

HOT SPOTS OF CRIME: SEASONAL PATTERNING OF CAMPUS CRIME

by

Karen Zahid Armenta Rojas



A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Arts in Criminal Justice

Boise State University

May 2020

© 2020

Karen Zahid Armenta Rojas

ALL RIGHTS RESERVED

BOISE STATE UNIVERSITY GRADUATE COLLEGE

DEFENSE COMMITTEE AND FINAL READING APPROVALS

of the thesis submitted by

Karen Zahid Armenta Rojas

Thesis Title: Hot Spots of Crime: Patterning of Campus Crime

Date of Final Oral Examination: 17 April 2020

The following individuals read and discussed the thesis submitted by student Karen Zahid Armenta Rojas, and they evaluated their presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

Jessica Wells, Ph.D. Chair, Supervisory Committee

J. Cody Jorgensen, Ph.D. Member, Supervisory Committee

William R. King, Ph.D. Member, Supervisory Committee

The final reading approval of the thesis was granted by Jessica Wells, Ph.D., Chair of the Supervisory Committee. The thesis was approved by the Graduate College.

DEDICATION

Para todos los ángeles que me acompañaron en este viaje y a mis padres: Joel Armenta Valenzuela y Rocío Rojas Ramírez.

ACKNOWLEDGMENTS

I cannot find enough words to thank everyone who has helped me with this journey. To my family for showing me their support, financially, physically, or emotionally, through the years, even if we are only 1,518 km apart. To my family, thank you! Thank you for the unconditional support of my parents who have pushed me to follow my dreams regardless of the adversities and obstacles that we had to overcome. To my sister, Michelle, thank you for your kind words and preparing my meals while deadlines were just around the corner. Moreover, to my friends whose endless understanding, coffee deliveries, midnight snacks, and kind words that made it possible.

This journey would have not been the same without the help, support, and friendship of Stephanie Moran and Sheena Gilbert who made the long days and nights full of stress be exchange by those with smiles. Moreover, thank you to the Boise State University Department of Criminal Justice graduate faculty who made the experience a wonderful one.

In addition, I would like to especially thank those who served on my committee. It has been an honor to work with such amazing people with such bright minds. Without their advice and proper guidance, I would have been lost. My most sincere gratitude to my committee chair, Dr. Jessica Wells for always being there beyond office hours to guide me through this project and introduced me to a field of study that I grew to become passionate for. To Dr. Cody Jorgensen, for guiding me through my undergrad

into graduate school and to Dr. William King for being part of this journey and helping me meet my finish line.

Above all, thank God for giving me the strength and wisdom to finish this journey.

ABSTRACT

Provisions of the Clery Act require institutional reporting of crime on college campuses. Using the Clery Act data from Boise State University in Boise, Idaho, this study examines crime type fluctuation through seasonal patterns using a hot spot analysis. The data are mapped to identify geospatial patterns of crime through the seasons. This study investigates if certain crime types peak depending on the season and if the introduction of resident housing locations shift hot spots around campus using 2012-2018 Boise State Crime Logs. Results illustrate varying patterns of crime on campus through the seasons but general stability in the spatial distribution of crime. These findings may help allocate resources for campus safety most effectively across seasons.

TABLE OF CONTENTS

DEDICATION	iv
ACKNOWLEDGMENTS	v
ABSTRACT.....	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS.....	xiii
CHAPTER ONE: INTRODUCTION.....	1
CHAPTER TWO: REVIEW OF LITERATURE.....	3
Routine Activity Theory	3
Routine Activity Theory and Criminal Offenses	8
Alcohol-related offenses	8
Sex Crimes	9
Property and Violent Crimes	13
Seasonal Patterns	15
Hot Spots.....	17
Hot Spots Analysis & Campus Crimes.....	20
Current Study	21
CHAPTER THREE: METHODS	23
Setting	23

Data.....	24
Seasonal Coding and Geoprocessing.....	25
Data Cleaning and Frequencies.....	28
Statistical Analysis.....	32
CHAPTER FOUR: ANALYSIS & RESULTS.....	34
Crime Types.....	34
Seasonal Kernel Densities.....	39
Yearly Kernel Densities.....	80
Summary of Findings.....	86
CHAPTER FIVE: LIMITATIONS.....	90
CHAPTER SIX: DISCUSSION AND CONCLUSION.....	94
REFERENCES.....	99
APPENDIX A.....	106
APPENDIX B.....	121

LIST OF TABLES

Table 1.	Number of Reported Crimes by 2012-2018 at Boise State University.....	26
----------	---	----

LIST OF FIGURES

Figure 1.	2012-2018 Study Area	39
Figure 2.	2012 Hot Spots.....	41
Figure 3.	Fall of 2012 (September-November) Hot Spots	42
Figure 4.	Spring of 2012 (December-February) Hot Spots.....	44
Figure 5.	Winter of 2012 (December-February) Hot Spots	45
Figure 6.	Summer of 2012(June-August) Hot Spots	46
Figure 7.	2013 Hot Spots.....	47
Figure 8.	Fall of 2013 (September-November) Hot Spots	48
Figure 9.	Spring of 2013 (March-May) Hot Spots	49
Figure 10.	Winter of 2013 (December-February) Hot Spots	50
Figure 11.	Summer of 2013 (June-August) Hot Spots.....	51
Figure 12.	2014 Hot Spots.....	52
Figure 13.	Fall of 2014 (September-November) Hot Spots	53
Figure 14.	Spring of 2014 (March-May) Hot Spots.....	54
Figure 15.	Winter of 2014 (December-February) Hot Spots	55
Figure 16.	Summer of 2014 (June-August) Hot Spots.....	56
Figure 17.	2015 Hot Spots.....	57
Figure 18.	Fall of 2015 (September-November) Hot Spots	58
Figure 19.	Spring of 2015 (March-May) Hot Spots.....	59
Figure 20.	Winter of 2015 (December-February) Hot Spots	60

Figure 21.	Summer of 2015 (June-August) Hot Spots.....	61
Figure 22.	2016 Hot Spots.....	62
Figure 23.	Fall of 2016 (September-November) Hot Spots.....	63
Figure 24.	Spring of 2016 (March-May) Hot Spots.....	65
Figure 25.	Winter of 2016 (December-February) Hot Spots.....	66
Figure 26.	Summer of 2016 (June-August) Hot Spots.....	68
Figure 27.	2017 Hot Spots.....	69
Figure 28.	Fall of 2017 (September-November) Hot Spots.....	70
Figure 29.	Spring of 2017 (March-May) Hot Spots.....	71
Figure 30.	Winter of 2017 (December-February) Hot Spots.....	72
Figure 31.	Summer of 2017 (June-August) Hot Spots.....	74
Figure 32.	2018 Hot Spots.....	75
Figure 33.	Fall of 2018 (September-November) Hot Spots.....	76
Figure 34.	Spring of 2018 (March-May) Hot Spots.....	77
Figure 35.	Winter of 2018 (December-February) Hot Spots.....	78
Figure 36.	Summer of 2018 (June-August) Hot Spots.....	79
Figure 37.	2012-2018 Hot Spots.....	80
Figure 38.	Fall 2012-2018 Hot Spots.....	82
Figure 39.	Spring 2012-2018 Hot Spots.....	83
Figure 40.	Winter 2012-2018 Hot Spots.....	84
Figure 41.	Summer 2012-2018 Hot Spots.....	85

LIST OF ABBREVIATIONS

U.S.	United States
BSU	Boise State University
GIS	Geographic Information System
NISVS	National Intimate Partner and Sexual Violence Survey
LGBTQ+	Lesbian, gay, bisexual, transgender, queer, and questioning
PAI	Prediction Accuracy Index
BPD	Boise Police Department
.csv	Comma-separated values Keyhole Markup Language
.kml	Keyhole Markup Language
RA _s	Resident Assistants
SD	Standard Deviation
DKMT	Driscoll, Keiser, Morrison, and Taylor
WNW	West-North West
SSE	South-South-East
ILC	Interactive Learning Center
ERB	Environmental Research Building
SUB	Student Union Building
SMASH	Simplot Micron Advising & Success Hub
HRL	Housing & Residence Life
MBEB	Micron Business and Economics Building

SPEC

Special Event Center

CHAPTER ONE: INTRODUCTION

Throughout recent decades, campus safety has come under scrutiny by media coverage. Media coverage of campus crimes depicts crime trends rising, including violent victimization; however, school and post-secondary campuses are relatively safe places (2017 NCVRW Resource Guide: School and Campus Crime Fact Sheets, 2017; Bethune, 2016). After the media coverage of *The New York Times* regarding the United States (U.S.) Secretary of Education Betsy D. DeVos new proposed Title IX rule in November of 2018, rules and regulations regarding campus safety are being revisited (Green, 2018). In addition to the media coverage and political attention to campus safety, Title IX holds universities and post-secondary campuses that receive federal funding accountable for disclosing crimes that have occurred at the institution and near the institution.

Access to campus crime data has been made possible by the Crime Awareness and Campus Security Act and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, also known as the Clery Act. Policies and practices around higher education have aided in providing campus safety with resources to reduce the risk of victimization on campus. Despite the rising number of students enrolling in higher education each academic year, there is still a lack of understanding of patterns of campus victimization, including factors such as seasonality of campus crime on university campuses.

Routine activity theory has been used to understand the spatial distribution and seasonal patterns of crime. Through the use of routine activity theory, scholars have been

able to understand the connection between crime and seasonality in neighborhoods through examining patterns of land use (Sorg & Taylor, 2011). They have tested the spatial stability of crime patterns across different seasons (Andresen and Malleson, 2013). Andresen and Malleson (2013) found that all crime types exhibit seasonality but that patterns vary by crime type. There is a substantial body of research using routine activity theoretical framework to investigate, explain, and understand the spatial distribution and seasonal patterns of crime in cities. Depending on the year and season, routine activities change, causing changes in the spatial distribution and seasonal patterns. In this study, routine activity theory is used as a framework to explain and understand the spatial distribution and seasonal patterns of crime at Boise State University (BSU) using Clery Act crime incident data.

CHAPTER TWO: REVIEW OF LITERATURE

Routine Activity Theory

Routine activity theory argues that crime is likely to occur when three essential elements of crime converge in *space* and *time*: (1) a likely offender, (2) a suitable target, and (3) the absence of capable guardianship (Cohen & Felson, 1979, 2003). A likely offender is anyone with an inclination to commit a crime (Cohen & Felson, 1979, 2003). Routine activity theory does not “examine why individuals or groups are inclined criminally, but rather take[s] criminal inclination as given and examine[s] how the spatio-temporal organization of social activities helps people to translate their criminal inclinations into action” (Cohen & Felson, 2003, p. 285). A suitable target can vary from a person to an object (Cohen & Felson, 1979). A likely offender then considers how easy the target is and, in some cases, the value of the object (Cohen & Felson, 1979; Tewksbury & Mustaine, 1998, 2003).

After the likely offender has a suitable target, a capable guardian prevents the convergence in space and time of a likely offender and target that would result in a criminal event. When potential offenders, suitable targets, and a lack of capable guardianship converge, the likelihood of a criminal event increases (Tewksbury & Mustaine, 2003; Cohen & Felson, 1979). Guardianship exists at both the formal (i.e., official and institutional) and informal (i.e., personal behavior) levels (Tewksbury & Mustaine, 2003).

Hollis, Felson, and Welsh (2013) examined the absence of capable guardianship as a central element to routine activity theory. Hollis et al. (2013) attempted to redefine the concept of guardianship in routine activity theory by expanding on Felson's (1987) and Eck's (1994) work, which broadened the concept of guardianship to handlers and place managers. According to Hollis et al. (2013), handlers are those who look after potential offenders to keep them out of trouble and place managers are those who look after places to keep them secure from intruders. The role of guardianship in convergence with a target and a motivator offender should then prevent crime from happening. Through the routine activity theory, the presence of a capable guardian is seen as a deterrent for criminal events from happening.

Routine activity theory has consistently shown that victimizations are not randomly distributed in society (Cohen & Felson, 1979; Mustaine & Tewksbury, 1998). Rather, victimization incidents tend to be associated with a person's lifestyle and social activities. Through a routine activity framework, an understanding of crime patterning can be gained by examining variation in the convergence of suitable targets, likely offenders and the lack of capable guardianship in space and time.

Regarding a likely offender, Moffitt's (1993) dual taxonomy suggests that when official rates of crime are plotted against age, the rates for both prevalence and incidence of offending appear highest during adolescence; they peak sharply at about age 17 and drop in young adulthood. Through her literature, Moffitt (1993) describes the steep decline in antisocial behavior between ages 17 and 30, approximately the age that traditional and some non-traditional students attend college, mirrored by a steep incline in antisocial behavior between ages 7 and 17. According to Steffensmeier, Allan, Harer, and

Streifel (1989), there is a variation by crime type when the age-crime statistics for 1980 are examined. Steffensmeier et al. (1989) assert that the most significant change has been the increasing concentration of offending among the young, which suggests the increasing discontinuity in the transition from adolescence to adulthood in modern times. They found variations in the age distribution for different crime types support the traditional sociological view that, although crime rates typically decline throughout life after the initial rise in adolescence, offending patterns for certain crime types may peak later, decline more slowly, or both (Steffensmeier et al., 1989).

Moreover, Steffensmeier et al. (1989) described that since the motivation and the opportunity for different kinds of crime are age-related, it is not plausible to expect every offense category to follow a pattern of early peak age and rapid decline. A likely offender may use certain characteristics in determining the suitability of the target(s) by accessing the difficulty in acquiring or leaving with their suitable target. Depending on the crime, a target's ability to guard itself may play a role in determining suitability as fear of target escaping can deter a likely offender from going after such a target.

Mustaine and Tewksbury (1998) state that routine activity theory lacks independent measures of the lifestyles in question and substitutes presumed demographic correlates for them. Studies have illustrated how routine activity theory research has been forced by a lack of data to rely on interpretations of demographic variables as generalizations for lifestyles (Mustaine & Tewksbury, 1998). This indirect measure of individual lifestyles has led to assumptions and presumed generalizations, such as the importance of marital status or sex (Mustaine & Tewksbury, 1998), which can lead to erroneous assumptions of the importance of home-centered activities or properties.

Mustaine and Tewksbury (1998) discuss the importance of looking directly at measures of lifestyle and social activities to predict victimization when assessing routine activity theory.

Although research has primarily been focused on cities at large, campuses present a useful setting to study routine activity theory and spatial-temporal crime distribution. Unlike the boundaries of nation-states and cities, campuses can provide information on aspects of crime pattern theory and routine activity theory by examining crime events nested within universities that can more closely approximate variation in the risk of victimization across space and time.

Universities are suitable for assessing clustering of various types of crimes, as individuals may not be actively guarding their peers' belongings or their peers. As crime generators and crime attractors, campuses bring together likely offenders and suitable targets for non-criminal activities in time and space, increasing the opportunity for criminal activity to happen (LaRue & Andresen, 2015). For instance, universities generate and attract crime by bringing students, staff, and community members together as likely offenders and suitable targets during non-criminal activities such as hosting games, concerts, or events (e.g., Greek life), in time and space, increasing the opportunity for criminal activity to occur. Conversely, universities contribute to the increase of people traveling home and away from their campus dorms/apartments during certain times in the academic year, reducing the level of guardianship. As such, they contribute to attracting likely offenders and targets together in space and time.

Examining the theoretical framework of student routine activities, Popp and Peguero (2011) explain that likely offenders perceive students as suitable targets. This

perception is shaped by the level of guardianship the student receives while on school grounds. Popp and Peguero (2011) state that the perception of the level of guardianship provided by the school may also vary by type of activity the student participates in. The perception that students are providing a level of guardianship among their peers can be considered a false perception as students are often preoccupied with their own personal activities. Students are not actively vigilant to the risk of victimization among their peers unless the student is actively taking care of a peer's belongings or taking care of their peers directly. Thus, the role of a guardian is dependent on the capability and perception of them actively guarding the target.

According to Nobles, Fox, Khey, and Lizotte (2012), liquor and drug violations are reported disproportionately on public property, with comparatively fewer incidents on-campus. Nobles et al. (2012) found that more arrests occurred on public property, whereas the majority of on-campus incidents for liquor and drugs resulted in referrals to campus and community agencies. In their research, Nobles et al. (2012) found that the distribution of on-campus arrests (N=1,718), was significantly greater on Saturdays in the fall, and particularly on home football game days, rather than on any other day of the week or in the spring. These results reflect that seasonality may play a role in risky behaviors and enforces certain activities depending on the activities occurring on campus.

