersections like Mathews and University, and Romine and University, turning crashes accounted for half of the

four crashes that occurred. Figure 3.21 shows the IDOT reported non-PDO turning crashes at intersections within campus between 2014-2018.

Turning (non-PDO) Crash Locations at Intersections within Campus (from IDOT)

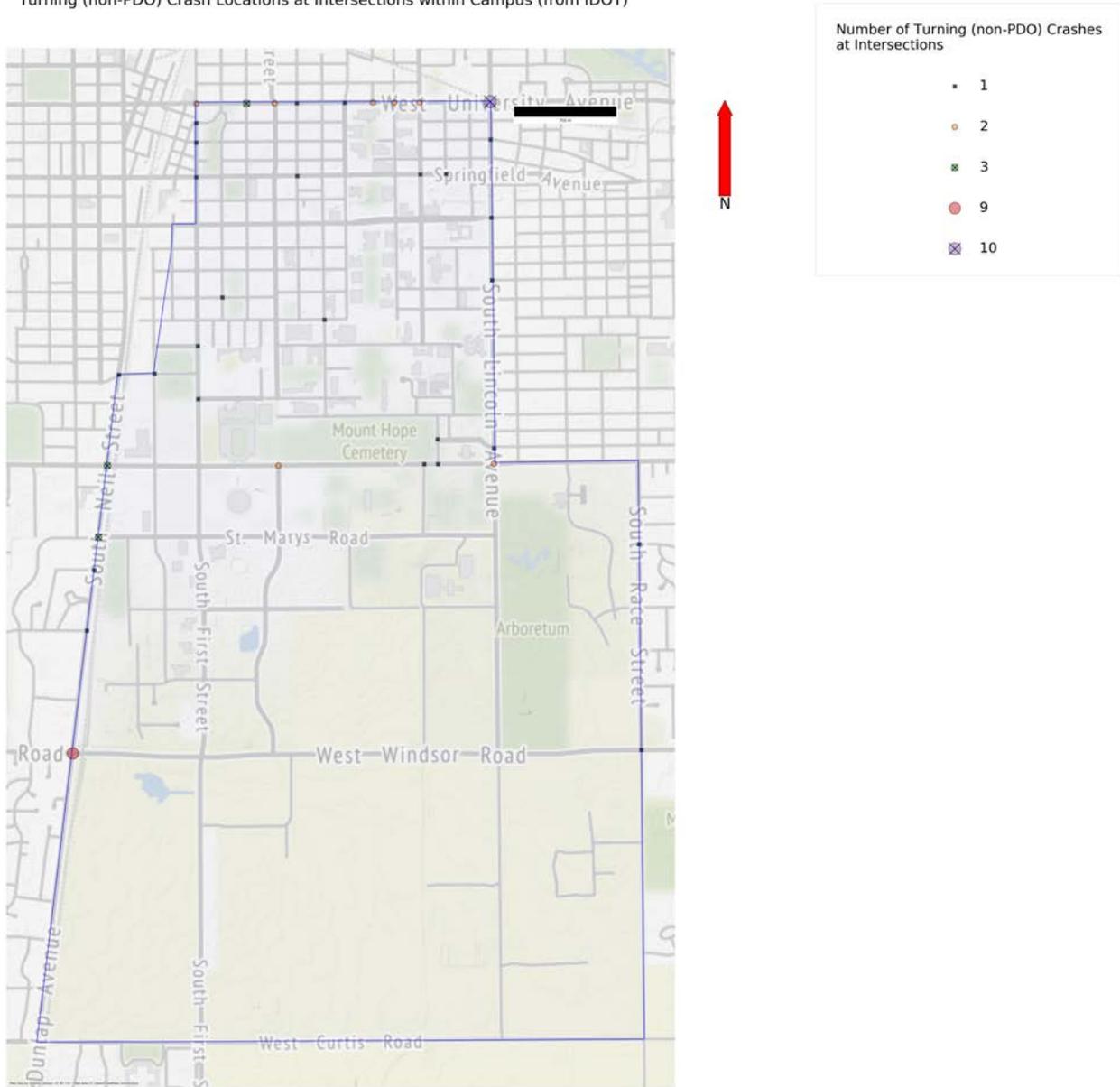


Figure 3.21: Turning (non-PDO) crashes at intersections in campus

Non PDO Pedestrian and Bicycle Crashes

Pedestrians and bikes constitute about 25% of the injury crashes. Table 3.26 below shows the intersections which had 3 or more pedestrian crashes which resulted in injury.

Table 3.26: Intersections with 3 or more Pedestrian or Bike collisions that resulted in injury within campus

Intersection Name	Pedestrian Injury	Bike Injury	Number of Pedestrian + Bicycle Collisions resulting in injury
S Lincoln Ave and W Ohio St	5	2	7
E Springfield Ave and N Goodwin Ave	2	3	5
S Goodwin Ave and W Green St	0	4	4
S 3rd St and E Green St	2	2	4
S 4th St and Peabody Dr	2	1	3
E Springfield Ave and S 3rd St	3	0	3
Kirby and S 1st St	2	1	3
E University Ave and S 5th St	1	2	3
E University Ave and S 1st St	1	2	3
S Lincoln Ave and W Illinois St	1	2	3

Based on the Table 3.26, it can be seen that Lincoln Ave., Goodwin Ave., Green St. Springfield Ave. and 1st St. are some of the locations within campus with a high number of pedestrian/bike crashes. Figure 3.22 shows the IDOT reported non-PDO pedestrian/bicycle crashes at intersections within campus between 2014-2018.

Pedestrian or Bicycle Injury Crash Locations at Intersections within Campus (from IDOT)

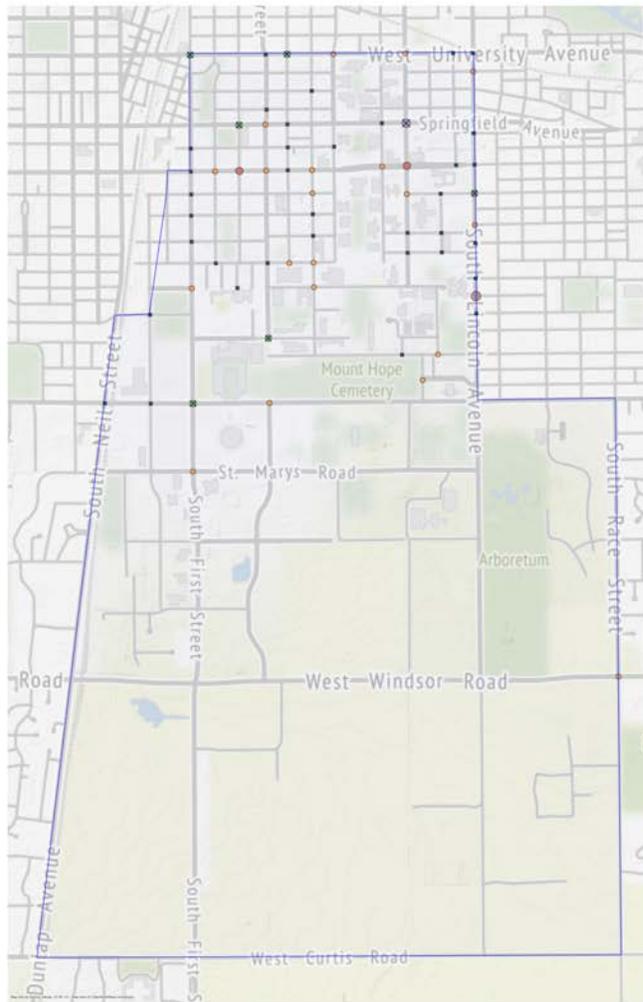


Figure 3.22: Pedestrian or Bicycle Crashes resulting in injury at campus intersections

The next section of this report looks at corridor analysis.

Corridor Analysis

A crash is considered along a corridor if it falls within an intersection along the corridor or if it falls within 45 feet of the centerline of the corridor. Therefore, crashes listed here would include crashes that has already been reported along intersections as well. (Note: A crash is associated with an intersection if it falls within 250 feet of an intersection). Table 3.27 gives the number of crashes reported within 45 feet of centerline of corridor. Figure 3.23 shows the corridors on campus with a high number of crashes as reported by IDOT.

Table 3.27: Number of crashes within 45 feet of center line of corridor

Corridor Name	Number of Crashes within 45 feet along centerline of corridor
University Ave	254
Lincoln Ave	192
S Neil St	146
Springfield Ave	131
S 1st St	126
Kirby Ave	123
Green St	92
S 3rd St	83
S 4th St	74
Windsor Rd	52
S 5th St	51
S 6th St	43
S Wright St	38
W Windsor Rd	35
E Armory Ave	32
E John St	30
White St	23
Daniel St	23
Mathews Ave	23
Goodwin Ave	22

High Accident Corridors in UIUC Campus.