Since the initial publication of routine activities theory, Cohen and Felson (1979), as well as other scholars, have continually refined and extended the theory. The extant evidence consistently shows that victimization is not randomly distributed throughout society. Instead, victimization is associated with certain lifestyle patterns, daily routines and rituals, and demographics (Tewksbury & Mustaine, 2003).

Routine Activity Theory and Criminal Offenses

Alcohol-related offenses

The Centers for Disease Control and Prevention (2018, March 27), states that binge drinkers in Idaho consume an average of 7.3-8.3 drinks on any occasion. The Centers for Disease Control and Prevention (2018, August 2) states that excessive drinking is responsible for more than 4,300 deaths among underage youth each year, and in 2010, it cost the U.S. \$24 billion. In the U.S., the sale or supply of any alcoholic beverage to anyone under 21 is illegal; however, underage drinkers consume more drinks per drinking occasion than adult drinkers (The Centers for Disease Control and Prevention, 2018, August 2).

According to routine activity theory, likely offenders would be college students and/or staff in the space (e.g., classrooms, residence halls, dining areas, etc.). A suitable target would be the opportunity to engage in alcohol-related offenses. A capable guardian would be any person who takes the role of a leader. In a study by Brower and Carroll (2017), they found that University high-density student neighborhoods are related to some crime problems due to student drinking.

Brower and Carroll (2017) used geographic information systems (GIS) to investigate how different crimes move throughout the city, hour by hour, and to investigate the relationships between crime and proximities of various student and nonstudent neighborhoods to each other and high-density bar areas. GIS uses geography and computer-generated maps as an interface for integrating and accessing location-based information (Johnson, 2000). Brower and Carroll (2017) examined crime reports from 2013 and found that different categories of crime showed different temporal and spatial

patterns. Serious crimes peaked between 2:00 AM and 3:00 AM, coinciding with bar closing time (Brower & Carroll, 2017). On the other hand, less severe crimes peaked between 11:00 PM and midnight as reports of vandalism peaked in the morning and afternoon (Brower & Carroll, 2017).

Cross, Zimmerman, and O'Grady (2009) explored the relationship between the built environment and residence halls on campus using a routine activity framework. Cross et al. (2009) collected the data through two surveys issued to a random sample (N = 400 and N = 531). The study showed that students living in suite halls had a greater chance of drinking frequently, drinking more alcohol when they socialize, heavy episodic drinking, and drinking more often in their residence halls compared to students' not living on-campus. This suggests that likely offenders would be college students or anyone who lives in the space, a suitable target would be opportunities to engage in deviance or criminal act, in this case, underage drinking or alcohol consumption (Cross, Zimmerman et al., 2009).

Sex Crimes

According to the National Intimate Partner and Sexual Violence Survey (NISVS), one in five women and one in 71 men will be raped at some point in their lives, which includes attempted rape and alcohol/drug-facilitated completed penetration (Centers for Disease Control and Prevention, 2011, November). The NSVS reported that 46.4% lesbians, 74.9% bisexual women, and 43.3% heterosexual women reported sexual violence other than rape during their lifetimes. While 40.2% of gay men, 47.4% bisexual men and 20.8% heterosexual men reported sexual violence other than rape during their lifetimes (Centers for Disease Control and Prevention, 2011, November). Following a

routine activity framework, potential victims of sexual violence are at increased risk of victimization if their personal guardianship is hindered by substances, narcotics, and/or any physical or mental impairment when interacting with a likely offender in space and time. Further, lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ+) experiencing higher victimization rates can also be explained through the routine activity approach as likely offenders, and reduced guardianship converge with an LGBTQ+ individual who is more likely to live near large crime generators and crime attractors (Barrera et al., 2015).

Research has shown that even though social and individual factors at the micro-level play a role, so will environmental factors at the macro-level (Andresen & Hodgkinson, 2019; Cross et al., 2009). The micro-place is an important component of understanding the spatial dimension of criminal events, both descriptive and inferential (Andresen & Hodgkinson, 2019). As macro-environmental factors (e.g., prohibiting sales on-campus/dry-campus) tend to be the focus of research, micro-environmental factors, (e.g., the way campus is built and residence halls) play an important role in alcohol consumption among students (Cross et al., 2009). Using a sample of 4,399 college women from the National College Women Sexual Victimization study, Fisher, Daigle, and Cullen (2010) examined routine activities and first incident characteristics that could place women at risk of being recurrent sexual victims during an academic year. Fisher et al. (2010) found that none of the routine activities' variables differentiated single and recurrent victims. The factors that predicted being a single victim are similarly predictive of being a recurrent victim, including frequently drinking, being unmarried, living on-

campus, and having been a victim of a sexual assault (Fisher et al., 2010). These findings are not surprising considering the nature of campuses regarding alcohol.

Fisher, Cullen, and Turner (2000) reported that most sexual victimization occurred when college women were alone at night in the privacy of their residence with a man who was an acquaintance. Moreover, Fisher et al. (2000) found that college women are more likely to be victimized off-campus than on-campus, as they are more likely to engage in “nightlife” activities close to campus. According to Dziech (2003), approximately 30% of undergraduate females and 40% of female graduate students have been sexually harassed by university faculty members, whereas 90% of undergraduate females have reported unwanted behavior from their male peers. Sexual violence is more likely to happen at night; most sexual victimizations occurred in the evening after 6:00 PM (Fisher et al., 2000). Fisher et al. (2000) reported that in about one in five rape and attempted rape incidents, victims reported being injured and that 51.8% of completed rapes took place after midnight, 36.5% occurred between 6 PM and midnight, and only 11.8 % took place between 6 AM and 6 PM (Fisher et al., 2000). Overall, a likely offender as it pertains to sex offenses varies in motivation as they can be driven by a target in the form of a human being or is fueled by other motivations such as fantasies or low self-esteem (Fisher et al., 2000). This is important as routine activity theory analyzes the convergence of a likely offender, a target, and the lack of a capable guardian. During these late hours, the suitability of targets may increase as guardianship decreases. Altizer (2005) stated that females, graduate students, women in non-traditional fields, minority females, disabled persons, divorced women, young and naïve females, sexually abused, and same-sex people are more likely to be victims of sex crimes.

From a routine activity theory perspective, likely offenders prey on their peers that they view as suitable targets. Schwartz and Pitts (1995) found that women who drank alcohol in public and had friends who admitted to sexual coercion were at higher risk of sexual assault than women who did not engage in the consumption of alcohol or associated with a coercive peer group(s) (cited in Bethune, 2016). Schwartz, DeKeseredy, Tait, and Alvi's (2001) discussed how likely offenders' prey on individuals who make themselves more "suitable" through their lifestyle and routine activities as targets of sexual assault. They showed that a relationship exists between the use of alcohol and drugs regarding sexual assault victimization.

Tewksbury and Mustaine (2001) explored the role of demographics, high school experiences, lifestyle statuses, school activities, leisure activities, alcohol use, drug use, and self-protective behaviors in predicting the sexual victimization of a sample of southern college/university men. By examining two models of victims (victims of general sexual assault and victims of serious sexual assault), they found that drinking alcohol is not a risk of being sexually assaulted in contrast to females (Tewksbury & Mustaine, 2001). As males' risks for serious sexual assault were determined by their demographics (Tewksbury & Mustaine, 2001).

According to DeFour, David, and Diaz (2003), sexual harassment of same-sex people were not legally protected historically (cited in Altizer, 2005); however, as times changed, same-sex people are protected from discrimination and sexual harassment (Fineran, 2002). Although sexual harassment is rarely reported in higher education, Altizer (2005) found that a person who has low self-control was not significantly more at risk of sexual harassment victimization on-campus than those with a higher level of self-

control. However, following a routine activities framework, Altizer (2005) found that moderate support indicating that a victim's routines placed them at a greater likelihood of sexual harassment victimization on a college campus. In other words, Altizer (2005) states that a victim's routine, such as drinking or going out late at night, places the victim at a higher risk of sexual harassment on a college campus. Nevertheless, routine activities theorists traditionally have assumed offenders' motivation and victims' suitability from demographic correlates and have done little to study effective guardianship (Schwartz et al., 2001).

Property and Violent Crimes

In 2014, property crimes accounted for more than 50% of all campus crimes reported under the Clery Act. Nevertheless, campus crime known to authorities has decreased by 35% since 2005 (2017 NCVRW Resource Guide: School and Campus Crime Fact Sheets, 2017). The patterning of property offenses and personal victimization has been explained by routine activity theory (Altizer, 2005).

By exploring the temporal and spatial aspects of routine activities, Groff (2008) used the existing conceptual model in which all nodes with at least one agent present are evaluated. According to Groff (2008), active nodes must follow three criteria: (1) no police present; (2) at least two civilians present; and (3) at least one of the civilians must have a criminal propensity for a decision to offend to occur. If there is only one offender at the node, that agent automatically becomes the active offender. Groff (2008) describes how an agent that commits a robbery is an active offender at each of the active nodes and evaluates their situation. Findings illustrate the importance of examining both places and societal-level attributes to characterize differences in the results.

Importantly, the time schedule may lower the number of incidences of street robberies regardless of the time spent away from home. However, Groff (2008) points that the outcome is most likely related to the rate of convergence (i.e., presence of motivated offender and suitable target at the same place–time), which supports Cohen and Felson’s (1979) hypothesis that frequency of convergence impacts deterrence.

In a study by Cohn and Rotton (2000), the relevance of routine activity theory to burglaries, robbery, and larceny-theft was examined. In their research, Cohn and Rotton (2000) used a moderator-variable time-series analysis of property crime reports to police in Minneapolis over a 2-year period in which they controlled for 281 temporal variables (e.g., holidays, school closings, and interactions with the time of day and day of the week). Cohn and Rotton (2000) found that time of day, day of the week, a month of the year, and all two-way and three-way interactions (e.g., holidays, the first day of the month, local festivals, and school closings) explained 63% of the variance in thefts, 39.0% of the variance in burglaries, and 43.5% of the variance in robberies. According to Cohn and Rotton (2000), robberies also converged on Sundays after reaching a peak during late evening hours (9:00 PM to 3:00 AM) on Saturdays. Burglary reports peaked on Friday and Saturday nights between the hours of 9:00 PM and 3:00 AM on Friday and Saturday nights (Cohn & Rotton, 2000).

According to Henson and Stone (1999), a typical college campus burglary occurs when a suitemate or roommate leaves a door unlocked, and an unauthorized person enters and wrongfully removes some items of personal property. Henson and Stone (1999), found that the campus which they studied, Texas State University, was experiencing burglaries at about one-third the rates that were seen in the general population. Routine

activity theory explains that campuses can foster property crimes as a likely offender, a suitable target, and lack of capable guardianship converge in time.

Seasonal Patterns

Seasons affect a person's activities due to the weather. Andresen and Malleson (2013) found that temperate climates shift activities, as a significant portion of the fall, winter, and spring are spent indoors, with limited outdoor activities caused by the cooler temperatures and precipitation. The onset of drier and warmer weather in late spring through summer allows for peoples' activity to shift to the outside as the weather seems to be more enjoyable (Andresen & Malleson, 2013). According to De Melo, Pereira, Andresen, and Matias (2018), changes in crime are based on changes in routine activities. This is most commonly discussed by Brantingham and Brantingham's (1981, 1993a, 1993b) crime pattern theory, in which they explain how regular changes in routine activities lead to changes in the places in which we spend our time and the pathways we travel to get to and from these different places (cited in De Melo et al., 2018).

Early research on the seasonality of crime showed that in France, crimes against persons (violent crimes) reach a maximum during the summer months (Quetelet, 1842). In contrast, property crimes reach a maximum during the winter months (Quetelet, 1842). A study by Ranson (2014), based on a 30-year panel of monthly crime and weather data for 2,997 U.S. counties, found a relationship between monthly weather patterns and crime rates. Across various offenses, higher temperatures caused more crime for most categories of violent crime. This relationship appears approximately linear through the entire range of temperatures experienced in the continental U.S. but for property crimes

(e.g., burglary and larceny), the relationship between temperature and crime is highly non-linear.

Looking at the seasonality of crime, McDowall, Loftin, and Pate (2011) used a time series model and a large sample to obtain more detailed seasonality estimates than have been available in the past. According to Haberman, Sorg, and Ratcliffe (2018), an essential axiom of environmental criminology is that crime is concentrated in space and time. However, these spatial and temporal patterns can vary year by year as hot spots are dynamic and change over periods of time (Hill & Paynich, 2014, p. 220; Haberman et al., 2018).

According to McDowall et al. (2011), all major crime rates exhibit seasonal behavior and that most follow similar cycles. Their findings imply that seasonal fluctuation has both environmental and societal components, which can be combined to create different patterns from one location to another (McDowall et al., 2011). McDowall et al. (2011) showed that peaks occurred in the winter for property crimes and during the summer for violent crimes. During the winter and the end of the fall, students are more likely to go home approximately around November for Thanksgiving break and winter break around December during the fall semester. During the spring semester, they are more likely to leave campus around March for Spring Break. Moreover, around May, and more of students and staff members leave the University and its proximity as the academic year concludes. Only the departments and students taking/giving summer courses tend to interact on-campus.

Analyzing the seasonal distribution of crime on-campus may identify the extent an academic year influences seasonal patterns of crime and the months of the year where

certain types of crimes are more likely to occur in comparison to other seasons. Lauritsen and White (2014) examined the seasonal patterns in violent and property crime victimization in the U.S. from 1993-2010. They found that crime rates in the households being studied tended to be higher in the summer than during other seasons of the year. Moreover, Lauritsen and White (2014) found that rates of motor vehicle theft tended to be lower in the spring than in the summer, there were few regular differences between summer, fall, and winter rates. In addition, aggravated assault rates were higher during the summer than during the winter, spring, and fall. In comparison, simple assault rates were higher during the fall than during other seasons of the year (Lauritsen & White, 2014).

According to Haberman et al. (2018), routine activity patterns will change throughout the year as people engage in outdoor recreational activities throughout the different seasons of the year. Haberman et al., (2018) found that areas with facilities and illicit markets that are used consistently across the year experience high street robbery levels regardless of the season. Only the effect of high schools during the fall was greater than during the winter and summer as hypothesized. During the winter and summer periods, campus crime will most likely impact mostly students' routine activity patterns by giving them more free time and the opportunity to leave their belongings unguarded (Haberman et al., 2008).

Hot Spots

According to Eck, Chainey, Cameron, and Wilson (2005), crime is not spread evenly across space. Hot spots are “viewed as small geographic areas that experience higher than average levels of crime for a consistent period of time” (Hill & Paynich 2014,

p.107). Hot spots analyses aid police departments in identifying high-crime areas, types of crime being committed, and aid in the allocation of resources (Bowers, Johnson, & Pease, 2004; Eck et al., 2005; Johnson, 2000; Johnson & Bowers, 2008). According to Short et al. (2010), the conditions necessary for crime hot spots to form hinge on the geographic nature of offender foraging behavior. Hot spots underscore the importance of understanding the conditions necessary for the crime to occur. When these converge in time and space, a specific location experiences large amounts of crime known as a hot spot.

Sherman et al. (1989), found that relatively few “hot spots” produce most calls to the police (50% of calls in 3% of places) and calls reporting predatory crimes (all robberies at 2.2% of places, all rapes at 1.2% of places, and all auto thefts at 2.7% of places), because crime is both rare (only 3.6% of the city could have had a robbery with no-repeat addresses) and concentrated. However, the magnitude of concentration varies by offense type.

In this context, routine activity theory is invoked, as a likely offender(s) searches its environment for a suitable target(s) where there is an absence of guardianship (Short et al., 2010). According to Short et al. (2010), criminal offenders are more likely to return to the same and/or nearby locations to commit repeated crimes. This is interesting as the seasonal patterns of routine activities of people in their environments shift, but hot spots remain.

Chainey, Tompson, and Uhlig (2008) examined crime data for a two year period before a fixed date to generate hot spot maps and test their accuracy for predicting where crimes will occur next across different crime types. Hot spot mapping accuracy was

compared to the mapping technique that is used to identify concentrations of crime events. Chainey et al. (2008) found that there were differences between crime types in their ability to predict future patterns of crime. Using the prediction accuracy index (PAI), which they calculated by dividing the hit rate by the area percentage in relation to the whole study area, in which theft from vehicles was the crime type that recorded PAI values of the next highest level. PAI values for residential burglary and theft of vehicles were similar to each other as the standard deviation values between the four crime types indicated there to be some degree of variability in the results generated by hotspot mapping techniques. This is further explored below. On the other hand, Johnson and Bowers (2008) reviewed work concerned with spatial-temporal patterns of crime and the implications of those findings for crime forecasting. Using crime hot spots, Johnson and Bowers (2008) demonstrated that crime patterns are not entirely stable but suggest that the analysis aims to identify high crime areas with stable risks.

Hot spots reflect wide seasonal fluctuation as they combine temporal and spatial information in an effective manner that allows the viewer to intuitively assess temporal profiles of individual hot spots at the micro and macro-levels (e.g., day and year) and compare the importance and temporal signature of different hot spots (Townesley, 2008). Moreover, seasonality of hot spots reflects the areas where crime clusters depending on the day, time, month, and/or year(s) the crime event was occurred.

Bowers et al. (2004) examined existing methods of predicting and mapping the future locations of crime by exploring the development of a mapping procedure that seeks to produce 'prospective' hot-spot maps. Through their research, Bowers et al. (2004) demonstrated that the risk of burglary is communicable, with properties within

400 meters of a burgled household being at a significantly elevated risk of victimization for up to two months after an initial event. Through their findings, Bowers et al. (2004) suggested that the predictive mapping technique has considerable advantages over more traditional methods and might prove particularly useful in the shift-by-shift deployment of police personnel.

Hot Spots Analysis & Campus Crimes

Hot spot analysis for on-campus crime is essential for allocating the proper resources around campus to reduce campus crime (Bowers et al., 2004). Nobles et al. (2012) noted that examining campus versus community crime is particularly relevant regarding the Clery Act as most prior research has largely overlooked this vital relationship. The use of hot spots crime mapping allows for a transparent approach in which police and law enforcement agencies focused on the immediate application to policing within high-crime areas (Bowers et al., 2004; Johnson, 2000). The use of GIS allows police personnel to plan effectively for emergency response, determine mitigation priorities, analyze historical events, and predict future events (Johnson, 2000). Understanding the extent to which, where, and when campus crime is primarily committed is critical for prevention efforts and campus/community law enforcement resource allocation.

Wilkins (1996) studied a large urban campus encompassing approximately 72 square blocks and discovered that “hot crimes,” “hot times,” and “hot spots” exist on the University of Alabama at Birmingham by examining 15 categories of offenses which included: theft-related, public order, weapons-related, burglary, simple assault, aggravated assault, motor vehicle theft, traffic, drug-related, robbery, arson, vandalism,

rape, miscellaneous, and not possible to determine. Wilkins (1996) found that most offenses recorded involved theft-related offenses (57.8%) followed by public order related offenses (22.2%), which overall accounted for 80% of the official incidents officially reported. Wilkins (1996) found that “hot times” were between 8:00 AM and 3:59 PM (50.2%) and 4:00 PM and 11:59 PM (33.8%). Moreover, Wilkins (1996) identified three “hot spots,” one located directly in the medical complex and two to be residence halls.

Though it is important to examine hot spots on university campuses, it is equally as vital to understand what is causing such hot sites if universities are to establish preventive measures. If alcohol-related and drug offenses are occurring on football days in sports stadiums, the likelihood of those crimes to be associated with the event is plausible; however, unless law enforcement entities on campus team up with other entities within the university, such causes may not be addressed. A balance of discretion and preventive measures has to occur to deter likely offenders from continuing offending, especially when their offenses are not getting prosecuted but instead dealt with within the university’s conduct process.

Current Study

Informing police departments about the seasonal spatial crime patterns is crucial to help them allocate resources adequately in an effort to reduce campus crimes. This patterning is likely to vary by crime type as patterns of offenders, victims, and guardianship are variable. While we have research examining hot spots and seasonal patterns of crime in cities, it is crucial to examine seasonal patterns through a routine

activity framework on campuses, as little research exists examining the seasonality of crime on campuses.

This study investigates the spatial and temporal patterns of crimes reported to the Boise Police Department (BPD) and the Boise State University Department of Public Safety using 2012-2018 Boise State University Crime Logs.

Thus, the hypotheses for this study are:

H₁: Counts of various crime types (alcohol & drugs, property, violent, white-collar & financial crimes, or miscellaneous) will peak differently depending on the season (i.e., fall, winter, spring, and summer).

H₂: Counts of alcohol-related offenses and property crimes will be consistent across seasons.

H₃: Introduction of new buildings, particularly residential student housing locations, will shift hot spots around campus.

H₄: The location of crime hot spots will vary depending on the season.

CHAPTER THREE: METHODS

Setting

The study area is an urban-based, public metropolitan research university along the banks of the Boise River (Boise State University, 2019). The 285-acre campus is located near downtown in Boise, the capital of Idaho. The campus is located 643.74 meters south east from a zoo and 4,828.03 meters north east from the airport. The campus has more than 25,000 students from every state and more than 60 foreign countries attending the institution (Boise State University, 2019). The campus houses first-year students coming to campus directly from high school (ages 17-19) who can choose from residence halls and some suite-style housing options (Boise State University, 2019-b). In 2012, Boise State had a total of 22,588 students (N= 19,567 undergraduate, N= 3,021 graduate): 54.1% identify as female, 45.3% identify as male, and 0.6% remained undeclared (Boise State University, 2019-e). In 2018, the number of students at Boise State increased (N= 25,540), with 25,540 undergraduate students and 3,476 graduate students. The campus housed 14% of its student's on-campus, and 86% of students lived off-campus (USA News, 2018 and USA News, 2019). Twenty-four buildings were affiliated with campus housing. In 2018, the campus consisted of approximately 76 buildings that extended to downtown Boise.

The Department of Public Safety and BPD is committed to the safety and security of the entire campus community. According to the *2018 Annual Security and Fire Safety Report* (Boise State University, 2019-f), BPD and the Department of Public Safety

maintain a close working relationship with other cities, county, state, and federal law enforcement agencies, as well as all appropriate elements of the criminal justice system. Law enforcement agencies routinely assist the Department of Public Safety during football games and other major events or emergencies that occur on campus (Boise State University, 2019-f).

Data

The data for this study comes from the 2012-2018 Boise State Campus Crime Logs, which can be found online and has been made possible by the Clery Act (20 USC 1092). In 1998, in response to the Clery Act, the Federal Government enacted legislation that requires all universities receiving federal funding to collect and publish current campus crime data (Nobles et al., 2012; Gardella, Nichols-Hadeed, Mastrocinque, Stone, Coates, Sly, & Cerulli, 2015). Through newfound awareness and support of the government, the Clery Act has made campuses safer and more transparent. The Clery Act requires academic institutions to monitor and disclose campus crime statistics to the public accurately. The implications of the Clery Act are to encourage college administrators to reexamine services and programs designed to address victimization on campus and to provide support to administrators and staff (Gardella et al., 2015).

The current study assessed the seasonal patterns on crime using 2012-2018 Boise State Campus Crime Logs to test whether the patterning of different types of crimes are different across the seasons at BSU. Data were collected by the Boise State University Department of Public Safety and entered into the crime log when reported by members of the community, students, faculty, and staff. The data were initially printed into hard copy binders detailing the nature/classification of the offense, BPD report

number, date reported, date/time occurred, general location, and disposition. Once the data were reviewed, time was removed as a substantial number of cases did not have a given time reported. For the purpose of this study, each row represented a crime incident. Reports that included more than one criminal offense were entered as multiple incidents (e.g., a report of property and violent crime were reported as separate incidents). All data were compiled by year into Microsoft Excel.

Seasonal Coding and Geoprocessing

After compiling the data in Microsoft Excel, incidents were divided into seasons. Dates were used to assess the seasonality the crime was committed at BSU. For this study, winter rates are based on incidents that occurred in December, January, and February. Spring incidents are based on incidents that occurs in March, April, and May. Incidents that occurred in June, July, and August were identified as summer victimization incidents. Incidents that occurred in September, October, and November were identified as fall incidents. Seasonal patterns were examined from 2012 to 2018.

Crime log data were then divided into six categories of types of crime: alcohol-related crimes & drug crimes, property crimes, sex crimes, violent crimes, white-collar and financial crimes, and miscellaneous types of crimes (see Table 1 for frequencies, see Appendix A for coding information). Once the crime log was divided into crime types, it was subdivided into seasons—fall, winter, spring, and summer into a Microsoft Excel spreadsheet.

Table 1. Number of Reported Crimes by 2012-2018 at Boise State University

Crime	2012	2013	2014	2015	2016	2017	2018	
	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Row %)
<i>Fall</i>								
Alcohol-related & Drugs	12 3.52%	51 12.35%	111 14.59%	303 23.34%	340 24.91%	37 7.37%	44 9.13%	898 17.4%
Property	65 19.06%	85 20.58%	30 3.94%	115 8.86%	112 8.21%	105 20.92%	72 14.94%	584 11.31%
Violent	13 3.81%	15 3.63%	19 2.5%	34 2.62%	38 2.78%	17 3.39%	20 4.15%	156 3.02%
Sex	3 0.88%	2 0.48%	4 0.57%	10 0.83%	5 0.40%	3 0.63%	2 0.43%	29 0.56%
White-Collar & Financial	1 0.29%	2 0.48%	1 0.13%	5 0.39%	4 0.29%	2 0.40%	6 1.24%	21 0.41%
Miscellaneous	8 2.35%	30 7.18%	30 3.94%	55 4.24%	33 2.42%	20 3.98%	25 5.19%	201 3.89%
<i>Spring</i>								
Alcohol-related & Drugs	10 2.93%	33 7.99%	80 10.51%	145 11.17%	172 12.6%	24 4.78%	22 4.56%	486 9.41%
Property	74 21.7%	45 10.9%	60 7.88%	61 4.7%	75 5.49%	67 13.35%	56 11.62%	436 8.49%
Violent	4 1.17%	9 2.18%	21 2.76%	18 1.39%	14 1.03%	14 2.79%	20 4.15%	100 1.94%
Sex	1 0.29%	0 -	3 0.39%	2 0.15%	5 0.37%	1 0.2%	2 0.41%	14 0.27%
White-Collar & Financial	0 -	3 0.73%	1 0.13%	1 0.08%	2 0.15%	1 0.2%	1 0.21%	9 0.17%
Miscellaneous	4 1.17%	13 3.15%	37 4.86%	39 3%	39 2.86%	18 3.59%	20 4.15%	170 3.29%
<i>Winter</i>								
Alcohol-related & Drugs	36 10.56%	15 3.63%	112 14.72%	203 15.64%	197 14.43%	27 5.38%	36 7.47%	626 12.13%
Property	45 13.2%	25 6.05%	54 7.1%	54 4.16%	59 4.32%	45 8.96%	45 9.34%	327 6.33%
Violent	4 1.17%	4 0.97%	18 2.37%	12 0.92%	18 1.32%	10 1.99%	10 2.07%	76 1.47%
Sex	0 -	0 -	4 0.53%	2 0.15%	7 0.51%	1 0.2%	1 0.21%	16 0.29%
White-Collar & Financial	1 0.29%	1 0.24%	1 0.13%	2 0.15%	0 -	1 0.20%	0 -	6 0.12%
Miscellaneous	9 2.64%	6 1.45%	32 4.20%	46 3.54%	40 2.93%	24 4.78%	8 1.66%	165 3.2%

Crime	2012	2013	2014	2015	2016	2017	2018	
	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Offense %)	N (Row %)
<i>Summer</i>								
Alcohol- related & Drugs	7 2.05%	13 3.15%	41 5.39%	86 6.63%	106 7.77%	10 1.99%	24 4.98%	287 5.56%
Property	28 8.21%	45 10.9%	47 6.18%	69 5.32%	52 3.81%	57 11.35%	43 8.92%	341 6.61%
Violent	5 1.47%	4 0.97 %	23 3.02%	12 0.92%	21 1.54%	8 1.59%	9 1.87%	82 1.59%
Sex	0 -	1 0.24%	0 -	6 0.46%	2 0.15%	4 0.8%	0 -	13 23.21%
White-Collar & Financial	2 0.59%	1 0.24%	2 0.26%	2 0.15%	0 -	0 -	0 -	7 0.14%
Miscellaneous	9 2.64%	10 2.42%	30 3.94%	16 1.23%	24 1.76%	6 1.2%	16 3.32%	111 2.15%
Total Column %	341 6.61%	413 8%	761 14.74%	1,298 25.15%	1,365 26.44%	502 9.72%	482 9.34%	5162 100%

Ninety-nine percent of incidents were then mapped to the location where they were occurred. Ranges of addresses were deleted due to vagueness in address, no address, or lack of identifiers to pinpoint a location. Multiple reported offenses categorized as one offense were divided to categorize them with their appropriate crime type. A general address was then attributed to a location via Google Maps addresses (see Appendix B for Location Book). These addresses were imported into Google Earth Pro to convert from comma-separated values (.csv) into a keyhole markup language file (.kml). All unmatched locations were either manually matched or removed, depending on the year. After a .kml was converted to layer, the projection of XY coordinates was necessary as the data sets did not initially include such information. The projection of the XY (Planar) coordinate-system enabled the creation of a more accurate map. Once the XY coordinates were projected, the seasonal layers were ungrouped to gather the seasonal point data, which was then used to create a kernel density with the ArcGIS Pro function.

Data Cleaning and Frequencies

Crimes reported in 2012 that occurred in 2011 were deleted from the log for this study—14 crime events were eliminated from the 2012 Crime Log as they occurred in 2011 but were not reported until 2012. Twenty-two crime events were found in the 2013 Crime Log, which was added to the 2012 database, but a violent offense that occurred during the winter was removed due to the year range. Based on the crime logs published by Boise State, a data set for each year was created containing an average of 744.71 crime events per year.

The initial 2012 dataset consisted of 401 incidents. Two crime events were added to the 2012 Crime Log from the 2016 Crime Log, but only one of those events was not deleted once the data were clean. Three crime events were removed in the fall, five in the winter, eight in the spring, and seven in the summer due to lack of general location, unknown/wrong addresses, date ranges that overlapped seasons or years, and crime events happening off-campus.

Once 2012 Crime Log was clean ($N = 341$), the data consisted of 102 (29.91 %) crime events committed during the fall, 93 (27.86 %) crime events committed during the winter, 95 (27.27%) crime events committed during the spring, and 51 (14.96%) crime events committed during the summer.

The initial 2013 data set included 426 incidents. Twenty-three crime events reported in 2013 that occurred in 2012 were moved to 2012 Crime log—1 crime event was eliminated from the 2013 Crime Log as they occurred from 2012 to 2013. Such offense was a violent offense. From those 23 crime events committed in 2012, 19 were alcohol-related & drug offenses that occurred during the winter, three property offenses,

and a violent offense. Additionally, forty-three crime events were removed in the fall due to vague addresses, occurring out of the state, typos, or error in the data set as it did not specify when the crime event occurred. Two crime events reported in 2014 that occurred in 2013 were added to the 2013 Crime log—1 property offense was eliminated from the 2014 Crime Log as it occurred from 2013 to 2014. Offenses were removed either for lack of general address and/or general location as well as date ranges overlapping through seasons.

Once 2013 Crime log data were clean (N = 413), the data consisted of 185 (44.79%) crime events committed during the fall, 51 (12.35%) crime events committed during the winter, 103 (24.94 %) crime events committed during the spring, and 143 (34.62 %) crime events committed during the summer. However, it is important to note that a total of 482 (116.71%) crime types will be displayed as one crime event would consist of multiple crime types.

The initial 2014 dataset consisted of 734 incidents. Two crime events were added from the 2016 Crime Log but were deleted once the data was clean due to lack of general address and/or date and year range. Thirty-four crime events were removed due to range addresses, general locations with no identification, bogus addresses, and date range that dated to previous years not pertaining through 2012 to 2018.

Once 2014 Crime log data were clean (N = 761), the data consisted of 195 (25.62%) crime events committed during the fall, 221 (29.04 %) crime events committed during the winter, 202 (26.54 %) crime events during the spring, and 143 (18.79 %) crime events committed during the summer.