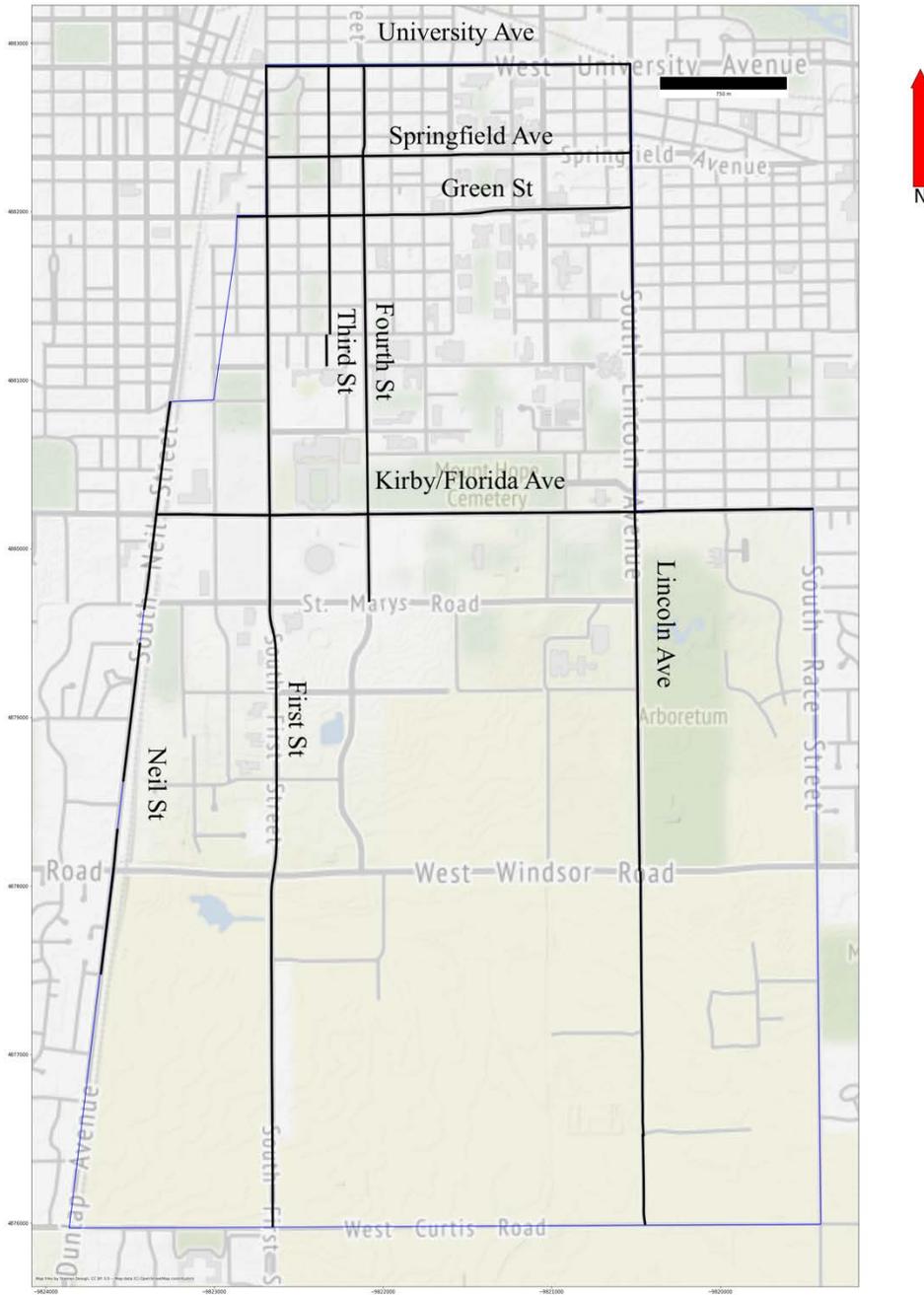


Figure 3.23: Highlighted high-crash corridors in the campus network

Each corridor has its own characteristics which will be presented below. It is important to note that all corridors are connected and share common intersections, therefore the statistics presented for each corridor will have some overlapping intersections. For instance, the crashes in the intersection of University and Lincoln will be presented as both crashes in University Ave and Lincoln Ave. The AADT listed in the text below was obtained from Illinois Department of Transportation (15).

Lincoln Avenue

Lincoln Ave. runs in the north south direction (with its end points in campus being at University Ave. in the north and Curtis Rd in the south). It contains 32 intersection within the campus network. It has an AADT across the corridor of 16100 and the minor roads intersecting Lincoln Ave have an AADT ranging from 900 to 5400. It is important to note that the Lincoln Avenue intersects with all the other high-crash corridors. This could be one of the main reasons why it is the corridor with most crashes within the campus network. The statistics of this corridor from 2010 to 2016 are presented in Table 3.28 below.

Table 3.28: Lincoln Avenue crash characteristics from 2014 to 2018

Table 3.28(a): Lincoln Avenue Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear End	166	42.67%
10	Turning	95	24.42%
15	Angle	45	11.57%
12	Sideswipe-Same direction	28	7.20%
6	Fixed Object	16	4.11%
1	Pedestrian	12	3.08%
9	Parked Motor Vehicle	9	2.31%
2	Pedalcyclist	8	2.06%
13	Sideswipe-Opposite direction	3	0.77%
5	Overtaken	3	0.77%
8	Other non-collision	2	0.51%
14	Head-on	1	0.26%
7	Other Object	1	0.26%
Total		389	100%

Table 3.28(b): Lincoln Avenue Collision Severity

Collision Severity	Count	Percentage
No injuries	302	77.63%
C injury crash	49	12.60%
B injury crash	30	7.71%
A injury crash	7	1.80%
Fatal crash	1	0.26%
Total	389	100.00%

Rear end crashes are the most common crash type along Lincoln Ave with over forty percent of the crashes being a rear end crash. More than three quarters of the crashes involve rear-end, angle or turning crashes. Pedestrians and bike account for twenty crashes along Lincoln Ave (5%). All twenty of the ped/bike crashes resulted in some form of injury (3 Type A, 9 Type B and 8 Type C). There was one fatal crash on Lincoln (at Lincoln and University) which was a turning crash.

University Avenue

University Ave. runs in the east west direction (with the ends being at Lincoln Ave. at the east and 1st St. on the west). It contains 16 intersection within the campus network. It is the corridor with the highest Average Annual Daily Traffic (AADT) of 23700 with the intersecting minor roads having an AADT ranging from 750 to 14500. The number of crashes in the corridor from 2014 to 2018 are presented in Table 3.29 divided by their type and severity.

Table 3.29: University Avenue crash characteristics from 2014 to 2018

Table 3.29(a): University Avenue Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
10	Turning	111	32.74%
11	Rear end	109	32.15%
15	Angle	42	12.39%
12	Sideswipe-same direction	31	9.14%
6	Fixed object	10	2.95%
2	Pedalcyclist	8	2.36%
9	Parked Motor Vehicle	6	1.77%
1	Pedestrian	6	1.77%
13	Sideswipe-opposite direction	5	1.47%
14	Head-on	4	1.18%
7	Other object	4	1.18%
5	Overtuned	3	0.88%
Total		339	

Table 3.29(b): University Avenue Collision Severity

Collision Severity	Count	Percentage
No injuries	259	76.40%
C injury crash	39	11.50%
B injury crash	27	7.96%
A injury crash	13	3.83%
Fatal Crash	1	0.29%
Total	339	100.00%

Turning collisions are the most common type of collision along University Ave. It is closely followed by Rear-end collisions. Pedestrian and Bike collisions constitute about 4% of all collisions along University Ave. and all but one resulted in some form of injury (1 Type A, 9

Type B, and 3 Type C and 1 PDO collision). Along university Ave, Turning, Rear-end, and Angle Collisions constitute more than three quarters of the collisions.

Springfield Avenue

Springfield Ave. runs in the east west direction with campus end points at Lincoln Ave on the east and 1st St. on the west. It contains 14 intersection within the campus network. It has an AADT across the corridor of 13700. The number of crashes in the corridor from 2014 to 2018 are presented in Table 3.30 divided by their type and severity.

Table 3.30: Springfield Avenue Crash Characteristics from 2014 to 2018

Table 3.30 (a): Springfield Avenue Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
15	Angle	107	38.35%
11	Rear-end	86	30.82%
10	Turning	44	15.77%
9	Parked Motor Vehicle	16	5.73%
12	Sideswipe-same direction	7	2.51%
2	Pedalcyclist	6	2.15%
1	Pedestrian	6	2.15%
6	Fixed Object	5	1.79%
13	Sideswipe-opposite direction	1	0.36%
8	Other Non Collision	1	0.36%
	Total	279	100%

Table 3.30(b): Springfield Avenue Collision Severity

Collision Severity	Count	Percentage
No injuries	232	83%
C injury crash	22	8%
B injury crash	23	8%
A injury Crash	2	1%
Total	279	100%

Angle collisions were the most common type of crashes along Springfield Ave. The three most common crash types (Angle, Rear-end, and Turning) constitute more than three quarters of crashes along Springfield Ave. also. Collisions involving parked motor vehicles constitutes nearly 6% of all crashes along Springfield Ave. Pedestrian/bike crashes account for 5% of the crashes along this corridor, all of which resulted in some form of injury (2 Type A, 6 Type B and 4 Type C).

Neil St

Neil St. runs in the North-East South-West direction with end points at Stadium Dr. at the north end. At the south end, it converts to Dunlap Ave. It contains 16 intersections within campus. It has an AADT of 23300. Details of crashes along Neil St is given in Table 3.31 below.