The initial 2015 dataset consisted of 1,257 incidents. Thirty crime events were added from the 2016 Crime Log to the 2015 Crime Log, and only six of them were removed for having no general address and/or date and year ranges. Crime events committed at an approximate range of a location were eliminated. Once the crime log was clean from range addresses, range dates, overlapping dates, general locations with no identification, and bogus addresses, the crime log data were examined, which resulted in a decrease in crime events.

Once the data were clean ($N = 1,298$), a total of 522 (40.22%) crime events occurred during the fall, 319 (24.58%) crime events during the winter, 266 (20.49%) crime events during the spring, and 85 (6.55%) crime events during the summer. However, only 1,192 (91.83%) were mapped in the study area.

The initial 2016 dataset included 1,375 incidents and expanded its location to private apartment complexes near campus. Accounting for the addition of temporary housing for the year, The Vista West and East Apartments, as well as some students residing in River Edge Apartments. Twelve crime events that belong in the 2016 Crime Log was found on the 2017 Crime Log, which were added to the 2016 Crime Log. Approximately 622 crime events were removed due to range addresses, general locations with no identification, no date/ time, bogus addresses, or for being reported in 2016 but not occurring that year. Differentially from other logs, the 2016 Crime Log seems to have more “unknown day/time” recorded than any other crime log.

Once the 2016 Crime Log data were clean ($N = 1,365$), the data consisted of 532 (38.97%) crime events committed during the fall, 321 (23.52%) crime events committed

during the winter, 307 (22.49%) crime events committed during the spring, and 205 (15.02%) crime events committed during the summer.

The initial 2017 dataset included 526 incidents. Approximately 52 crime events were removed due to unknown dates, range addresses/years, general locations with no identification, and bogus addresses. Twelve offenses were removed and added to the 2016 Crime Log as they occurred during 2016 but were not reported until 2017; however, only three were able to be pinned to a general location/address and time.

Once 2017 Crime Log data were clean ($N = 502$), the data consisted of 184 (36.65%) crime events committed during the fall, 108 (21.51%) crime events committed during the winter, 125 (24.9%) crime events committed during the spring, and 85 (16.93%) crime events committed during the summer.

The initial 2018 dataset included 494 incidents. Two crime events were removed from the log as they occurred in 2017 but were added to their corresponding year. Two crime events were removed as they belong to the 2019 Crime Log, which is not being examined for the purpose of this study. Four crime events were added from the 2019 Crime Log as they occurred in 2018 but were not reported until 2019. Two crime events were removed as they occurred in 2003 but had been added to the 2018 Crime Log. Overall, a total of 23 offenses were removed due to bogus dates or date ranges, unknown addresses, lack of general address, and/or general location.

Once the 2018 Crime log data were clean ($N = 482$), the data consisted of 169 (35.06%) crime events committed during the fall, 100 (20.75%) crime events committed during the winter, 121 (25.1%) crime events committed during the spring, and 92 (12.09%) crime events committed during the summer.

However, it is important to note that 2015 and 2016 could possibly have more crime events reported, compared to other years, as the addition of temporary housing (i.e., Vista West Apartments, Vista East Apartments, and River Edge Apartments) could plausibly influx the way crimes were reported through their own private security and by the university's Resident Assistants (RAs).

Statistical Analysis

Kernel density estimation is widely used to visualize and assess crime distributions and, at the same time, obscure exact crime locations due to the confidentiality of crime data in many countries (Wang, Liu, Zhou, & Lan, 2019). The kernel density tool calculates the density of the point features which conceptually smoothly curved surface is fitted over each center point of a raster cell where the highest value at the location of the point diminishes with increasing distance from the search radius. The population field was set to "None," as no population was used for the purpose of this study. The ArcGIS tools for kernel densities defaults to the quartic kernel function which was appropriate for this study.

ArcGIS Pro 2.4 computed the kernel density estimation of each dataset per season and year. The classification was set to natural breaks (Jenks), as numerical values of ranked data were examined to account for non-uniform distributions giving an unequal class width with varying frequency of observation per class. Data sets were classified into seven classes (Very Low, Low, Moderately Low, Moderate, Moderately High, High, and Very High) to depict the magnitude of the hot spots.

Once the data were entirely inputted, a series of maps were created to illustrate the seasonality of crime on campus (see Figures 2 to 36). In order to identify statistically

significant hot spots in ArcGIS Pro, the crime log data were analyzed for every season through kernel densities of point data using natural breaks to analyze and represent the amount of crime occurring within an area. Four maps were created to represent if hot spots shift through the seasons. Thus, resulting in 28 maps and seven general maps, 4 general seasonal maps from 2012-2018, and a general map from 2012-2018. Some of the maps may look smoother than others in the densities as the smaller the cell size, the smoother the resulting map will appear. For the purpose of this research, default to the kernel density tools were employed since they were appropriate for the distribution of the data.

CHAPTER FOUR: ANALYSIS & RESULTS

This study explores the seasonality of criminal activity by crime type and if the introduction of resident housing locations will shift hot spots around campus using 2012-2018 Boise State Crime Logs. It was hypothesized that (1) counts of various crime types (alcohol & drugs, property, violent, white-collar & financial crimes, or miscellaneous) would peak differently depending on the season (i.e., fall, winter, spring, and summer); (2) the introduction of new buildings, particularly residential student housing locations, will shift hot spots around campus; (3) counts of alcohol-related offenses and property crimes will be consistent; and (4) the location of crime hot spots will vary depending on the season.

Crime Types

A total of twelve alcohol-related & drug offenses (3.7%) were reported, sixty-five property offenses (20.06%), thirteen violent offenses (4.01%), three sex offenses (0.93%), eight miscellaneous (2.47%), and a white-collar & financial offense (0.31%) occurred during the Fall of 2012. A total of ten (3.09%) alcohol-related & drug offenses were reported, seventy-four property offenses (22.84%), four violent offenses (1.23%), four miscellaneous (1.23%), a sex offense (0.31%), and no white-collar & financial offenses occurred during the spring. A total of thirty-six alcohol-related & drug offenses were reported (11.11%), forty-five property offenses (13.89%), four violent offenses (1.23%), nine miscellaneous (2.78%), a white-collar & financial offense (1.23%), and no sex offenses were reported during the winter. A total of seven alcohol-related & drug

offenses (2.16%), twenty-eight property offenses (8.64%), five violent offenses (1.54%), nine miscellaneous (2.78%), two white-collar & financial offense (0.62%), and no sex offenses were reported during the Summer of 2012.

More property offenses were reported in 2012, with an average of 53 offenses per season. Data are represented in Table 1, with a total of 341 crime offenses occurring in 2012 making property crimes a “hot crime.”

A total of fifty-one alcohol-related & drug offenses (13.28%) were reported, eighty-five property offenses (22.14%), fifteen violent offenses (3.19%), two sex offenses (0.52%), thirty miscellaneous (7.81%), and two white-collar & financial offenses (0.52%) during the Fall of 2013. A total of thirty-three alcohol-related & drug offenses (8.59%) were reported, fifty-five property offenses (14.32%), nine violent offenses (2.34%), thirteen miscellaneous (7.81%), three white-collar & financial offenses (0.52%), and no sex offenses during the spring. A total of fifteen alcohol-related & drug offenses were reported (3.91%), twenty-five property offenses (6.51%), four violent offenses (1.04%), six miscellaneous (1.56%), a white-collar & financial offense (0.26%), and no sex offenses during the winter.

A total of thirteen alcohol-related & drug offenses (3.38%) were reported, forty-five property offenses (11.72%), four violent offenses (1.04%), ten miscellaneous (2.60%), a sex offense (0.26%), and a white-collar & financial offense (0.26%) were reported during the summer. Similar to 2012, more property offenses were reported in 2013. Property crimes had an average of 52.5 offenses per season in 2013. Data are represented in Table 1, with a total of 419 crime offenses occurring in 2013.

A total of one hundred and nine alcohol-related & drug offenses (15.57%) were reported, thirty property offenses (4.28%), nineteen violent offenses (2.71%), four sex offenses (0.57%), thirty miscellaneous (4.28%), and a white-collar & financial offense (0.14%) during the Fall of 2014. A total of eighty alcohol-related & drug offenses (11.43%) were reported, sixty property offenses (8.57%), twenty-one violent offenses (3%), thirty-seven miscellaneous (5.28%), three sex offenses (0.43%), and a white-collar & financial offense during the spring. (0.14%) A total of one hundred and twelve alcohol-related & drug offenses (16%) were reported, fifty-four property offenses (7.71%), eighteen violent offenses (2.57%), four sex offenses (0.57%), thirty-two miscellaneous (4.57%), and a white-collar & financial offense (0.14%) during the winter. A total of forty-one alcohol-related & drug offenses (5.86%) were reported, forty-seven property offenses (6.71%), twenty-three violent offenses (3.28%), thirty miscellaneous (4.28%), two white-collar & financial offenses (0.28%), and no sex offense were reported during the Summer of 2014.

A total of three hundred and three alcohol-related & drug offenses (25.19%) were reported, one hundred and fifteen property offenses (9.56%), thirty-four violent offenses (2.83%), ten sex offenses (0.83%), fifty-five miscellaneous (4.57%), and five white-collar & financial offenses (0.41%) during the Fall of 2015. In the spring, one hundred and forty-five alcohol-related & drug offenses (12.05%) were reported, sixty-one property offenses (5.07%), eighteen violent offenses (1.49%), thirty-nine miscellaneous (3.24%), two sex offenses (0.17%), and a white-collar & financial offense (0.08%). Through the winter, two hundred and three alcohol-related & drug offenses (16.87%) were reported, fifty-four property offenses (4.49%), twelve violent offenses (0.99%), forty-six

miscellaneous (3.82%), two sex offenses (0.17%), and two white-collar & financial offenses (0.17%).

A total of eighty-six alcohol-related & drug offenses (7.15%) were reported, sixty-nine property offenses (5.73%), twelve violent offenses (0.99%), sixteen miscellaneous (1.33%), two white-collar & financial offenses (0.17%), and six sex offenses (0.49%) were reported during the Summer of 2015. It is important to note that more offenses can be attributed to the increase of population in Boise, Idaho at the time.

Following the 2014 and 2015 pattern, 2016 data illustrated alcohol-related offenses to be the most committed type of crime throughout the year. A total of three hundred and forty alcohol-related & drug offenses (27.59%) were reported, one hundred and twelve property offenses (9.09%), thirty-eight violent offenses (3.08%), five sex offenses (0.40%), thirty-three miscellaneous (2.68%), and four white-collar & financial offenses (0.32%) during the Fall of 2016. A total of one hundred and seventy-two alcohol-related & drug offenses (13.96%) were reported, seventy-five property offenses (6.09%), fourteen violent offenses (1.14%), thirty-nine miscellaneous (3.17%), five sex offenses (0.40%), and two white-collar & financial offenses (0.16%) during the spring. A total of one hundred and ninety-seven alcohol-related & drug offenses (15.99%) were reported, fifty-nine property offenses (4.79%), eighteen violent offenses (1.46%), forty miscellaneous (3.25%), seven sex offenses (0.57%), and no white-collar & financial offenses during the winter. A total of one hundred and six alcohol-related & drug offenses were reported (8.6%), fifty-two property offenses (4.22%), twenty-one violent offenses (1.7%), twenty-four miscellaneous (1.95%), two sex offenses (0.16%), and no white-collar & financial offenses were reported during the Summer of 2016.

Following the pattern illustrated in 2012 and 2013, 2017 data illustrated more property offenses than alcohol-related & drug offenses to be the most committed type of crime throughout the year. A total of thirty-seven alcohol-related & drug offenses (7.8%) were reported, one hundred and five property offenses (22.15%), seventeen violent offenses (3.59%), three sex offenses (0.63%), twenty miscellaneous (4.22%), and two white-collar & financial offenses (0.42%) during the Fall of 2017. A total of twenty-four alcohol-related & drug offenses (5.06%) were reported, sixty-seven property offenses (14.13%), fourteen violent offenses (2.95%), eighteen miscellaneous (3.8%), a sex offense (0.21%), and a white-collar & financial offense (0.21%) during the spring. A total of twenty-seven alcohol-related & drug offenses (5.7%) were reported, forty-five property offenses (9.49%), ten violent offenses (2.11%), twenty-four miscellaneous (5.06%), a sex offense (0.21%), and a white-collar & financial offense (0.21%) during the winter. A total of ten alcohol-related & drug offenses (2.11%) were reported, fifty-seven property offenses (12.02%), eight violent offenses (1.7%), six miscellaneous (1.27%), four sex offenses (0.84%), and no white-collar & financial offenses were reported during the Summer of 2017.

In 2018, more property offenses than alcohol-related & drug offenses were committed. A total of forty-four alcohol-related & drug offenses (9.34%) were reported, seventy-two property offenses (15.29%), twenty violent offenses (4.25%), two sex offenses (0.43%), twenty-five miscellaneous (5.31%), and six white-collar & financial offenses (1.27%) during the Fall of 2018. A total of twenty-two alcohol-related & drug offenses (4.67%) were reported, fifty-six property offenses (11.89%), twenty violent offenses (4.25%), twenty miscellaneous (4.25%), two sex offenses (0.43%), and a white-

collar & financial offense (0.21%) during the spring. A total of thirty-six alcohol-related & drug offenses (7.64%) were reported, forty-five property offenses (9.55%), ten violent offenses (2.12%), eight miscellaneous (1.7%), one sex offense (0.21%), and no white-collar & financial offenses during the winter. A total of twenty-four alcohol-related & drug offenses (5.09%) were reported, forty-three property offenses (9.13%), nine violent offenses (1.91%), sixteen miscellaneous (3.4%), and no white-collar & financial offenses and sex offenses were reported during the Summer of 2018.

Seasonal Kernel Densities

GIS provides the tools to evaluate the frequency of crime by selecting only the crime events reported to BPD in compliance with the Clery Act that fell within the campus boundary polygon. Notably, crime events reported by type varied by seasons, as illustrated in Table 1.



Figure 1. 2012-2018 Study Area

The geospatial distribution of crime events on-campus during 2012 is displayed in Figure 2. Of the 324 crime events reported in the Clery Act data, 303 were contained within the campus analytical boundaries, with the majority of incidents clustered in first year resident halls, JB Towers and Chaffee Hall. On average, Chaffee Hall reported a total of 29 calls for service during the year while JB Towers produced 30 calls for service. The 2012 kernel density estimated a mean of 1350098.65 and a standard deviation (SD) of 2422107.18. More specifically, there were concentrations of incidents clustering at JB Towers and Chaffee Hall with a very high density and clustering with a lesser density at the Albertsons Library, the center of campus, and University Suite and Square, which is surrounded by a grassy courtyard on the west end of campus home to traditional first-year students, illustrating a moderately high density of the community known as DKMT (Driscoll, Keiser, Morrison, and Taylor) produced a total of 25 calls for service. The geospatial distribution of crime events on-campus during 2012 is displayed in Figure 2. Of the 324 crime events reported in the Clery Act data, 303 were contained within the campus analytical boundaries, with the majority of incidents clustered in first year resident halls, JB Towers and Chaffee Hall. On average, Chaffee Hall reported a total of 29 calls for service during the year while JB Towers produced 30 calls for service. The 2012 kernel density estimated a mean of 1350098.65 and a standard deviation (SD) of 2422107.18. More specifically, there were concentrations of incidents clustering at JB Towers and Chaffee Hall with a very high density and clustering with a lesser density at the Albertsons Library, the center of campus, and University Suite and Square, which is surrounded by a grassy courtyard on the west end of campus home to traditional first-year students, illustrating a moderately high density of the community

known as DKMT (Driscoll, Keiser, Morrison, and Taylor) produced a total of 25 calls for service.

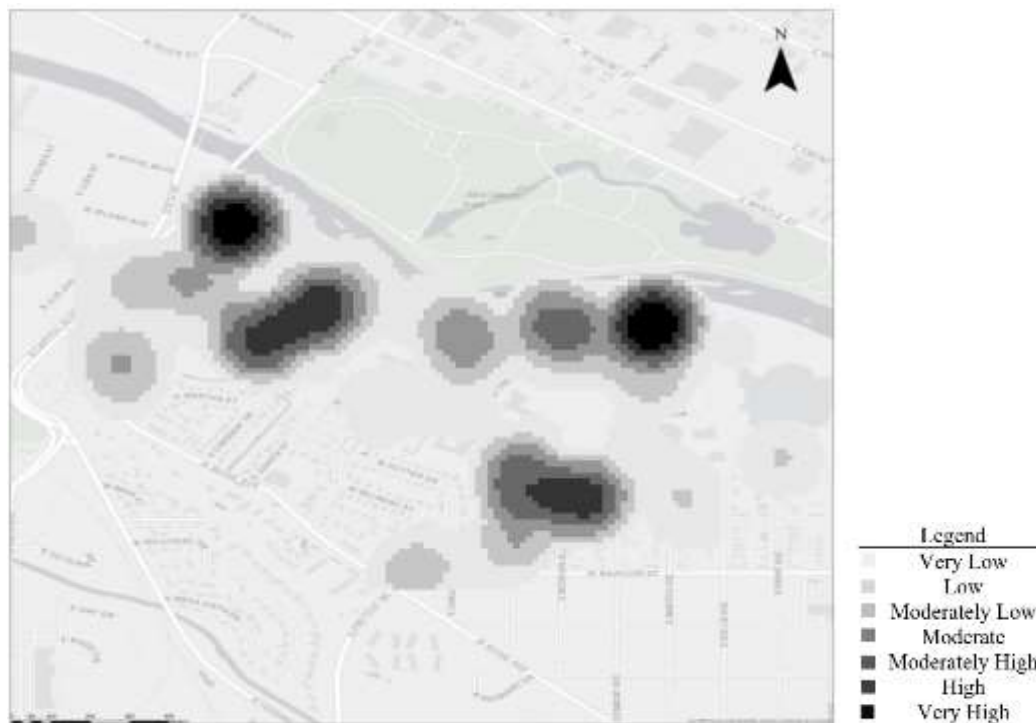


Figure 2. 2012 Hot Spots

The density of crime events on-campus during the Fall of 2012 is displayed in Figure 3. The kernel density estimated a mean of 477005.32 and a SD of 647290.75. Of the 97 on-campus crime events, 76 were distributed within the campus boundary polygon and illustrates a very high concentration of crime events in first year resident's hall, JB Towers. More specifically, there are very high concentrations of crime events in proximity of JB Towers and by the first-year residents' halls, Chaffee Hall and Taylor Hall, which are along the Boise Greenbelt, which is a 25-mile recreational and alternative transportation trail along the banks of the Boise River, along the northern border of campus.

Additionally, Chaffee Hall and Taylor Hall are located to the west in proximity to the Extra Mile Arena and the football stadium which are both places of congregation and tend to attract groups of people from within the campus and the community during sport events and concerts. Though these first-year residence halls generate alcohol-related & drug calls for services, it cannot be assumed that students generated all calls. Overall, a lesser density of calls was generated at the campus center and by BSU's fraternity and sorority houses, which is located in Yale Ct. In contrast to the Brady Street Garage in the west-north west (WNW) area of campus, the Lincoln Street Garage in the south-south-east (SSE) of area of campus seemed to be a rising hot spot during the fall as it depicted a high density of crime events and the Brady Street Garage displayed a more moderate density.



Figure 3. Fall of 2012 (September-November) Hot Spots

The density of crime events on-campus during the Spring of 2012 is displayed in Figure 4. The kernel density estimated a mean of 209569.44 and a SD of 470500.32. Ninety-one on-campus crime events occurred within the campus boundary polygon, which illustrated a very high concentration of crime events in JB Towers and a high concentration at the Morrison Center, which is a center for the performing arts, making it a hot spot that was not present in the fall. More specifically, there are very high concentrations of crime events by the first-year residents' hall, Chaffee Hall and DKMT, which as stated previously, are along the Boise River Greenbelt along the border of campus with a very high to high density of crimes around those areas. It is important to note that Figure 3 illustrates the Albertsons Library to be at a moderate density, as the areas around it range from a lesser density to the first-year halls' higher density. Moreover, the center of campus shows a lesser density, similar to the Fall of 2012. Differently from the fall, the spring has a new, very high hot spot in the general location of the Lincoln Townhomes, which is home to students with a sophomore standing and higher.



Figure 4. Spring of 2012 (December-February) Hot Spots

The density of crime events on-campus during the Winter of 2012 is displayed in Figure 5. The kernel density estimated a mean of 71722.61 and a SD of 314563.14. Ninety-one on-campus crime events were distributed within the campus boundary polygon which illustrates a very high concentration of crime events in JB Towers and Chaffee Hall with a high to moderate concentration of crime events by Brady Garage and the Campus School which are in proximity of Towers and the Interactive Learning Center (ILC), and Multipurpose Building. Figure 4 illustrates a moderately low rising hot spot by the general location of University Square (Jade, Jasper, Garnet, and Topaz Halls) and University Suites (Clearwater, Payette, and Selway Suites), which is home to first-year students and a moderately lower density by University Apartment's complex University Village and University Heights. Similarly, to the fall, the Lincoln Street Garage showed a high density making it a high-risk hot spot. Showing a lesser density, the center of

campus, and Boise State's fraternity and sorority houses seemed to concentrate a low concentration of crime events during the winter.

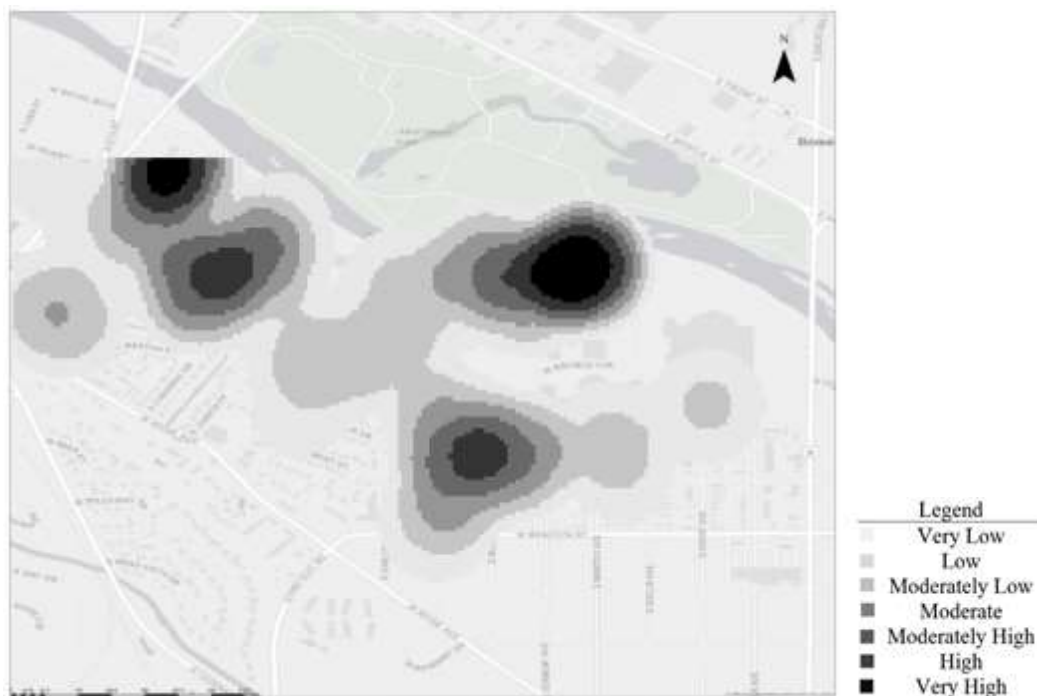


Figure 5. Winter of 2012 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2012 is displayed in Figure 6. The kernel density estimated a mean of 86719.61 and a SD = 189546.06. Forty-five on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in the general location of the Brady Garage, Multipurpose Building, the ILC, and the Campus School. A high density was depicted by JB Towers and the Morrison Center, which deviates from the consistent, very high density that JB Towers had during the fall, spring, and winter.

Regarding first-year resident housing, Chaffee Hall and DKMT range from a moderate to moderately low hot spot with a lesser density compared to other seasons during 2012. Moreover, the Lincoln Street Garage generated a high concentration of

crime events with a moderate to low density at the Lincoln Townhomes. Thus, the density of crime events reported seems to decrease in the summer as on-campus presence decreases.

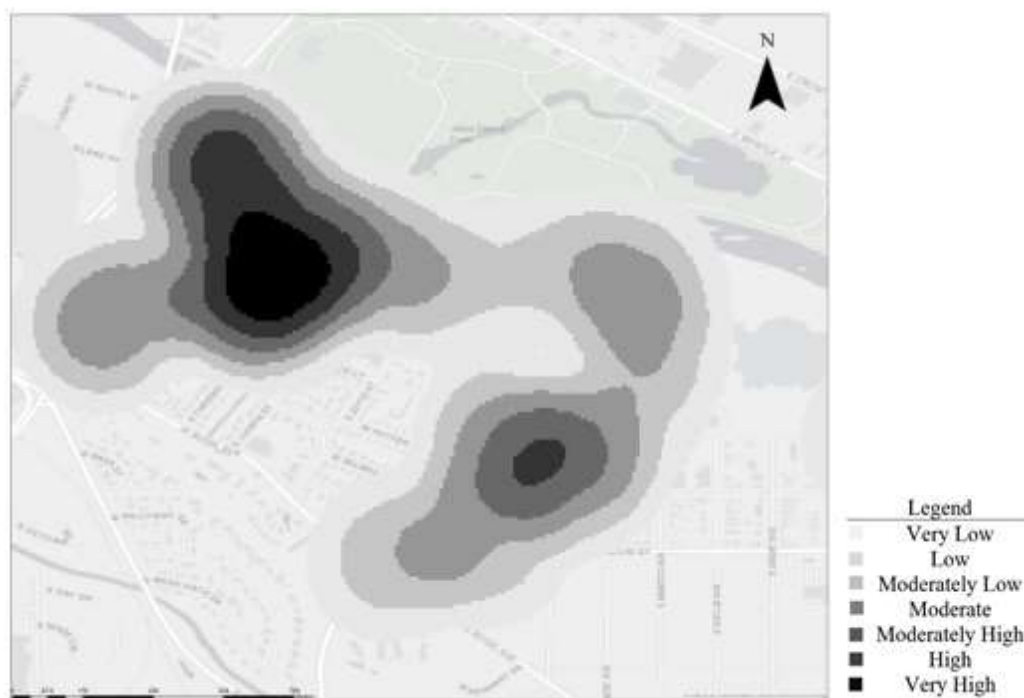


Figure 6. Summer of 2012(June-August) Hot Spots

The distribution of crime events on-campus during 2013 is displayed in Figure 7. The 2013 kernel density estimated a mean of 56387.53 and a SD = 466264.2. Three hundred and eighty-four on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high majority clustered at a very high density at Chaffee Hall and the Multipurpose Building, the ILC, and the Campus School. More specifically, there were concentrations of incidents clustering at a high density at JB Towers and moderately high at University Square and University Suites. Central areas on campus had a lesser density as a risk of a rising hot spot at the Lincoln Street Garage with a higher density. Significantly, the Albertsons Library illustrates a highly moderate

density as the Student Union Building shows a lesser density for places that are open to the community and students. The general area by the Engineering buildings and were at a high density as the area surrounded was at a moderately high density, encompassing the Environmental Research Building (ERB) to a lower density in the proximity of what is now known to be the Alumni and Friends Center.



Figure 7. 2013 Hot Spots

The density of crime events on-campus during the Fall of 2013 is displayed in Figure 8. The kernel density estimated a mean of 24051.86 and a SD = 170654. Of the 172 on-campus crime events, 171 were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in the first-year residence halls University Square, University Suites, and Chaffee Hall except for JB Towers, which differ from its previous year by illustrating a lesser density. DKMT concentration of crime events ranges from high density to moderately high density, which varies through

the seasons, as displayed in Figures 8 to 11. Morrison Hall, Keiser Hall, and the area of Taylor Hall that is near the Greenbelt display a high density of crime events as the general area around them shows a moderately high density. Notably, the Lincoln Street Garage was at a moderately very high-risk density as the area around it had a high density encompassing the Lincoln Townhomes with most of its crime events concentrating in Tamarack, Hawthorne, and Juniper.



Figure 8. Fall of 2013 (September-November) Hot Spots

The density of crime events on-campus during the Spring of 2013 is displayed in Figure 9. The kernel density estimated a mean of 526935.33 and a SD = 698241.12. Of 99 on-campus, 98 were distributed within the campus boundary polygon, which illustrates a moderate-high concentration of crime events at JB Towers, DKMT, and the Student Union Building (SUB). As illustrated in Figure 9, Chaffee Hall and the Extra Mile Arena concentrated a very high density as the area around Bronco Ln produced a

high density of crime events. Ranging from a moderately high to moderate density of crime at the Morrison Center and its proximity area. Displaying a moderate density, in contrast with the Spring of 2012, the Lincoln Street Garage had a decrease in density. Continuously, the Albertsons Library still has a lesser density as the center of campus as the Multipurpose Building, the ILC, and the Campus School have a moderately low density.

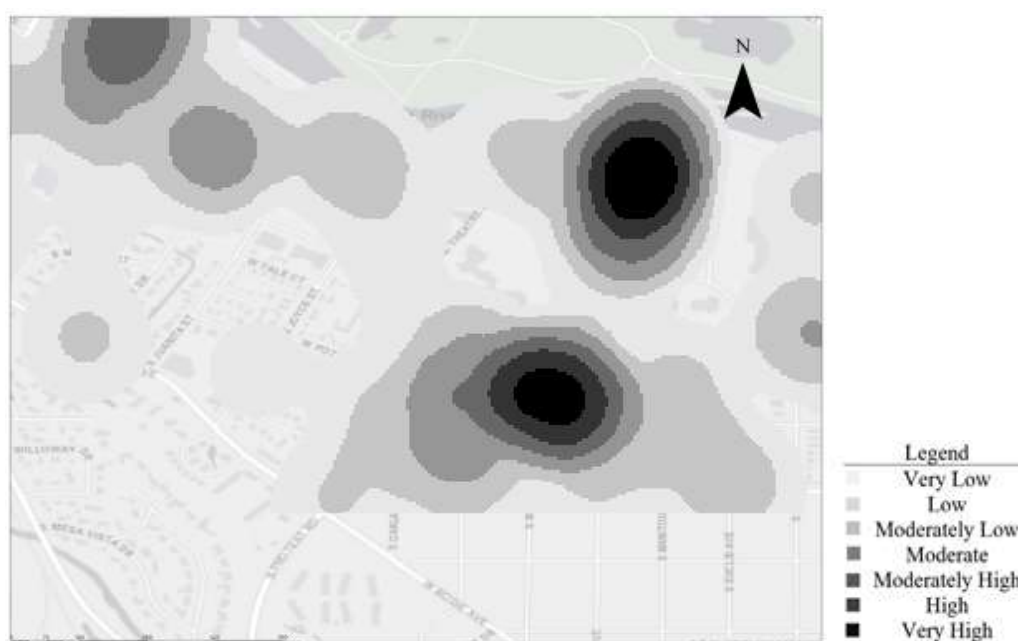


Figure 9. Spring of 2013 (March-May) Hot Spots

The density of crime events on-campus during the Winter of 2013 is displayed in Figure 10. The kernel density estimated a mean of 227659.66 and a SD = 303550.37. Of 47 on-campus only, 43 were distributed within the campus boundary polygon, which illustrates a moderately high concentration of crime events in the Multipurpose Building, the ILC, University Square, University Suites, and the Campus School with a high concentration of crime events by Chaffee Hall and the Brady Street Garage. At a moderately high concentration, the area between the Lincoln Street Garage and

Recreation Center as the area around it has a moderate density of crime events concentration. Similar to the geospatial distribution of crime events on-campus during 2013, a lesser density was shown at the Albertsons Library and the center of campus.