Table 3.31: Neil St crash characteristics from 2014 to 2018

Table 3.31(a): Neil St Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-end	116	44.11%
10	Turning	81	30.80%
15	Angle	27	10.27%
12	Sideswipe-same direction	19	7.22%
6	Fixed object	10	3.80%
7	Other object	4	1.52%
14	Head on	2	0.76%
8	Other non-collision	2	0.76%
13	Sideswipe-opposite direction	1	0.38%
1	Pedestrian	1	0.38%
Total		263	

Table 3.31(b): Neil St. Collision Severity

Collision Severity	Count	Percentage
No Injuries	198	75.29%
B injury crash	28	10.65%
C Injury crash	28	10.65%
A injury crash	9	3.42%
Total	263	100.00%

Along Neil St., rear-end collisions were the most frequent which accounts for nearly 40% of all crashes along this corridor. Similar to Lincoln Ave, and University Ave, the combined number of rear-end, turning and angle collisions constitute more than three quarters of all collisions along Neil St. There is only 1 pedestrian collision along Neil St, as the pedestrian traffic is low compared to corridors within campus. This pedestrian collision resulted in a Type B injury.

First St

First St. runs in the north south direction and contains 26 intersection within the campus network. It has a max AADT across the corridor of 8700. Among the corridors intersecting it, Kirby Ave has the highest AADT of 15800, followed by Springfield Ave (AADT = 11700). The number of crashes in the corridor from 2014 to 2018 are presented in Table 3.32 divided by their type and severity.

Table 3.32: First St crash characteristics from 2014 to 2018

Table 3.32(a): First St Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-End	77	28.84%
15	Angle	66	24.72%
10	Turning	50	18.73%
9	Parked Motor Vehicle	21	7.87%
12	Sideswipe-same direction	17	6.37%
6	Fixed object	13	4.87%
1	Pedestrian	10	3.75%
2	Pedalcyclist	5	1.87%
13	Sideswipe-opposite direction	3	1.12%
7	Other Object	2	0.75%
4	Animal	2	0.75%
5	Overtaken	1	0.37%
Total		267	100.00%

Table 3.32(b): First St Collision Severity

Collision Severity	Count	Percentage
No injuries	208	77.90%
B injury Crash	27	10.11%
C injury Crash	25	9.36%
A injury Crash	7	2.62%
	267	100.00%

Rear end collision is the most common type of collision along 1st St. followed by Angle collisions and turning collisions. 1st St. has a relatively high number of parked motor vehicle collisions (~8%). There were 15 collisions involving ped/bike all of which resulted in some form of injury (3 Type A, 9 Type B, and 3 Type C)

Kirby Avenue

Kirby Ave runs in the east west direction with campus end points at Race St on the east and Neil St on the west. It contains 15 intersection within the campus network. It has an AADT across the corridor of 15800 having minor roads intersecting it with AADT ranging from 4800 to 12700. The statistics of this corridor from 2014 to 2018 are presented in Table 3.33 below.

Table 3.33: Kirby Avenue crash characteristics from 2010 to 2016

Table 3.33(a): Kirby Avenue Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
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11	Rear-end	105	39.33%
10	Turning	52	19.48%
15	Angle	48	17.98%
12	Sideswipe-same direction	20	7.49%
6	Fixed object	16	5.99%
9	Parked Motor Vehicle	7	2.62%
1	Pedestrian	6	2.25%
7	Other Object	5	1.87%
2	Pedalcyclist	3	1.12%
13	Sideswipe-opposite direction	2	0.75%
14	Head-on	1	0.37%
5	Overtaken	1	0.37%
4	Animal	1	0.37%
Total		267	100.00%

Table 3.33(b): Kirby Avenue Collision Severity

Collision Severity	Count	Percentage
No injuries	201	75.28%
C injury Crash	31	11.61%
B injury Crash	28	10.49%
A injury Crash	7	2.62%
Total	267	100.00%

Along Kirby Ave, rear-end accident is the most common type of accident (105 accidents) followed by turning crashes (52 accidents) and angle accidents (48 accidents). There are 9 ped/bike collisions along this corridor all of which resulted in some level of injury (3 Type A, 5 Type B and, 1 Type C).

Fourth St

4th St also runs in the north south direction and contains 22 intersection within the campus network. It has an AADT across the corridor of 6200. The statistics of this corridor from 2014 to 2018 are presented in Table 3.34.

Table 3.34: 4th Street crash characteristics from 2014 to 2018

Table 3.34 (a): 4th Street Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-end	60	28.99%
10	Turning	52	25.12%
15	Angle	36	17.39%
9	Parked Motor Vehicle	16	7.73%
12	Sideswipe-same direction	13	6.28%
6	Fixed Object	11	5.31%

2	Pedalcyclist	8	3.86%
1	Pedestrian	6	2.90%
7	Other object	2	0.97%
14	Head-on	1	0.48%
13	Sideswipe-Opposite direction	1	0.48%
4	Animal	1	0.48%
Total		207	100.00%

Table 3.34(b): 4th St Collision Severity

Collision Severity	Count	Percentage
No injuries	167	80.68%
C injury Crash	19	9.18%
B injury Crash	17	8.21%
A injury Crash	4	1.93%
Total	207	100.00%

Along 4th St, rear end, turning and angle collisions are the most common type of collisions. Parked motor vehicle collision accounts for nearly 7% of all collisions. There are 11 fixed object crashes along 4th St. Ped/bike collisions constitute 19 collisions along this corridor.

Green Street

Green St runs in the east west direction with campus end points at Lincoln Ave on the east and 1st St on the west. It contains 12 intersection within the campus network. It has an AADT across the corridor of 9000 and being the corridor with the most pedestrian and pedalcyclist crashes combined with a total of 36 crashes. The minor roads intersecting Green St. have an AADT ranging from 1600 to 8000. The statistics of this corridor from 2014 to 2018 are presented in Table 3.35 below.

Table 3.35: Green Street crash characteristics from 2014 to 2018

Table 3.35 (a): Green Street Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
11	Rear-end	64	32.65%
15	Angle	39	19.90%
10	Turning	26	13.27%
9	Parked Motor Vehicle	15	7.65%
2	Pedalcyclist	14	7.14%
12	Sideswipe-same direction	13	6.63%
6	Fixed Object	8	4.08%
1	Pedestrian	8	4.08%
14	Head-on	3	1.53%
13	Sideswipe-opposite direction	3	1.53%
8	Other non-collision	2	1.02%

5	Overtuned	1	0.51%
Total		196	100%

Table 3.35 (b): Green Street Collision Severity

Collision Severity	Count	Percentage
No injuries	146	74.49%
C injury Crash	26	13.27%
B injury Crash	16	8.16%
A injury Crash	8	4.08%
Total	196	100.00%

Along Green St, rear-end accident is the most common type of accident (64 accidents) followed by angle crashes (39 accidents) and turning accidents (26 accidents). Parked motor vehicle collisions account for 15 crashes along this corridor. Crashes involving ped/bikes account for nearly 11% of the crashes along this corridor, all but one resulted in some level of injury (3 Type A, 11 type B and 7 Type C).

Third St

3rd St runs in the north south direction with campus end points at University Ave in the north and Gregory Dr. in the south. It contains 18 intersection within the campus network. It has an AADT across the corridor of 1900. The statistics of this corridor from 2014 to 2018 are presented in Table 3.36 below.

Table 3.36: 3rd Street crash characteristics from 2014 to 2018

Table 3.36 (a): 3rd Street Collision Type

Collision Type Code (From IDOT)	Collision Type	Number of Collisions	Percentage
15	Angle	63	48.09%
10	Turning	19	14.50%
11	Rear-end	17	12.98%
9	Parked Motor Vehicle	12	9.16%
12	Sideswipe-same direction	9	6.87%
1	Pedestrian	5	3.82%
2	Pedalcyclist	3	2.29%
6	Fixed Object	2	1.53%
14	Head-on	1	0.76%
Total		131	100.00%

Table 3.36 (b): 3rd St Collision Severity

Collision Severity	Count	Percentage
No injuries	111	84.73%

C injury Crash	12	9.16%
B injury Crash	5	3.82%
A injury Crash	3	2.29%
Total	131	100.00%

Angle crashes is the most common type of crash along 3rd St with 63 angle crashes. It is followed by 19 turning crashes and 17 rear end crashes. Parked motor vehicle crashes also appear frequently along 3rd St. with 12 of them (9.16%). Ped/bike collisions account for nearly 6% of all crashes along 3rd St.

Chapter 4: Summary of Focus Group Meetings

Summary of First Focus Group for Vision Zero for UIUC

The focus group consisted of five participants. This was conducted online (over zoom) on Wednesday (7th October 2020) from 6 pm to 7 pm. The focus group had a free flow format allowing the participants to talk about various issues that they observed on campus. The topics that were covered in the focus group are discussed below.

Pedestrians:

The participants of the focus group generally agreed that the reason for problems at several locations is due to high pedestrian volume. Two intersections (Lincoln and Iowa, and Lincoln and Ohio) were specifically named. It was also identified that several intersections along Lincoln Ave. did not have crosswalks for pedestrians which may be another reason why they were reported as problematic locations in the survey. Due to the lack of crosswalks, pedestrians cross where they can. The focus group suggested to put in more crosswalks so pedestrians know where the crossing are and cars can expect pedestrians there. One participant suggested that Lincoln Ave. should have a lower speed limit (20 mph) due to the high pedestrian volume.

The participants of the focus group liked the suggestion to add vegetation along Lincoln Ave. to discourage pedestrians from crossing the street mid-block. Another suggestion that was brought forward in the focus group was to add a bump-out at the pedestrian crossing locations to reduce the time that the pedestrians are exposed to vehicles.