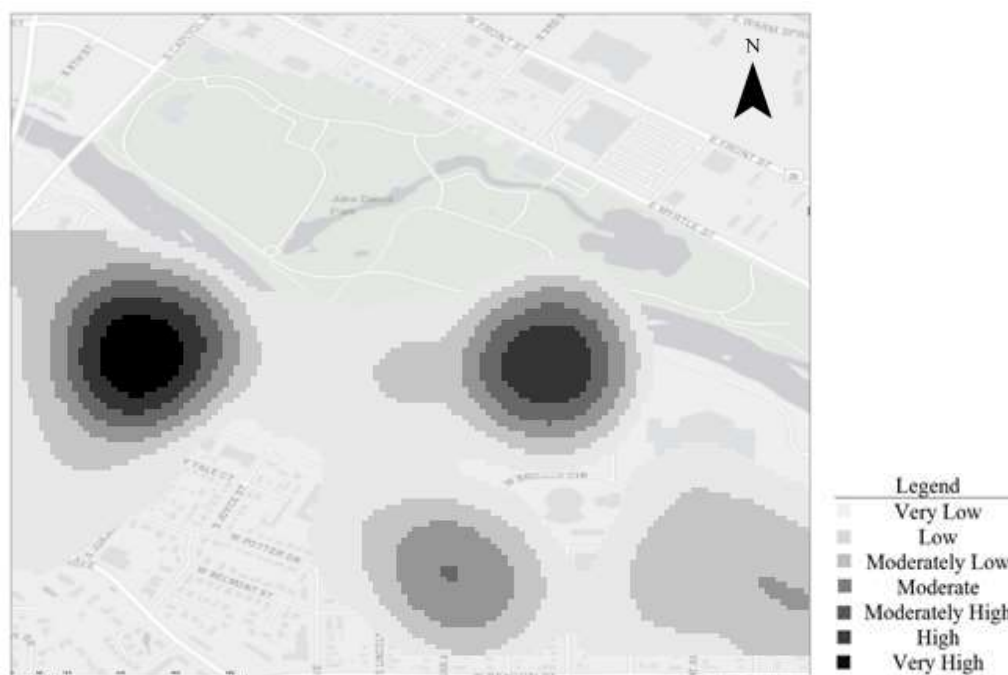


Figure 10. Winter of 2013 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2013 is displayed in Figure 11. The kernel density estimated a mean of 168437.14 and a SD = 271480.19. Sixty-six crime events on-campus were distributed within the campus boundary polygon, which illustrates a very high concentration at the Multipurpose Building, the ILC, and the Campus School which intensified compared to the spring. The Brady Street Garage suggest a high to moderately high density as JB Towers suggest a high density. Differently from previous years and seasons, Capitol Village and the area in its proximity, including its parking lot, illustrate a very high density of concentrated crime events and a very high density to moderately high, which encompasses the area into

University Heights and University Village Apartments. In a similar note, Chaffee Hall is illustrated as at a high density and DKMT is at a moderate density. In contrast to the spring, the Albertsons Library density increased, making it a moderately low-risk hot spot, but still falls at a lesser range.

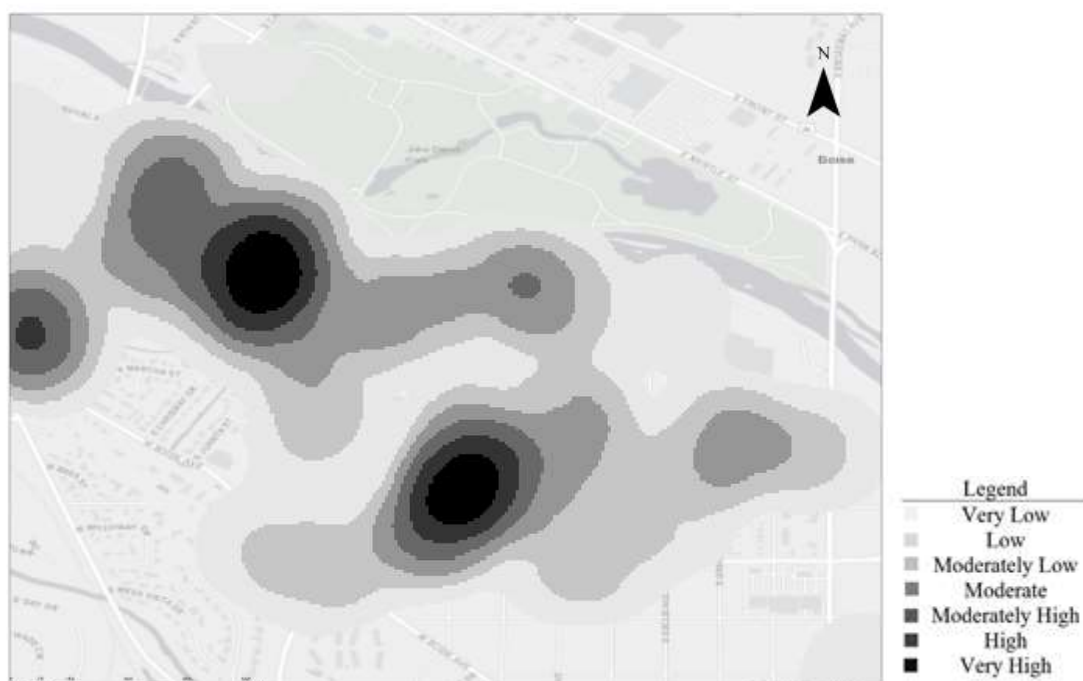


Figure 11. Summer of 2013 (June-August) Hot Spots

The density of crime events on-campus during 2014 is displayed in Figure 12. The 2014 kernel density estimated a mean of 3100886.57 and a SD = 5394777.06. Of 700 crime events, 672 were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at JB Towers and a lesser density extending towards the Morrison Center. At a moderate concentration, the Brady Street Garage, the Multipurpose Building, the ILC, and the Campus School are illustrated as rising hot spots. Chaffee Hall and the Extra Mile Arena are illustrated in Figure 12 at a very high density with a moderate to less density at DKMT which houses first-year

students coming directly from high school (ages 17-19). Similarly, to 2013, the Lincoln Townhomes are at moderately low risk of developing into a hot spot but are at risk of becoming a rising hot spot through the years.

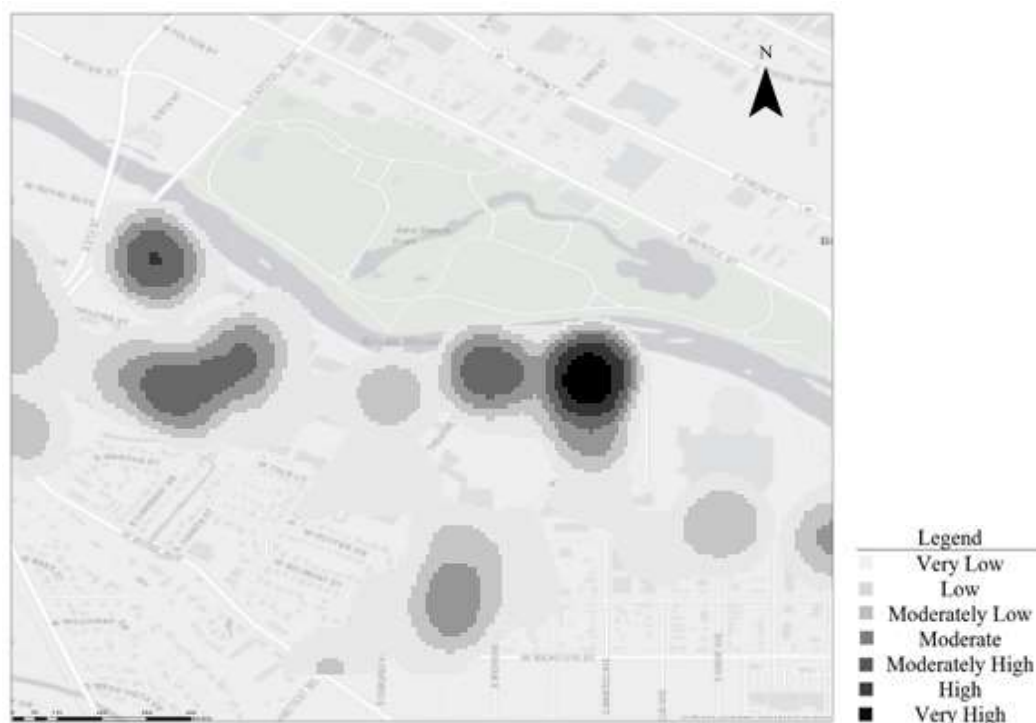


Figure 12. 2014 Hot Spots

The density of crime events on-campus during the Fall of 2014 is displayed in Figure 13. The kernel density estimated a mean of 917317.71 and a SD = 1426707.36. Of 210 crime events, 204 were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at University Dr, Chaffee Hall, and the Extra Mile Arena. At a high density, the Albertsons Stadium parking lot, JB Towers, and DKMT become rising hot spots that have moderate to moderately low densities around them. Different from other years, “The Quad,” which is where any person on campus walks through to socialize or transit from one end of campus to another. In comparison to other years, the Lincoln Townhomes seem to be a moderate rising hot spot

during the Fall of 2014. Differently, from Figure 12, the Albertsons Library and the center of campus had a lesser density.

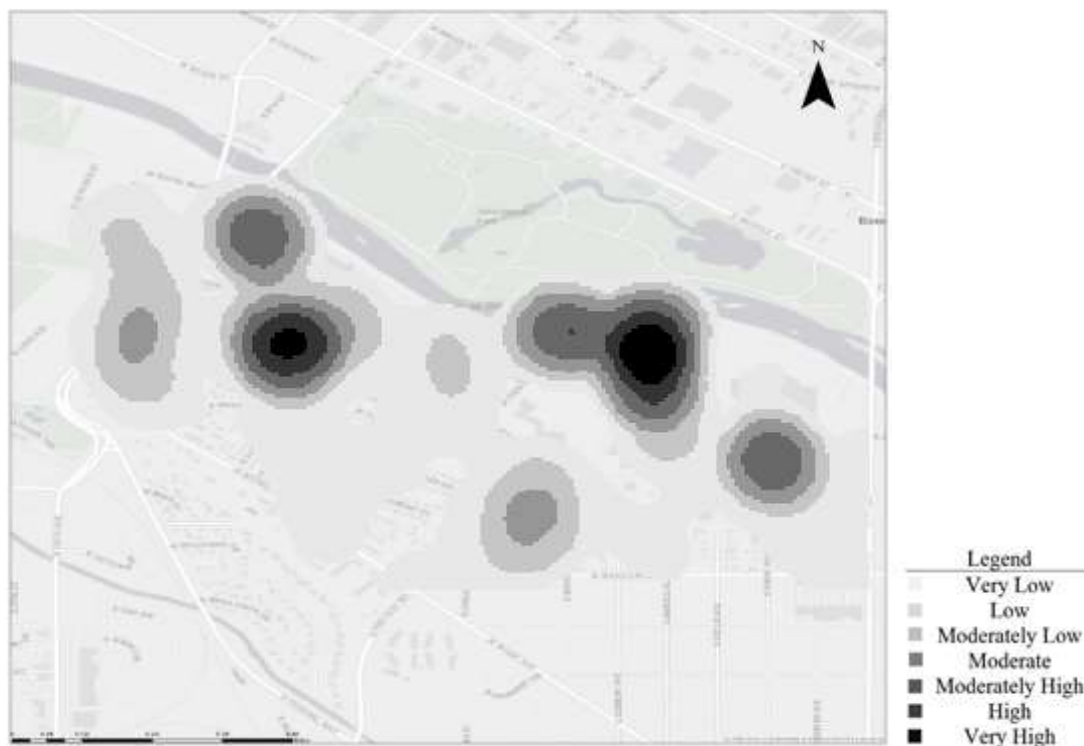


Figure 13. Fall of 2014 (September-November) Hot Spots

The density of crime events on-campus during the Spring of 2014 is displayed in Figure 14. The kernel density estimated a mean of 810610.16 and a SD = 1309569.58. Of 181 crime events, 178 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, making it the only hot spot with a very high density in comparison to other first-year halls. Following Chaffee Hall, JB Towers illustrates a high density of crime events as DKMT is at a moderately high density just like Lincoln Townhomes, the Brady Street Garage, the Multipurpose Building, the ILC, and the area near the Campus School.

Unlike other years, University Park Apartments was at moderate risk of becoming a hot spot and at a higher risk compared to University Apartments (University Heights, University Manor, and University Village) which could be attributed to its proximity to Ann Morrison Park, restaurants, and stores. In contrast to previous years and seasons, the Lincoln Townhomes at a higher risk with a moderately high density of becoming a hot spot during the Fall of 2014. Nevertheless, the center of campus and the Albertsons Library is at a lesser density of becoming a hot spot.

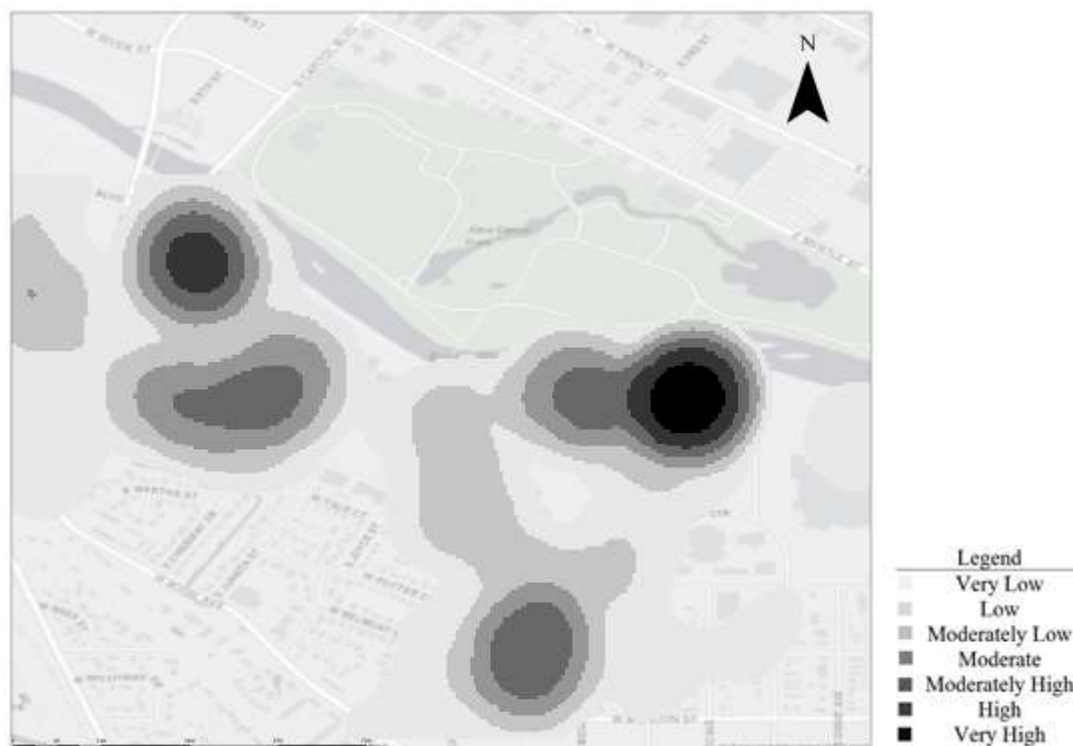


Figure 14. Spring of 2014 (March-May) Hot Spots

The density of crime events on-campus during the Winter of 2014 is displayed in Figure 15. The kernel density estimated a mean of 440017.95 and a SD = 1202764.79. Two hundred and five on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at JB Towers and Chaffee Hall and a high density in the areas around Chaffee Hall, which

encompasses DKMT. Depicting a high density, the Multipurpose Building and the ILC clustered a high amount of calls for service. Unique to 2014, University Park Apartments shows a high density and a moderate density on its surrounding area.

Similarly, to its 2014 overall crime concentration, the Lincoln Townhomes is depicted as a rising hot spot with a moderately high density with a lesser density on the center of campus and the Albertsons Library.