Another issue concerning pedestrians is that car drivers think they don't have to stop at the Pedestrian crossing sign (yellow sign). One participant suggested that if there was a stop sign there, the car drivers would feel the need to stop. The participants feel that the highway users are confused about who has the right of way at these locations.

The participants of the focus group recommended that infrastructure improvement should focus on pedestrians, as all users have to walk at some point in their day. They claimed that improving the infrastructure for the pedestrians and bicyclists on a per person mile basis is cheaper than improvements required for motor vehicles. One of the participants pointed out that people would want to live in locations where they could bike and walk safely.

Lighting:

The participants of the focus group raised the issue due to lighting on Lincoln Ave. This issue was also raised by a citizen during a BPAC (Bicycle and Pedestrian Advisory Commission) meeting in Urbana. The participants feel like highway-style overhead lighting along Lincoln was not conducive to seeing pedestrians which may result in near misses or collisions.

One of the participants had concerns regarding the new lights that were put up as it made the participant feel like the place was a "Walmart parking lot" rather than a beautiful campus location. The participant felt that over lighting makes the cars go faster. Two examples provided

were on Wright Street as well as on White St. Another participant also did not want stark lighting within the campus.

Issues due to construction:

The participants recognized that some intersections that were identified from the survey as problematic (Wright and Daniel, Fourth and Armory) has changed due to the MCORE project. Therefore, the problems identified in those locations may not reflect the current state. During the time of the construction, the participants of the focus group felt that there was confusion among the highway users because it was not clear which section of a road was open and which was closed. A participant said that the rerouting of traffic was not effectively communicated and was confusing especially if the driver was not familiar with the traffic pattern on the campus. As a result of this confusion, the highway users did not know what to do and they ended up “improvising in an unwise way.”

One of the participants brought up the lack of attention given to pedestrian rerouting in areas where construction was happening. The example provided was when the street in front of Seibel Center for Design for shut off, no Jersey barriers were put up to route the pedestrians.

Lack of familiarity with the area and rules:

One of the participants feels that the highway users may be confused due to changes happening on campus due to construction. Also, due to a lack of familiarity some cars going south on Wright St. tend to turn right at the intersection with Green St. which is not allowed. Another participant brought up an incident that he/she/they experienced at the intersection of Green and Wright. The car pulled into the left turn lane on Green St going east and continued to pull through the intersection when the signal was red. One of the participants feel that motor vehicles do not understand that cyclists are allowed to go through walk signs.

Issues due to cars:

One of the participants expressed his/her/their surprise that cars are allowed on the campus at the current speeds. An example of the University of California Davis was provided where only some vehicles with a special permit are allowed in the campus and during times in between classes, there are flashing red lights indicating the car should come to a stop. Cars are a guest on campus and are secondary to pedestrians. We (UIUC) have a limited number of streets which are pedestrian-only (e.g. Section of Peabody, which has pedestrians and buses and service vehicles only). A participant suggested that blocking cars on Green St. and Springfield Ave. between Wright St and Lincoln Ave. would improve the safety of the campus users.

The reason why it may be difficult to implement pedestrians/bikes only section within the campus is because the regions are highly commercialized. One of the participants gave an example of Mathews Ave. in Urbana which the city didn't want to sell as the city makes revenue from parking fees.

Parking

One of the participants raised the issue that people park along Green St. in the center lane and leave leaving the car unlocked. Another participant identified that facilities and services vehicles park in the middle of the lane, on bike lanes, in the middle of the quad, etc. which is a problem.

One of the participants thinks it might be because of the expanding food delivery industry (Uber Eats and GrubHub). Especially in the time of a pandemic when such services are required. The participant suggested that some alternative locations for parking of such vehicles must be provided. They suggested that parking along alleys along these roads might be ideal for these delivery vehicles.

Roundabouts:

One of the participants advocated for the installation of roundabouts instead of intersections. The arguments in favor of roundabouts were that it increases the perception of risk and therefore people slow down decreasing the likelihood of accidents. There were arguments against roundabouts as well. From the participant's experience, people didn't use the roundabouts as it was confusing (which may be why there was an initial reduction in the incidents at roundabouts). The confusion regarding roundabouts was regarding a) who merges when b) if there is a change in the number of lanes. The participant was concerned about line of sight at a roundabout or visibility issues if there are sculptures or vegetation in the middle of the roundabout. The participant was also concerned that the incidents at other locations may increase due to the installation of a roundabout.

Suggested solutions that could be taken at the administration level:

The participants had several suggestions which include

- a. Working with the cities and letting them know that campus safety is incredibly important.
- b. More paint on the ground for crosswalks.
- c. Have bump-out at crosswalks and other traffic calming technique to improve safety and reduce speed of vehicles.
- d. Bike rodeo on the quad. This is because the participant felt that several people don't know the signaling process while on the bike nor do they ride bikes without a front or backlights. The participants feel like such an event would educate the crowd about the proper bike etiquette without having additional classes.
- e. Invest and brand the bike rentals. Could make bike rental as part of student fees making it free for students to use the bikes.
- f. Reporting app to get constant feedback regarding campus safety.
- g. Consider the feasibility of making St. Mary's a bike-pedestrian only passage space.
- h. Installation of walk/bike paths. This could be used for bike tours for campus visitors.

Summary of Second Focus Group for Vision Zero for UIUC

The focus group consisted of thirteen participants. This was conducted online (over zoom) on Monday (19th October 2020) from 5 pm to 6:15 pm. The moderator of the focus group asked questions in order to facilitate the discussion, but the focus group had a free flow format allowing the participants to talk about various issues that they observed on campus. The topics that were covered in the focus group are discussed below.

MCORE:

One of the participants feel that the MCORE project has made locations (eg. 6th and Armory, and Wright and Daniel) worse. According to the participant, there used to be clear straight ways to cross, which has now become confusing. For example, there are places near the Illini Union bookstore, there isn't a place to cross wright street. There are places where ramps for bus access have caused problems for pedestrians trying to cross the street. The stop signs at the location were removed which also adds to the confusion for the road users. Another issue identified was near the main library area which now has a curved space which makes it hard to cross. The participant also suggested that the bike routes coming from the quad in this region is not clear making it hard to navigate the road safely. The new road treatments don't seem to be in a finish state, and they don't seem to be in a state of resolved clarity on where the crosswalks would be. There are places where the crosswalks are still not marked clearly. Another participant commented that typically pavement markings do not adhere to pavements any sooner than 6 months or optimally a year. (because weather, people walk over it).

Comments about Intersections:

One of the participants was surprised that the intersection of Lincoln Ave. and Pennsylvania Ave. (intersection has a traffic signal) has a lot of reported near misses. The participant was curious about direction in which the near miss happened and whether it was a ped-vehicle interaction at a particular corner of the intersection.

Few of the participants had concerns about the intersection of 5th and Green which had a high number of reported crashes (from the survey). This location is terrifying in his/her/their opinion as there is a campus bar at that location leading to a large number of students crossing the street. The motor vehicles tend not to stop for pedestrians at this intersection, even if the students are crossing legally. Another participant pointed out that since there are traffic signals at the intersections of 4th and Green and 6th and Green, a lot of car traffic is diverted from those intersections, which adds to the car traffic at the intersection of 5th and Green. The participant indicated that there are exclusive pedestrian phases at 4th and Green and 6th and Green, but not at 5th and Green. Pedestrians feel safer when there is an exclusive pedestrian phase. However, the participants worry that it may become other locations riskier as the pedestrians feel a sense of complacency or added safety which may increase the risk. More than one of the participants indicated that they avoided the intersection of 5th and Green if they could.

Another participant mentioned the intersection of Lincoln Ave. and Illinois St as a terrifying location. The participant mentioned that bicyclists are typically riding on the sidewalks on Lincoln Ave, and the motor vehicles do not expect the cyclists.

One of the participants mentioned the intersection of Stadium and Neil as a challenging intersection for pedestrian and as a bicyclist. This is because of the very limited visibility that one has while moving from the campus to a very busy street (Neil St.). This location is a popular place for bikes, and it is difficult to navigate in this area. There are parking spots on Stadium Dr. right after the underpass while coming into campus which limit the visibility of the bikers. It might be challenging because of the limited space there. Another participant added to this comment suggesting that there is a bottleneck coming from west while coming to campus as there are cars parked along the road, making it harder for the cyclist.

Pedestrian, Bike and Motor Vehicle Issues:

One of the participants said that there are several “Do Not Enter”, “No Right Turns” or “One Way Street” signs that are not respected. People think it is not a big deal as it saves them some time if they chose to go against the directions, which is more frequent during the beginning of the semester as new students arrive on campus. One location that was pointed out during the focus group was on Gregory Dr. which is accessible only for buses and U of I service vehicles. However, some drivers use Gregory Dr. as a short cut to their destination, despite the “Do Not Enter” signs posted. The second location that was pointed out was the intersection of Wright and Green, where right turn from southbound Wright St onto Green St is not permitted, but people still make that right turn.

The participants came up with three solutions to address this problem.

- 1) One of the participants said that most people who drive are not the ones who drive here regularly (campus visitor or zip-car drivers). Creating tools to plan their trip and to help them navigate through campus would be helpful. This would help them move through the campus considering one-way streets, or locations where they are not supposed to be driving.
- 2) People miss signs, so one of the participants suggested that signs that would light up is a potential solution. Flashing lights (as seen in United Kingdom) at pedestrian crosswalks was a suggestion along this point.
- 3) One of the participants saw a higher compliance to the stop bar on Green St than for pedestrian crossing signs along Lincoln. The participant suggested installation of stop bars along pedestrian crossing on Lincoln Ave.

Lighting issues:

One of the participants raised the issue that the lighting is not available at the pedestrian level on Lincoln Ave. The crosswalks are not lit adequately making it hard to detect pedestrians and bikes, especially at night. Another participant added that if people wear dark clothes, the problem is amplified. A participant liked the idea of conducting the “Light the Night” event on a semiannual basis. It was also suggested that bike lights could be sold to bikers at discounted prices.

One of the participants brought the point about Lincoln Ave. lighting, which has come up to the city council in the past. One of the issues along that road is caused due to trees when they are fully leafed out, which can obstruct the visibility at night. The participant says that the lighting should not exceed the recommended level, so as not to cause glare; the lighting should be done

carefully and making sure the crosswalks are lit; and the lighting on Lincoln is an older style and should be upgraded. The participant brought the example in Urbana (intersection of Coler St. and Green St) where doubling the number of lights has made it better for the road users.

Traffic signal issues:

One of the participants indicated that signals are problematic for bicyclists as it does not pick them. So, they have to either wait for a car, get off their bike to push the button or run the light. A participant added that you are legally allowed to run a red light on a bicycle if you have waited for a specified amount of time. One example of an intersection with this issue is at Race and Windsor (which according to a participant had video detection), which doesn't detect the participant when they are on a bicycle. Another participant experienced the same problem at the intersection of 4th and Wright.

One of the participants added that 4-way stops are a traffic calming solution at several locations.

Roundabouts:

One of the participants had an issue with roundabouts as people do not know how to maneuver around a roundabout. Another participant who was in favor of roundabouts had concerns about it including a) locations with a high bus traffic, roundabouts do not give a break during class change time, b) this may hinder the timely operation of buses, which needs signals to create gaps, c) space constraints in some locations, and d) introducing roundabout to the community is usually met with resistance. The participants suggested that it may make sense in less dense parts of the campus. A suggested location for a roundabout was made; Philo and Washington, where the streets are not perpendicular making it a good location for the roundabout.

Signing and Marking Issues:

One of the participants raised a point regarding lack of lane markings or the lane markings becoming difficult to spot over the time. The participant mentioned that some bike lane markings (e.g. On 4th St. and on 1st St.) are invisible. It was suggested that the lane markings should be regularly repainted. One of the participants said that the green markings for bike lanes are good and it would be beneficial to extend it to other places.

Parking

One participant advocated that campus needs to look at moving more of the parking from inside campus in terms of staff parking. Pricing parking at a market rate may be considered. Another participant added that it is a major thing that the Facilities and Services are working on. They are looking at ideas like premium parking, caps on the number of spots, allowing people to buy parking permits for 5-10 days a month, etc.

Regarding bicyclists and bike lanes:

One of the participants suggested that pedestrian crosswalks should come with bike accommodation. According to the participants, it is not clear at some intersections for bicyclists if they are supposed to be crossing with pedestrians or not. Due to a perception of safety, the bikes tend to move away from traffic and therefore better infrastructure for bicyclists is recommended.

One of the participants said that, if you are on the street, the bicycle is considered a vehicle, while if you are on a sidewalk, the bicycle is considered a pedestrian. Another participant added that, if you are on a side path for bicyclists, (not the street or sidewalk), you are legally allowed to use a pedestrian crossing without getting off the bike. They also added that it is better for buses if the cyclist to pass during the pedestrian phase.

Another participant made the suggestion regarding toucan crossings (as seen in the United Kingdom) which allows both bikes and pedestrians to cross a street. The participant raised the point that several cyclists dash across pedestrians. The participant would like to see bike infrastructure that is safer.

One of the participants suggested that a survey of cyclists who use Stadium Dr. should be conducted because it is a potentially problematic location.

Comments regarding corridor:

One of the participants mentioned that a road diet was done a couple of years ago between Nevada and Pennsylvania on Lincoln Ave. The participant included a suggestion about extending the road diet northward to either Green St. or Springfield Ave. or maybe even till University Ave.

Suggestions that could be taken at the administration level:

One of the participants suggested the administration could take simple way to promote safety education. They include incentives for students to register their bikes, take the bike safety quiz and adding more modules to the bike safety quiz as they are relatively inexpensive thing to do. The participants suggested that the educational events that involve the campus members as participants should be in such a way that it is interactive and fun for people to join. Programs like Complete Streets, Vision Zero, etc. have the potential to engage more people.

A participant appreciated the suggestion of coordination between U of I, city of Champaign and Urbana for improving safety. This is because, some of the campus members live outside campus and the problems they face may be outside the campus boundary.

A participant recommended a shorter interval for campus safety studies than 5 years. A continuous study is recommended.

One another point raised was regarding international students. International students may face difficulty as there is a lot of difference in signage between country to country, or even for out of state students. People may interpret signals differently than how it was intended.

Chapter 5: Conclusions and Recommendations

Transportation safety is an important concern for all users of the UI campus. This Vision Zero for University of Illinois Campus study was an initial effort to start a comprehensive plan on improving traffic safety on the campus. This is achieved by gaining an in depth understanding of the type of crashes happen and an attempt to gather data on the perception of risk by campus users. To do this, the following three tasks were carried out.

1. Collection and analysis of survey data to identify locations that are problematic, near-miss, and crash locations
2. Analysis of crash data available from IDOT for 2014-2018
3. Focus group meetings.

We sent a survey to 10,000 students (7000 undergrad and 3000 graduate student), but due to coronavirus pandemic (COVID-19) that practically closed the campus in spring of 2020, we received only 476 responses. This is much lower than about 2000 responses we were expecting to get, but it is large enough to show the problem areas and traffic safety issues on campus. The participants of the survey reported 349 problem locations, 85 near miss locations and 42 crash locations. When analyzing problem locations, twenty-four intersections were mentioned over four times. Two locations (4th St and Armory Ave, and Lincoln Ave and Ohio St) were reported as much as ten times indicating a high perception of problems at those intersections. The five most frequently mentioned problems include: a) vehicles not yielding to pedestrians and bicycles, b) bicycles not yielding to pedestrians, c) pedestrians not using the marked pedestrian crosswalks and crossing the street mid-block, d) lack of adequate lighting, and e) vehicles and bicycles not stopping at stop signs.

The survey participants identified four locations that had three near misses. They are a) Gregory St and Oregon St, b) Springfield Ave and Mathews Ave, c) Goodwin Ave and Nevada St, and d) Lincoln Ave and Pennsylvania Ave. There were thirteen locations which had two or more near misses. The five most frequently reported reasons for near miss are: a) motor vehicle not stopping at stop sign/red light, b) lack of adequate lighting, c) speeding motor vehicle, d) turning motor vehicle violating the 'WALK/DON'T' sign, and d) obstructed visibility due to fixed object on road or corner of building.

Among locations that respondents had crashes, the following five intersections had more than one crash Mathews and Green (3 crashes), Lincoln and Iowa (2 crashes), Springfield and 5th (2 crashes), 5th and Green (2 crashes), and 4th and Peabody (2 crashes). The five most frequently reported reasons for collision are a) location was not well lit, b) motor vehicle didn't stop at stop sign or ran the red light at intersection, c) vehicle(s) was (were) following too closely, d) turning motor vehicle didn't yield to bicycle, e) speeding vehicle collided into another vehicle.

The survey responses were also analyzed at a corridor level. The Lincoln Ave. corridor was the one with the highest number of responses in all three categories (problem locations, near misses and crashes). Other highly reported corridors include, 6th St, 4th St, Wright St, Green St, and Pennsylvania Ave.

In the period of 2014 to 2018, every year over 400 crashes occurred on campus, and nearly a quarter of them caused injuries. Moreover, 1 fatal crash occurred in 2014 (Lincoln and University). The disturbing trend on campus crashes is the steady increase since 2013. Proper counter measures need to be taken to change the trend and prevent future injuries.

When analyzing the spatial distribution of the recorded crashes, over 88% of all crashes happened at intersections. The intersection crashes were analyzed separately based on number of collisions as well as based on non-PDO collisions. Forty eight percent of the intersections (95 intersections) had more than five crashes and it accounts for eighty-seven percent of all the crashes at the intersections. The eight most common collision type at intersections are a) Rear-end, b) Angle, c) Turning, d) Parked motor vehicle, e) Sideswipe-same direction collisions, f) Fixed Object, g) Pedalcyclist and h) Pedestrian Collisions. Together they represent 97.04% of all collisions at an intersection. The three intersections with the highest number of collisions as well as injuries are Lincoln and University, Kirby and Neil, and Windsor and Neil. Two intersections along Lincoln Ave (Lincoln and Ohio, and Lincoln and Iowa) and two intersections along Springfield Ave (Springfield and Mathews, and Springfield and Wright) had high numbers and proportions of rear end crashes.