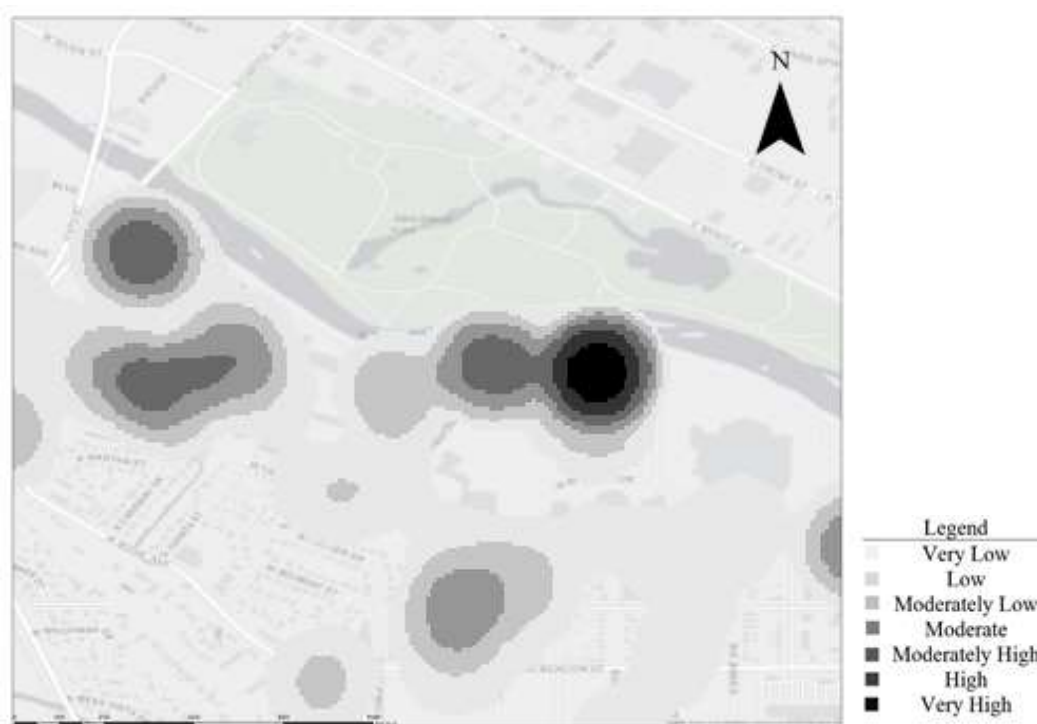


Figure 15. Winter of 2014 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2014 is displayed in Figure 16. The kernel density estimated a mean of 417095.05 and a SD = 491148.31. Of 104 on-campus crime events, 97 were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at JB Towers and the area around it which encompasses the Multipurpose Building, ILC, the Campus School and part of the Brady Street Garage, University Square and University Suites suggesting

that these areas are at a very high of crime. Additionally, Chaffee Hall suggest a high risk of crime which differs from other seasons but remains at high risk. At a lesser density, DKMT displayed a high to moderately high risk of crime and a moderately low density by the Albertsons Library and the center of campus.

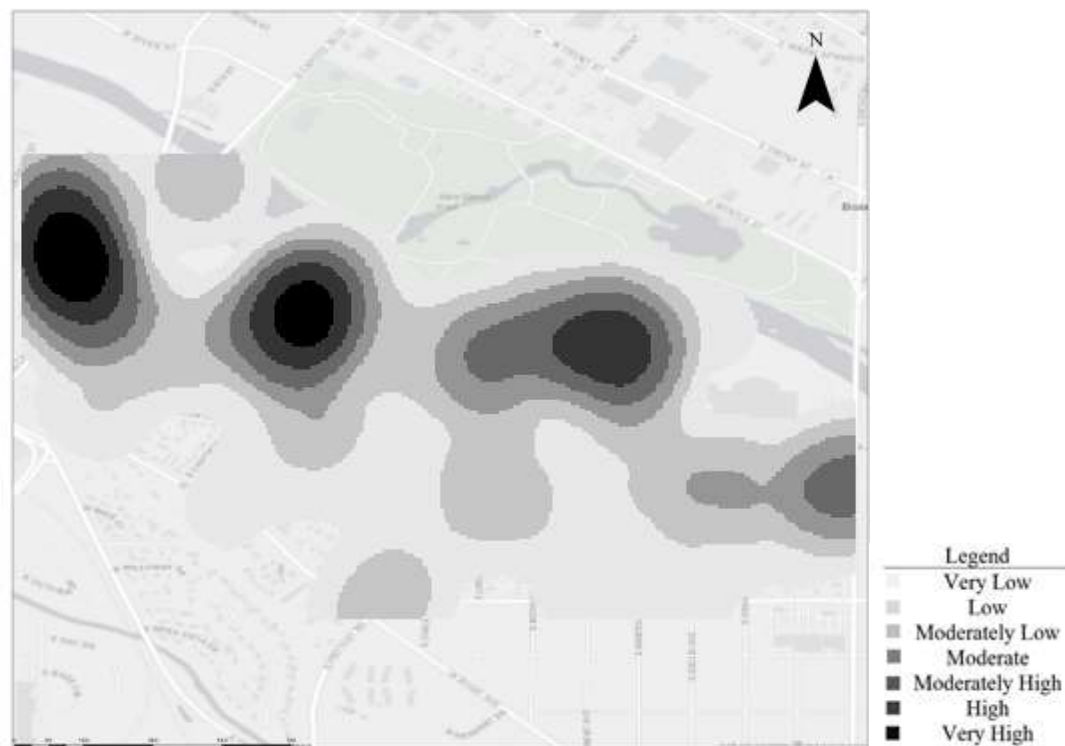


Figure 16. Summer of 2014 (June-August) Hot Spots

The geospatial distribution of crime events on-campus during 2015 is displayed in Figure 17. Of the 1,203 crime events, 1,178 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall and the Brady Street Garage. The 2015 kernel density estimated a mean of 5685973.94 and a SD = 14289303.75. More specifically, they were a high concentration of incidents clustering at DKMT and the area where University Suites and University Square are located. With a lesser density but identify at a moderately

high-risk area was the Multipurpose Building and the ILC with proximity to the Campus School at moderate risk.

The Science/Education Building, the Albertsons Stadium Parking Lot, Lincoln Townhomes, and JB Towers, as shown in Figure 17, suggest that the areas are a moderate risk of becoming a hot spot. At the center of campus and the Albertson Library, a lesser density is displayed.



Figure 17. 2015 Hot Spots

The density of crime events on-campus during the Fall of 2015 is displayed in Figure 18. The kernel density estimated a mean of 725293.68 and a SD = 3180921.30. Four hundred and eighty-five on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events by the Multipurpose Building and the ILC with proximity to the Campus School and the area by University Square and University Suites. At a similar very high risk, Chafee Hall

displayed a very high density with DKMT ranging from high to moderately high density with Taylor Hall suggesting a rising high-risk hot spot as Driscoll, Keiser, and Morrison Halls are at a high to moderately high risk.

At a moderate density, JB Towers and the border southeast of campus which has no known buildings in its proximity. Suggesting a moderate risk, Figure 18 shows the Albertsons Stadium Parking Lot at a moderate density with a moderately low in the area around it. A moderately low density suggests a moderately low risk by the Extra Mile Arena and a lesser density displayed at the Albertsons Library.

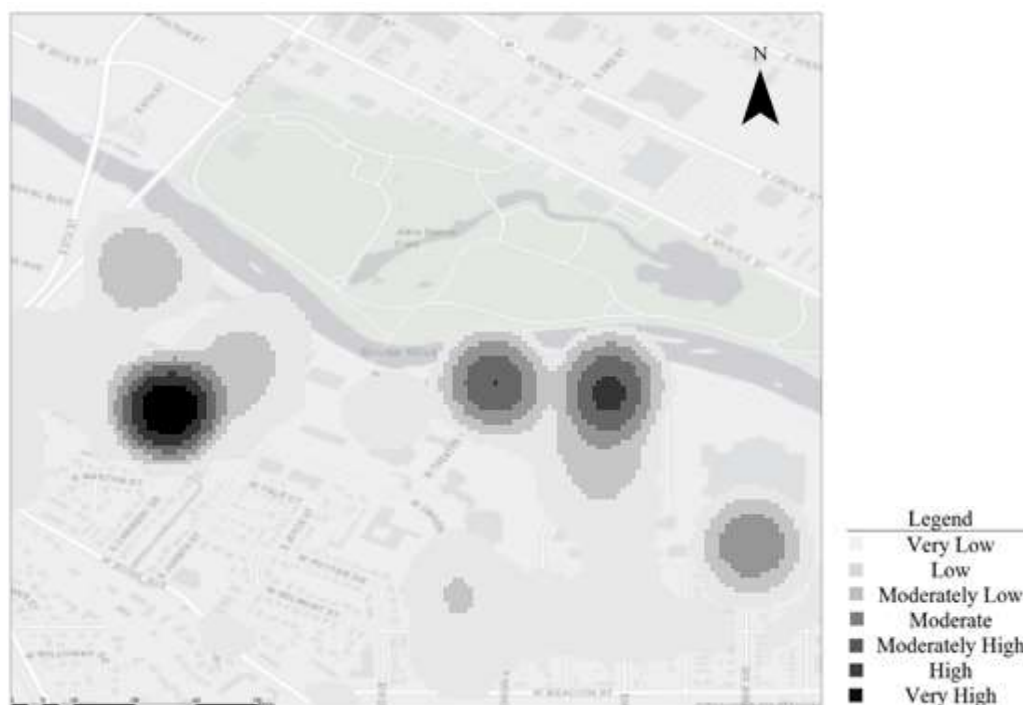


Figure 18. Fall of 2015 (September-November) Hot Spots

The density of crime events on-campus during the Spring of 2015 is displayed in Figure 19. The kernel density estimated a mean of 1034277.74 and a SD = 2363281.66. Of 238 crime events, 231 on-campus crime events were distributed within the campus boundary polygon, which illustrates very high concentration of crime events by DKMT

halls. At a high density, Chaffee Hall decreased from a very high risk to a high risk, which is consistent with the Fall of 2015, suggesting that Chaffee Hall is a high-risk hot spot.

Suggesting a moderately low risk, JB Towers, Lincoln Townhomes, and University Park Apartments and its proximate area are at moderately low risk of a hot spot, which differs from previous literature (Wilkins, 1996) and supports other scholars (Eck et al., 2005; Chainey et al., 2008; Townsley, 2008). A very low to low density suggests a low risk by displayed at the Albertsons Library and the center of campuses as well as other areas known to bring suitable targets and likely offenders in the convergence of space and time, such as the Albertsons Stadium and the Extra Mile Arena.

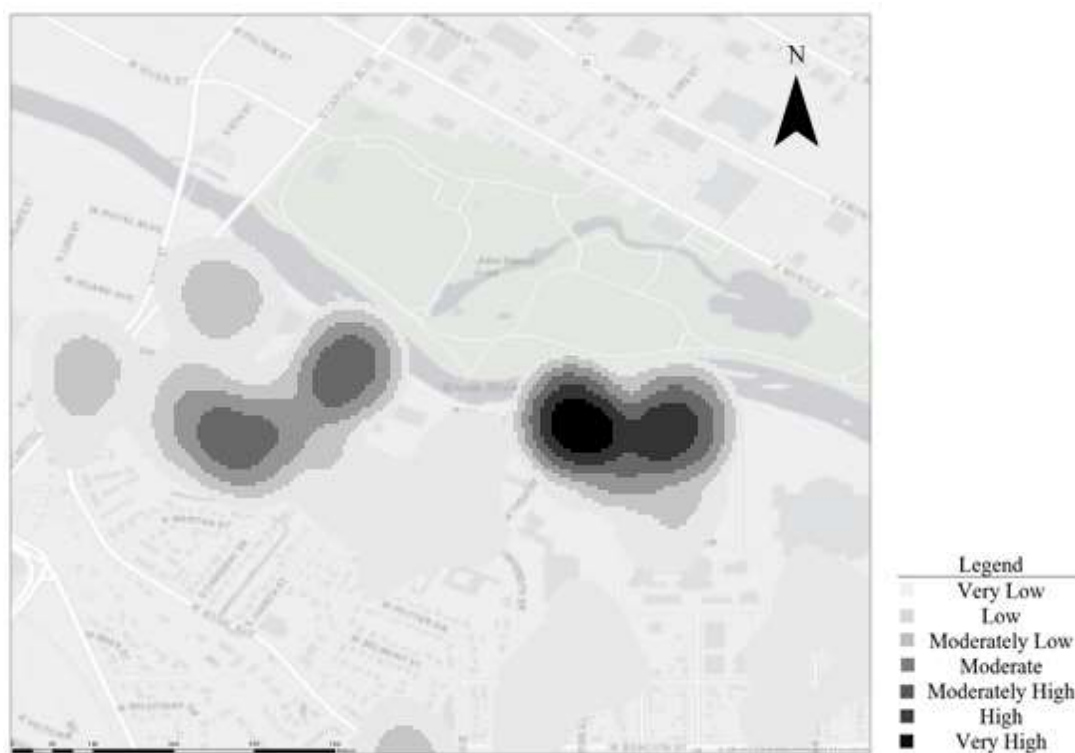


Figure 19. Spring of 2015 (March-May) Hot Spots

The density of crime events on-campus during the Winter of 2015 is displayed in Figure 20. The kernel density estimated a mean of 1331172.87 and a SD = 2850257.28. Of 297 crime events, 295 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events by Chaffee Hall and a moderately high density at DKMT, JB Towers, Lincoln Townhomes, and the area that encompasses the Multipurpose Building and the ILC with proximity to the Campus School. More specifically, the Mathematics Building and the Simplot Micron Advising & Success Hub (SMASH), are at a moderately low risk of crime which seems consistent with the Spring of 2015.



Figure 20. Winter of 2015 (December-February) Hot Spots

Figure 20 suggests a low density at the Albertsons Library and the center of campuses as well as other areas known to bring suitable targets and likely offenders in convergence of space and time, which is illustrated as a low risk that is displayed.

The density of crime events on-campus during the Summer of 2015 is displayed in Figure 21. The kernel density estimated a mean of 614500.75 and $SD = 2168997.64$. Of 183 crime events, 130 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, which is home to the main Housing & Residence Life (HRL) Office but displays a lesser density all around campus. Different from the school seasons, the off-season shows a rising moderate hot spot in the proximity of the Appleton Tennis Center, which is in the proximity of the SUB.

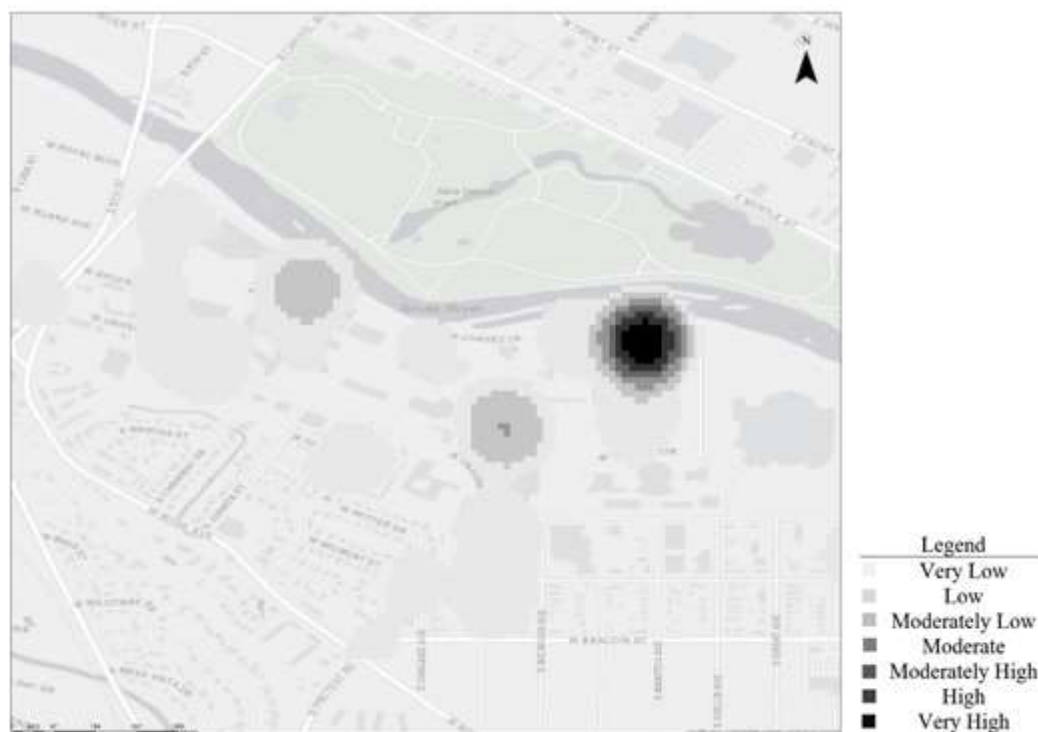


Figure 21. Summer of 2015 (June-August) Hot Spots

The geospatial distribution of crime events on-campus during 2016 is displayed in Figure 22. Of the 1,232 crime events, 1,222 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, the SMASH, and the area in proximity of the Multipurpose

Building and the ILC. The 2016 kernel density estimated a mean of 5252727.2 and a SD = 12345494.55.