Analyzing the recorded injury crashes, the five most common types of collisions that resulted in injury are rear-end, angle, turning, pedalcyclist, and pedestrian collisions. They collectively account for 89.60% of all injury crashes. It is important to note that the pedestrian collisions and pedalcyclist (bicycle) collisions constitute more than a quarter of injury crashes within campus. At intersections with four or more injury crashes (high number of injury crashes, 41 intersections), at 21 intersections, rear end crash was the most frequent crash type. A different trend was observed at intersections with less than four injury crashes (low number of injury crashes, 84 intersections). At forty-five intersections, crashes involving peds or bikes was the most frequent crash type.

Analysis of the IDOT data was done along at a corridor level also. The five corridors with a high number of crashes include Lincoln Ave, University Ave, Springfield Ave, Neil St, 1st St. In most cases, rear-end crashes were the most common type of crashes along corridor. Turning crashes were the most frequently reported crash type in University Ave. and Angle crashes were the most frequent along both Springfield Ave and 3rd St

Two focus group meetings were conducted which included members from campus as well as various transportation organizations in the Champaign-Urbana area. The focus group discussed issues that concern the campus users and came up with some suggestions that could be implemented at the administration level. The issues discussed include pedestrian issues, lighting issues, issues due to construction (MCORE), issues due to lack of familiarity of the area, issues due to cars, parking issues, traffic signal issues, signage and marking issues, and roundabouts. The suggestions that the focus group came up with include, coordination between U of I, city of Champaign and Urbana for improving safety, promotion of safety via education (bike quizzes, bike rodeo, etc.), conducting campus safety studies in shorter intervals, conversion of some locations into pedestrian only areas, and use of a reporting app to continuously collect information to improve safety from campus users.

Transportation safety on campus is a major concern for students, faculty, staff, and involved community members. The areas which need more attention in the campus network were highlighted. The high vehicular, pedestrian and bicycle traffic makes the campus network riskier to navigate, so appropriate counter measures need to be taken. This report highlights specific areas of concern and builds a foundation for future studies and future actions regarding the campus transportation network. Vision Zero for UI aims to initiate further discussion on how to increase the transportation safety of the campus community while increasing the safe and equitable mobility for all users.

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Appendix A

Questions in Vision Zero Survey for University of Illinois Urbana Champaign

The survey was designed to collect information on locations that are

- A. Crash locations
- B. Near Miss Locations
- C. Problematic Locations

The survey is designed in a nested way and the questions shown to the survey respondent is dependent on the choices that he/she makes in for the earlier questions in the survey.

The questions (including the relevant options) include:

1. What is your affiliation with the University of Illinois?
 - 1.1. Undergraduate Student
 - 1.2. Graduate Student
 - 1.3. Faculty
 - 1.4. Staff/Administrator
 - 1.5. Other (with space given to specify)
2. How long have you been at the University of Illinois Campus?
 - 2.1. <1 year
 - 2.2. 1-2 years
 - 2.3. 3-4 years
 - 2.4. 5-10 years
 - 2.5. >10 years
3. What would you like to report?
 - 3.1. I was involved in a collision
 - 3.2. I was involved in a near miss
 - 3.3. I want to report a problematic location (based on my experience or observation)
4. Interactive map allowing survey respondent to choose location of interest

A. CRASH LOCATIONS

Questions 5-11 are questions shown to a respondent who chooses to report a collision.

5. What was the weather condition at the time of the collision?
 - 5.1. Sunny/clear
 - 5.2. Cloudy
 - 5.3. Rain
 - 5.4. Snow
 - 5.5. Fog
 - 5.6. Other (with space given to specify)
6. What was the approximate time of the day of the collision?
 - 6.1. 12 am to 7 am

- 6.2. 7 am to 9 am
- 6.3. 9 am to 11 am
- 6.4. 11 am to 1 pm
- 6.5. 1 pm to 4 pm
- 6.6. 4 pm to 6 pm
- 6.7. 6 pm to 12 pm
- 6.8. I don't remember
- 7. To what degree was the collision influenced by construction activities nearby (of road or adjacent building)?
 - 7.1. There was no construction in the vicinity of the collision
 - 7.2. Significantly influenced
 - 7.3. Somewhat influenced
 - 7.4. Very little influence
 - 7.5. No influence at all
- 8. What was your mode of transportation at the time of collision?
 - 8.1. I was driving/riding in a motor vehicle (car/bus etc.)
 - 8.2. I was driving/riding on a motorcycle
 - 8.3. I was riding a bicycle
 - 8.4. I was on foot
 - 8.5. Other (with space given to specify)
- 9. Who/what else was involved in the collision?
 - 9.1. Motor vehicle (car/bus etc.)
 - 9.2. Motorcycle
 - 9.3. Bicycle
 - 9.4. Pedestrian
 - 9.5. Only my motor vehicle was involved in the collision
 - 9.6. Other (with space given to specify)
- 10. What do you think was (were) the main cause(s) of the collision?

Options (1-12) are shown to a respondent who chooses to report a collision between two motor vehicles

- 10.1. Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection
- 10.2. Motor vehicle(s) was (were) following too closely to each other
- 10.3. Motor vehicle didn't stay in the same lane
- 10.4. Left turning motor vehicle didn't yield to through traffic
- 10.5. Motor vehicle(s) was (were) speeding
- 10.6. Motor vehicle travelling on the wrong lane
- 10.7. Vehicle(s) had a mechanical failure and lost control
- 10.8. Traffic signal malfunction caused the collision
- 10.9. View of the driver was obstructed by fixed object on the road
- 10.10. View of the driver was obstructed by corner of the building
- 10.11. The location was not well lit which caused the collision
- 10.12. Other (with space given to specify)

Options (13-32) are shown to a respondent who chooses to report a collision between a motor vehicle and a motorcycle.

- 10.13. Motor vehicle didn't stop at stop sign or ran the red light at intersection
- 10.14. Motorcycle didn't stop at stop sign or ran the red light at intersection
- 10.15. Vehicle(s) was (were) following too closely
- 10.16. Motor vehicle didn't stay in its lane
- 10.17. Motorcycle didn't stay in its lane
- 10.18. Left turning motor vehicle didn't yield to through traffic
- 10.19. Left turning motorcycle didn't yield to through traffic
- 10.20. Motor vehicle was speeding
- 10.21. Motorcycle was speeding
- 10.22. Motor vehicle travelling on the wrong side of the road
- 10.23. Motorcycle was travelling on the wrong side of the road
- 10.24. Motor vehicle had a mechanical failure and lost control
- 10.25. Motorcycle had a mechanical failure and lost control
- 10.26. Traffic signal malfunction caused the collision
- 10.27. View of the motor vehicle driver was obstructed by fixed object on the road
- 10.28. View of the motor vehicle driver was obstructed by corner of the building
- 10.29. View of the motorcycle driver was obstructed by fixed object on the road
- 10.30. View of the motorcycle driver was obstructed by corner of the building
- 10.31. The location was not well lit which caused the collision
- 10.32. Other (with space given to specify)

Options (33-52) are shown to a respondent who chooses to report a collision between a motor vehicle and a bicycle.

- 10.33. Motor vehicle was pulling into or coming out of driveway and collided with bicycle
- 10.34. Motor vehicle didn't stop at stop sign/red light at intersection
- 10.35. Bicycle didn't stop at stop sign/red light at intersection
- 10.36. Bicycle was struck from behind by an over taking motor vehicle
- 10.37. Left turning motor vehicle didn't yield to bicycle
- 10.38. Left turning bicycle didn't yield to motor vehicle
- 10.39. Right turning motor vehicle didn't yield to bicycle
- 10.40. Speeding vehicle
- 10.41. Parked vehicle abruptly opened its door causing bicycle to collide with it
- 10.42. Motor vehicle was travelling on wrong side of road
- 10.43. Bicycle was travelling on wrong side of road
- 10.44. Vehicle had a mechanical failure and lost control
- 10.45. Bicycle had a mechanical failure and lost control
- 10.46. Traffic signal malfunction caused the collision
- 10.47. View of the motor vehicle driver was obstructed by fixed object on the road
- 10.48. View of the motor vehicle driver was obstructed by corner of the building
- 10.49. View of the bicyclist was obstructed by fixed object on the road
- 10.50. View of the bicyclist was obstructed by corner of the building

- 10.51. The location was not well lit which caused the collision
- 10.52. Other (with space given to specify)

Options (53-66) are shown to a respondent who chooses to report a collision between a motor vehicle and a pedestrian.

- 10.53. Motor Vehicle didn't stop at stop sign/red light at intersection
- 10.54. Left turning motor vehicle violated "WALK/DON'T WALK" signal
- 10.55. Right turning motor vehicle violated "WALK/DON'T WALK" signal
- 10.56. Pedestrian was jaywalking
- 10.57. Pedestrian darted on to the roadway
- 10.58. Pedestrian was walking in front of stopped bus
- 10.59. Motor vehicle was backing up when it collided with pedestrian
- 10.60. Motor vehicle was speeding
- 10.61. Motor vehicle had a mechanical failure and lost control
- 10.62. Traffic signal malfunction caused the collision
- 10.63. View of the driver was obstructed by fixed object on the road
- 10.64. View of the driver was obstructed by corner of the building
- 10.65. The location was not well lit which caused the collision
- 10.66. Other (with space given to specify)

Options (67-75) are shown to a respondent who chooses to report a collision involving a single motor vehicle.

- 10.67. Driver failed to properly control the motor vehicle
- 10.68. Speeding motor vehicle collided with fixed object on road
- 10.69. Motor vehicle tire tripped on object on road
- 10.70. Motor vehicle had a mechanical failure and lost control
- 10.71. Traffic signal malfunction caused the collision
- 10.72. View of the driver was obstructed by fixed object on the road
- 10.73. View of the driver was obstructed by corner of the building
- 10.74. The location was not well lit which caused the collision
- 10.75. Other (with space given to specify)

Options (76-85) are shown to a respondent who chooses to report a collision involving two motorcycles.

- 10.76. Motorcycle(s) didn't stop at red light/stop sign at intersection
- 10.77. Left turning motorcycle didn't yield to through traffic
- 10.78. Motorcycle was travelling on wrong lane
- 10.79. Motorcycle was speeding
- 10.80. Motorcycle had a mechanical failure and lost control
- 10.81. Traffic signal malfunction caused the collision
- 10.82. View of the driver was obstructed by fixed object on the road
- 10.83. View of the driver was obstructed by corner of the building
- 10.84. The location was not well lit which caused the collision

10.85. Other (with space given to specify)

Options (86-98) are shown to a respondent who chooses to report a collision involving a motorcycle and a bicycle.

- 10.86. Bicycle didn't stop at red light/stop sign at intersection
- 10.87. Motorcycle didn't stop at red light/stop sign at intersection
- 10.88. Left turning motorcycle violated the "WALK/DON'T WALK" sign
- 10.89. Right turning motorcycle violated the "WALK/DON'T WALK" sign
- 10.90. Bicycle had a mechanical failure and lost control
- 10.91. Motorcycle had a mechanical failure and lost control
- 10.92. Traffic signal malfunction caused the collision
- 10.93. View of the motorcycle driver was obstructed by fixed object on the road
- 10.94. View of the motorcycle driver was obstructed by corner of the building
- 10.95. View of the bicyclist was obstructed by fixed object on the road
- 10.96. View of the bicyclist was obstructed by corner of the building
- 10.97. The location was not well lit which caused the collision
- 10.98. Other (with space given to specify)

Options (99-111) are shown to a respondent who chooses to report a collision involving a motorcycle and a pedestrian.

- 10.99. Motorcycle didn't stop at stop sign/red light at intersection
- 10.100. Left turning motorcycle violated "WALK/DON'T WALK" signal
- 10.101. Right turning motorcycle violated "WALK/DON'T WALK" signal
- 10.102. Pedestrian was jaywalking
- 10.103. Pedestrian darted on to the roadway
- 10.104. Pedestrian was walking in front of stopped bus
- 10.105. Speeding motorcycle
- 10.106. Motorcycle had a mechanical failure and lost control
- 10.107. Traffic signal malfunction caused the collision
- 10.108. View of the driver was obstructed by fixed object on the road
- 10.109. View of the driver was obstructed by corner of the building
- 10.110. The location was not well lit which caused the collision
- 10.111. Other (with space given to specify)

Options (112-120) are shown to a respondent who chooses to report a collision involving a single motorcycle.

- 10.112. Motor cyclist failed to properly control the motorcycle
- 10.113. Speeding motorcycle collided with a fixed object on road
- 10.114. Motorcycle tripped on object on road and lost control
- 10.115. Motorcycle had a mechanical failure and lost control
- 10.116. Traffic signal malfunction caused the collision
- 10.117. View of the driver was obstructed by fixed object on the road
- 10.118. View of the driver was obstructed by corner of the building

- 10.119. The location was not well lit which caused the collision
- 10.120. Other (with space given to specify)

Options (121-129) are shown to a respondent who chooses to report a collision involving two bicycles.

- 10.121. Bicycle(s) didn't stop at red light/stop sign at intersection
- 10.122. Left turning bicycle violated the "WALK/DON'T WALK" sign
- 10.123. Right turning bicycle violated the "WALK/DON'T WALK" sign
- 10.124. Bicycle had a mechanical failure and lost control
- 10.125. Traffic signal malfunction caused the collision
- 10.126. View of the bicyclist was obstructed by fixed object on the road
- 10.127. View of the bicyclist was obstructed by corner of the building
- 10.128. The location was not well lit which caused the collision
- 10.129. Other (with space given to specify)

Options (130-141) are shown to a respondent who chooses to report a collision involving a bicycle and a pedestrian.

- 10.130. Pedestrian darted on to bicycle lane
- 10.131. Pedestrian was jaywalking
- 10.132. Bicycle was riding on sidewalk for pedestrian
- 10.133. Bicycle was riding on crosswalk in parallel with pedestrian
- 10.134. Left turning bicycle violated the "WALK/DON'T WALK" sign
- 10.135. Right turning bicycle violated the "WALK/DON'T WALK" sign
- 10.136. Bicycle had a mechanical failure and lost control
- 10.137. Traffic signal malfunction caused the collision
- 10.138. View of the bicyclist was obstructed by fixed object on the road
- 10.139. View of the bicyclist was obstructed by corner of the building
- 10.140. The location was not well lit which caused the collision
- 10.141. Other (with space given to specify)

Options (142-150) are shown to a respondent who chooses to report a collision involving a single bicycle.

- 10.142. Bicyclist failed to properly control the bicycle
- 10.143. Speeding bicycle collided with a fixed object on road
- 10.144. Bicycle tripped on object on road and lost control
- 10.145. Bicycle had a mechanical failure and lost control
- 10.146. Traffic signal malfunction caused the collision
- 10.147. View of the bicyclist was obstructed by fixed object on the road
- 10.148. View of the bicyclist was obstructed by corner of the building
- 10.149. The location was not well lit which caused the collision
- 10.150. Other (with space given to specify)

11. Additional comments about the reported collision?

B. NEAR MISS LOCATIONS

Questions 12-17 are questions shown to a respondent who chooses to report a near miss.

12. What was the weather condition at the time of the near miss?
 - 12.1. Sunny/clear
 - 12.2. Cloudy
 - 12.3. Rain
 - 12.4. Snow
 - 12.5. Fog
 - 12.6. Other (with space given to specify)
13. What was the approximate time of the day of the collision?
 - 13.1. 12 am to 7 am
 - 13.2. 7 am to 9 am
 - 13.3. 9 am to 11 am
 - 13.4. 11 am to 1 pm
 - 13.5. 1 pm to 4 pm
 - 13.6. 4 pm to 6 pm
 - 13.7. 6 pm to 12 pm
 - 13.8. I don't remember
14. To what degree was the near miss influenced by construction activities nearby (of road or adjacent building)?
 - 14.1. There was no construction in the vicinity of the near miss
 - 14.2. Significantly influenced
 - 14.3. Somewhat influenced
 - 14.4. Very little influence
 - 14.5. No influence at all
15. What was your mode of transportation at the time of near miss?
 - 15.1. I was driving/riding in a motor vehicle (car/bus etc.)
 - 15.2. I was driving/riding on a motorcycle
 - 15.3. I was riding a bicycle
 - 15.4. I was on foot
 - 15.5. Other (with space given to specify)
16. Who/what else was involved in the near miss?
 - 16.1. Motor vehicle (car/bus etc.)
 - 16.2. Motorcycle
 - 16.3. Bicycle
 - 16.4. Pedestrian
 - 16.5. Only my motor vehicle was involved in the near miss
 - 16.6. Other (with space given to specify)
17. What do you think was (were) the main cause(s) of the near miss?

Options (1-12) are shown to a respondent who chooses to report a near miss between two motor vehicles

- 17.1. Motor vehicle(s) didn't stop at stop sign or ran the red light at intersection
- 17.2. Motor vehicle(s) was (were) following too closely to each other
- 17.3. Motor vehicle didn't stay in the same lane
- 17.4. Left turning motor vehicle didn't yield to through traffic
- 17.5. Motor vehicles were speeding
- 17.6. Motor vehicle travelling on the wrong lane
- 17.7. Vehicle(s) had a mechanical failure and lost control
- 17.8. Traffic signal malfunction caused the near miss
- 17.9. View of the driver was obstructed by fixed object on the road
- 17.10. View of the driver was obstructed by corner of the building
- 17.11. The location was not well lit which caused the near miss
- 17.12. Other (with space given to specify)

Options (13-32) are shown to a respondent who chooses to report a near miss between a motor vehicle and a motorcycle.

- 17.13. Motor vehicle didn't stop at stop sign or ran the red light at intersection
- 17.14. Motorcycle didn't stop at stop sign or ran the red light at intersection
- 17.15. Vehicle(s) was (were) following too closely
- 17.16. Motor vehicle didn't stay in its lane
- 17.17. Motorcycle didn't stay in its lane
- 17.18. Left turning motor vehicle didn't yield to through traffic
- 17.19. Left turning motorcycle didn't yield to through traffic
- 17.20. Motor vehicle was speeding
- 17.21. Motorcycle was speeding
- 17.22. Motor vehicle travelling on the wrong side of the road
- 17.23. Motorcycle was travelling on the wrong side of the road
- 17.24. Motor vehicle had a mechanical failure and lost control
- 17.25. Motorcycle had a mechanical failure and lost control
- 17.26. Traffic signal malfunction caused the near miss
- 17.27. View of the motor vehicle driver was obstructed by fixed object on the road
- 17.28. View of the motor vehicle driver was obstructed by corner of the building
- 17.29. View of the motorcycle driver was obstructed by fixed object on the road
- 17.30. View of the motorcycle driver was obstructed by corner of the building
- 17.31. The location was not well lit which caused the near miss
- 17.32. Other (with space given to specify)

Options (33-52) are shown to a respondent who chooses to report a near miss between a motor vehicle and a bicycle.

- 17.33. Motor vehicle was pulling into or coming out of driveway
- 17.34. Motor vehicle didn't stop at stop sign/red light at intersection
- 17.35. Bicycle didn't stop at stop sign/red light at intersection

- 17.36. Bicycle was struck from behind by an over taking motor vehicle
- 17.37. Left turning motor vehicle didn't yield to bicycle
- 17.38. Left turning bicycle didn't yield to motor vehicle
- 17.39. Right turning motor vehicle didn't yield to bicycle
- 17.40. Speeding vehicle
- 17.41. Parked vehicle abruptly opened its door
- 17.42. Motor vehicle was travelling on wrong side of road
- 17.43. Bicycle was travelling on wrong side of road
- 17.44. Vehicle had a mechanical failure and lost control
- 17.45. Bicycle had a mechanical failure and lost control
- 17.46. Traffic signal malfunction caused the near miss
- 17.47. View of the motor vehicle driver was obstructed by fixed object on the road
- 17.48. View of the motor vehicle driver was obstructed by corner of the building
- 17.49. View of the bicyclist was obstructed by fixed object on the road
- 17.50. View of the bicyclist was obstructed by corner of the building
- 17.51. The location was not well lit which caused the near miss
- 17.52. Other (with space given to specify)

Options (53-66) are shown to a respondent who chooses to report a near miss between a motor vehicle and a pedestrian.

- 17.53. Motor Vehicle didn't stop at stop sign/red light at intersection
- 17.54. Left turning motor vehicle violated "WALK/DON'T WALK" signal
- 17.55. Right turning motor vehicle violated "WALK/DON'T WALK" signal
- 17.56. Pedestrian was jaywalking
- 17.57. Pedestrian darted on to the roadway
- 17.58. Pedestrian was walking in front of stopped bus
- 17.59. Motor vehicle was backing up when it nearly missed colliding with pedestrian
- 17.60. Motor vehicle was speeding
- 17.61. Motor vehicle had a mechanical failure and lost control
- 17.62. Traffic signal malfunction caused the near miss
- 17.63. View of the driver was obstructed by fixed object on the road
- 17.64. View of the driver was obstructed by corner of the building
- 17.65. The location was not well lit which caused the near miss
- 17.66. Other (with space given to specify)

Options (67-75) are shown to a respondent who chooses to report a near miss involving a single motor vehicle.

- 17.67. Driver failed to properly control the motor vehicle
- 17.68. Motor vehicle was speeding
- 17.69. Motor vehicle tire tripped on object on road
- 17.70. Motor vehicle had a mechanical failure and lost control
- 17.71. Traffic signal malfunction caused the near miss
- 17.72. View of the driver was obstructed by fixed object on the road
- 17.73. View of the driver was obstructed by corner of the building

- 17.74. The location was not well lit which caused the near miss
- 17.75. Other (with space given to specify)

Options (76-85) are shown to a respondent who chooses to report a near miss involving two motorcycles.

- 17.76. Motorcycle(s) didn't stop at red light/stop sign at intersection
- 17.77. Left turning motorcycle didn't yield to through traffic
- 17.78. Motorcycle was travelling on wrong lane
- 17.79. Motorcycle was speeding
- 17.80. Motorcycle had a mechanical failure and lost control
- 17.81. Traffic signal malfunction caused the near miss
- 17.82. View of the driver was obstructed by fixed object on the road
- 17.83. View of the driver was obstructed by corner of the building
- 17.84. The location was not well lit which caused the near miss
- 17.85. Other (with space given to specify)

Options (89-98) are shown to a respondent who chooses to report a near miss involving a motorcycle and a bicycle.

- 17.86. Bicycle didn't stop at red light/stop sign at intersection
- 17.87. Motorcycle didn't stop at red light/stop sign at intersection
- 17.88. Left turning motorcycle violated the "WALK/DON'T WALK" sign
- 17.89. Right turning motorcycle violated the "WALK/DON'T WALK" sign
- 17.90. Bicycle had a mechanical failure and lost control
- 17.91. Motorcycle had a mechanical failure and lost control
- 17.92. Traffic signal malfunction caused the near miss
- 17.93. View of the motorcycle driver was obstructed by fixed object on the road
- 17.94. View of the motorcycle driver was obstructed by corner of the building
- 17.95. View of the bicyclist was obstructed by fixed object on the road
- 17.96. View of the bicyclist was obstructed by corner of the building
- 17.97. The location was not well lit which caused the near miss
- 17.98. Other (with space given to specify)

Options (99-111) are shown to a respondent who chooses to report a near miss involving a motorcycle and a pedestrian.

- 17.99. Motorcycle didn't stop at stop sign/red light at intersection
- 17.100. Left turning motorcycle violated "WALK/DON'T WALK" signal
- 17.101. Right turning motorcycle violated "WALK/DON'T WALK" signal
- 17.102. Pedestrian was jaywalking
- 17.103. Pedestrian darted on to the roadway
- 17.104. Pedestrian was walking in front of stopped bus
- 17.105. Speeding motorcycle
- 17.106. Motorcycle had a mechanical failure and lost control
- 17.107. Traffic signal malfunction caused the near miss

- 17.108. View of the driver was obstructed by fixed object on the road
- 17.109. View of the driver was obstructed by corner of the building
- 17.110. The location was not well lit which caused the near miss
- 17.111. Other (with space given to specify)

Options (112-120) are shown to a respondent who chooses to report a near miss involving a single motorcycle.

- 17.112. Motor cyclist failed to properly control the motorcycle
- 17.113. Speeding motorcycle nearly missed colliding with a fixed object on road
- 17.114. Motorcycle tripped on object on road and lost control
- 17.115. Motorcycle had a mechanical failure and lost control
- 17.116. Traffic signal malfunction caused the near miss
- 17.117. View of the driver was obstructed by fixed object on the road
- 17.118. View of the driver was obstructed by corner of the building
- 17.119. The location was not well lit which caused the near miss
- 17.120. Other (with space given to specify)

Options (121-129) are shown to a respondent who chooses to report a near miss involving two bicycles.

- 17.121. Bicycle(s) didn't stop at red light/stop sign at intersection
- 17.122. Left turning bicycle violated the "WALK/DON'T WALK" sign
- 17.123. Right turning bicycle violated the "WALK/DON'T WALK" sign
- 17.124. Bicycle had a mechanical failure and lost control
- 17.125. Traffic signal malfunction caused the near miss
- 17.126. View of the bicyclist was obstructed by fixed object on the road
- 17.127. View of the bicyclist was obstructed by corner of the building
- 17.128. The location was not well lit which caused the near miss
- 17.129. Other (with space given to specify)

Options (130-141) are shown to a respondent who chooses to report a near miss involving a bicycle and a pedestrian.

- 17.130. Pedestrian darted on to bicycle lane
- 17.131. Pedestrian was jaywalking
- 17.132. Bicycle was riding on sidewalk for pedestrian
- 17.133. Bicycle was riding on crosswalk in parallel with pedestrian
- 17.134. Left turning bicycle violated the "WALK/DON'T WALK" sign
- 17.135. Right turning bicycle violated the "WALK/DON'T WALK" sign
- 17.136. Bicycle had a mechanical failure and lost control
- 17.137. Traffic signal malfunction caused the near miss
- 17.138. View of the bicyclist was obstructed by fixed object on the road
- 17.139. View of the bicyclist was obstructed by corner of the building
- 17.140. The location was not well lit which caused the near miss
- 17.141. Other (with space given to specify)

Options (142-150) are shown to a respondent who chooses to report a near miss involving a single bicycle.

- 17.142. Bicyclist failed to properly control the bicycle
- 17.143. Speeding bicycle nearly missed colliding with a fixed object on road
- 17.144. Bicycle tripped on object on road and lost control
- 17.145. Bicycle had a mechanical failure and lost control
- 17.146. Traffic signal malfunction caused the near miss
- 17.147. View of the bicyclist was obstructed by fixed object on the road
- 17.148. View of the bicyclist was obstructed by corner of the building
- 17.149. The location was not well lit which caused the near miss
- 17.150. Other (with space given to specify)

C. PROBLEMATIC LOCATIONS

Questions 18-20 are questions shown to a respondent who chooses to report a problematic location.

18. How would you rate the effect of construction activity (on road or adjacent buildings) on the safety of the location?

- 18.1. Significantly effects
- 18.2. Somewhat effects
- 18.3. Very little effect
- 18.4. No effect
- 18.5. There was no construction in the vicinity of the location

19. What is your main concern about this location?

- 19.1. Traffic signal malfunction
- 19.2. The driver's view was obstructed by fixed object on the road
- 19.3. The driver's view was obstructed by corner of the building
- 19.4. People are not using the pedestrian crossing and cross the street in midblock
- 19.5. No marked crosswalk at the intersection
- 19.6. No "WALK/DON'T WALK" signal at intersection
- 19.7. Vehicles do not yield to pedestrian
- 19.8. Bicycles do not yield to pedestrian
- 19.9. Vehicles often do not yield to bicycle
- 19.10. Vehicles often ignore stop sign
- 19.11. Bicycles often ignore stop sign
- 19.12. No wheelchair ramps on site
- 19.13. Location not well lit at night
- 19.14. Other (with space given to specify)

20. Additional comments about the problematic location