Similarly, to previous years, the Lincoln Townhomes showed a moderate density which suggests a moderate risk of crime with a lesser density to the areas around with the exception for the Lincoln Garage, which suggests a high density. More specifically, they were moderately high concentrations of incidents clustering at DKMT with a lesser density at the Albertson Library and the center of campus. Different from other seasons, JB Towers was at a moderately low risk as well as University Park Apartments and even less density at University Heights and University Village as no density was displayed in University Manor. Ranging from moderately high to moderate density, the Albertsons Stadium Parking Lot suggest a high risk of crimes which can also be seen during the Fall of 2016, which is displayed in Figure 21.

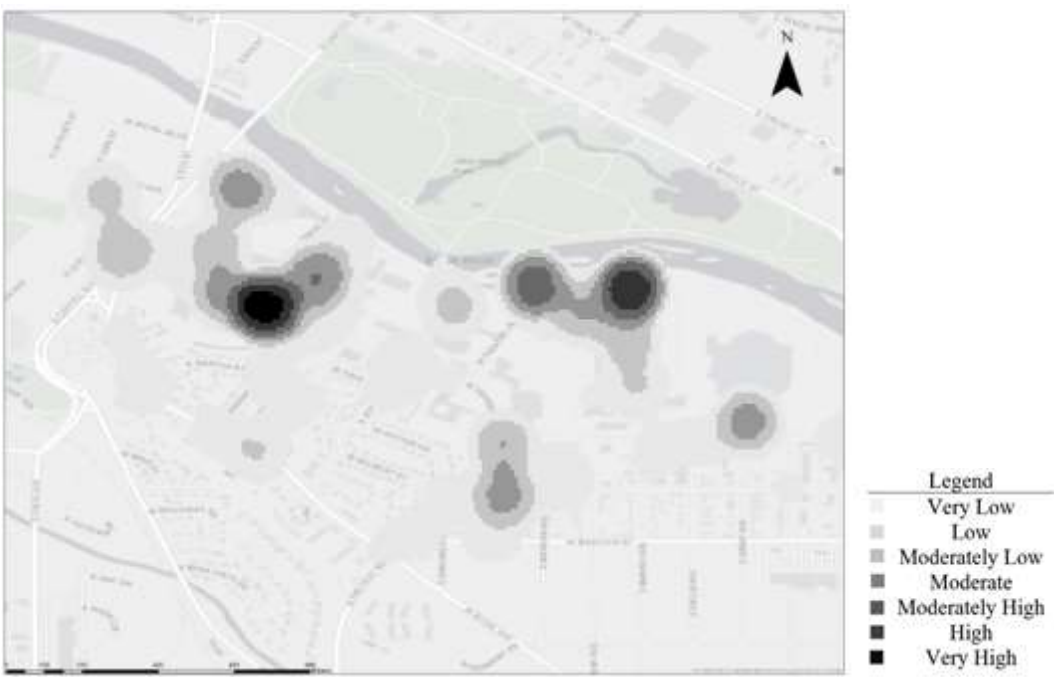


Figure 22. 2016 Hot Spots

The kernel density estimated a mean of 1071452.07 and a SD = 3798130.19. Five hundred and five on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in the area in proximity of the Brady Street Garage, the Multipurpose Building, the ILC, and the Math-Geo Building with a moderately low density in the area approximate to Riverfront Hall. Suggesting a moderately high density, JB Towers, DKMT, Albertson Stadium Parking Lot with a moderately high risk to moderate risk of crime happening.

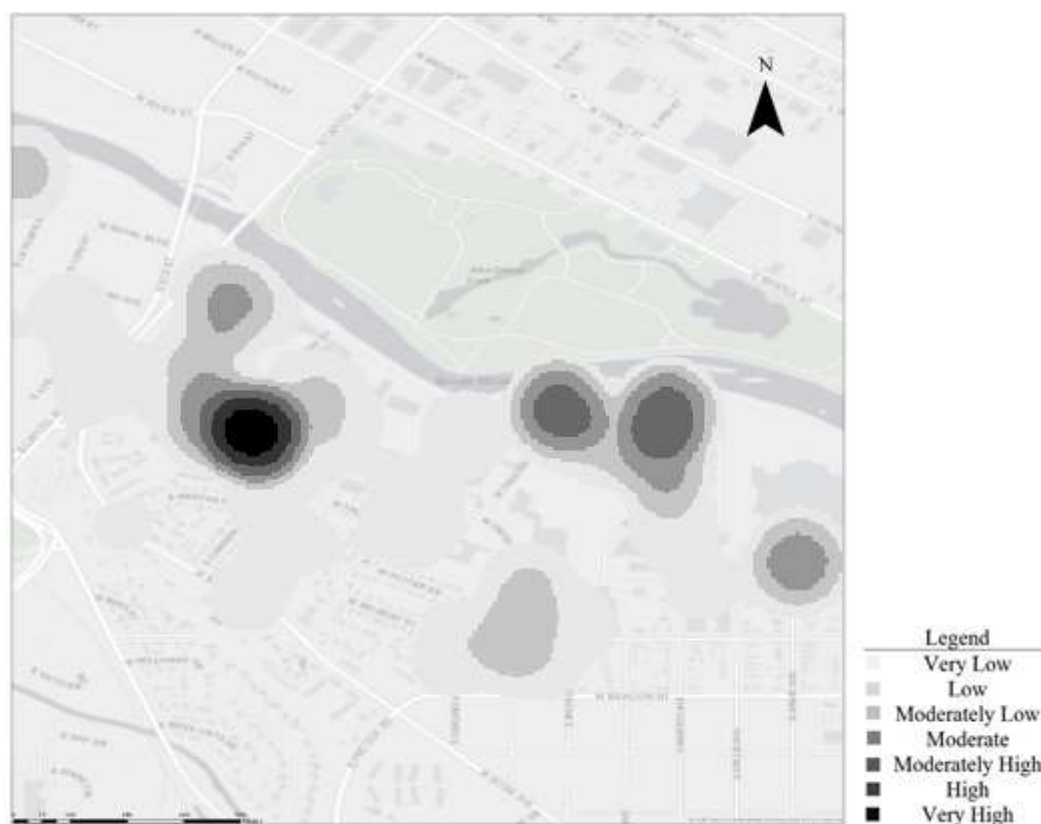


Figure 23. Fall of 2016 (September-November) Hot Spots

Lincoln Townhomes and Lincoln Garage were at a moderate risk which is different from other seasons. Different from other years, 2016 includes other private as it housed BSU's students through the University. Thus, similarly to its 2016 overview,

Figure 23 suggests that the Vista Apartments, more specifically the Vista West Apartments, are at moderate risk of crime. Differing from its overview, University Park suggests a low density compared to a moderately low density. Nevertheless, a lesser density was concentrated on the center of campus.

The density of crime events on-campus during the Spring of 2016 is displayed in Figure 24. The kernel density estimated a mean of 1495101 and a $SD = 2241834.72$. Of 284 crime events, 278 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, the Multipurpose Building, the ILC, the Brady Street Garage, and the buildings in proximity with a lesser density but a high risk at DKMT, Morrison Center, and the Lincoln Garage. More specifically, the Albertsons Stadium Parking Lot, the Albertsons Library, and JB Towers suggest moderately high risk, which slightly differs from other years and its overview.

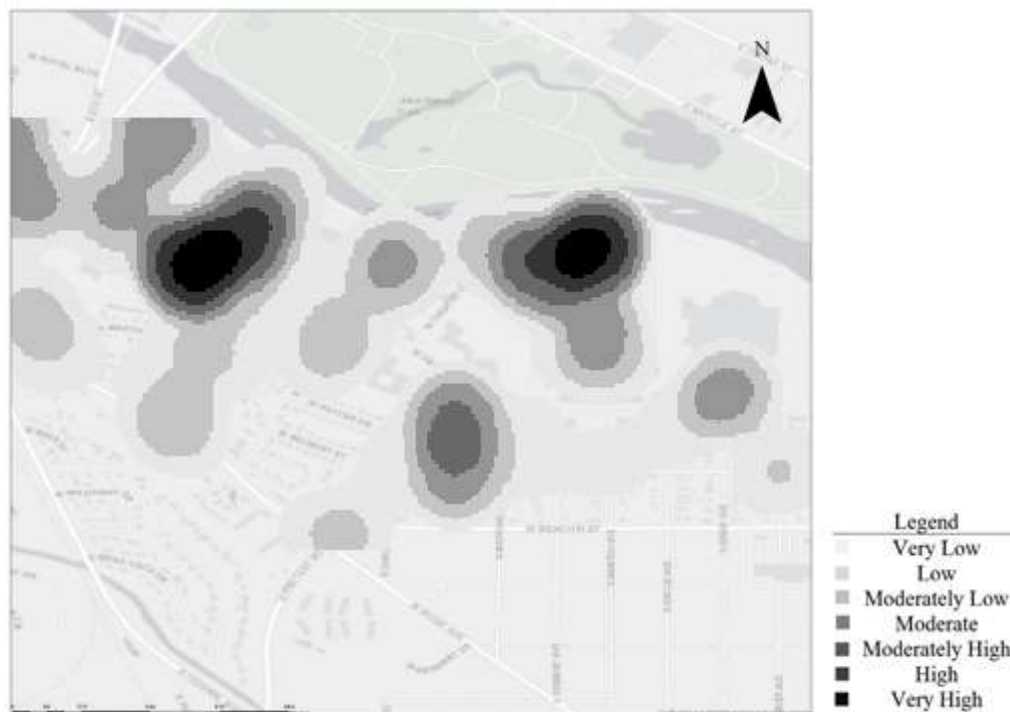


Figure 24. Spring of 2016 (March-May) Hot Spots

Different from its overview, University Manor appears as a moderately low hot spot in Figure 24, with a low density around it. Showing a moderately low density, the Quad and the Administration Building suggest a moderately low risk. Nevertheless, more density is being displayed as can be noted in Figure 24, with a lesser density to the lower-left and lower-right on the map, but most of it concentrating in the center and upper-left and the right border of campus.

The density of crime events on-campus during the Winter of 2016 is displayed in Figure 25. The kernel density estimated a mean of 976645.66 and a SD = 2242451.90. Of 281 crime events, 271 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in Chaffee Hall, Chaffee Hall, the Multipurpose Building, the ILC, the Brady Street Garage, and the

buildings in proximity with a lesser density but a high risk at DKMT, mostly clustering by Driscoll and Keiser Halls, and the Morrison Center.

With a moderately high density, the Albertsons Parking Lot and the Lincoln Townhomes at a moderately high risk of crime with a lesser density but a moderate risk in its proximate area. Encompassing University Park, University Heights, University Village, Capitol Village, University Square, JB Towers, the Albertsons Library, and the area in proximity of the Albertsons Stadium Parking Lot were at moderate risk. Different from its previous season, a low density was illustrated in the center of campus and the southeast border of campus.

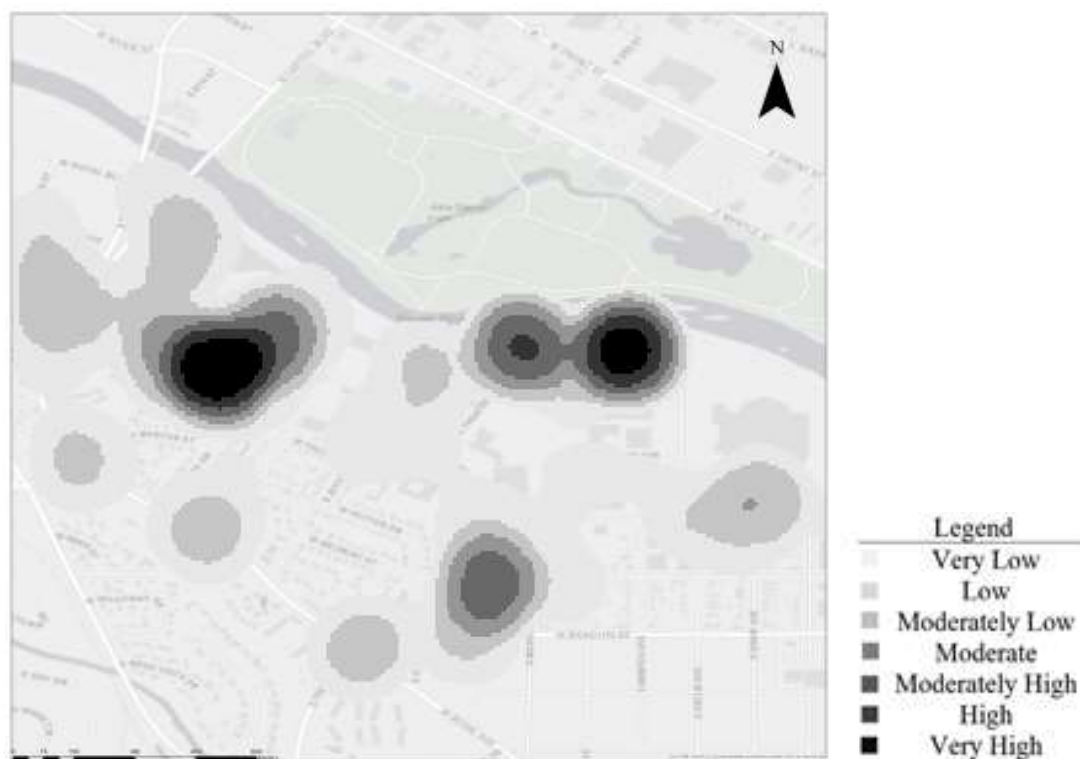


Figure 25. Winter of 2016 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2016 is displayed in Figure 26. The kernel density estimated a mean of 5697644.35 and SD =12862233.1.

One hundred and ninety-two on-campus crime events were distributed within the campus boundary polygon, which illustrates a high concentration of crime events at Chaffee Hall and a very high density in the area in proximity of the Math-Geo Building, the Multipurpose Building, and the ILC, which is consistent with past years and seasons. With a moderately high density, DKMT is at a high risk of becoming a hot spot as JB Towers, Lincoln Townhomes, Lincoln Garage, the Albertson Stadium Parking Lot, and other places are at a lesser density and risk even when compared to other years.

Similarly, to its general distribution, the SMASH building, which is home to the International Students Office and the Testing Center, is a rising hot spot with a moderate density. Encompassing the area by the Albertsons Library, a moderate density as illustrated in Figure 26, suggesting that the Albertsons Library was at a moderately low risk just like University Park, which houses a majority of non-traditional and international students, and Vista Apartments, which housed first-year residents who had been displaced by the influx of students.



Figure 26. Summer of 2016 (June-August) Hot Spots

The geospatial distribution of crime events on-campus during 2017 is displayed in Figure 27. Of the 474 crime events, 452 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime in the area in proximity of the Multipurpose Building, the ILC, Brady Street Garage, Math-Geo Building, and the buildings around them, which includes the SMASH by proximity. The 2017 kernel density estimated a mean of 1787084.19 and a SD = 3034852.21. More specifically, there were concentrations of incidents clustering at a high density by JB Towers, the Micron Business and Economics Building (MBEB), Chaffee Hall, the Albertsons Stadium Parking Lot, and the area in proximity and within the SUB.

Differing from previous years and seasons, a lesser density but a moderately high risk is suggested at the Special Event Center (SPEC), DKMT, and the area near the Albertsons Stadium, which encompasses the Caven-Williams Complex and the Keith

Stein Band Hall. Displaying a moderate density, University Apartments, Capitol Village, and the Honors College/Sawtooth Hall are at moderate risk. Significantly, the addition of the Honors College depicts a new hot spot in its location with a moderate risk, which differs through the seasons (see Figures 27 to 30).



Figure 27. 2017 Hot Spots

The density of crime events on-campus during the Fall of 2017 is displayed in Figure 28. The kernel density estimated a mean of 794289.37 and a SD = 1189796.08. Of 172 crime events, 168 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in the area in proximity of the Multipurpose Building, the ILC, Brady Street Garage, Math-Geo Building, and the buildings around them, similar to its overview. At a high density, JB towers and the Albertsons Stadium, including the area in its proximity suggest a high risk

of crime. Suggesting a moderately high density, Chaffee Hall risk decreases, making it a stable hot spot that decreases in severity.

Similar to Chaffee Hall's moderate high risk, the SUB, the SPEC, and the intramural field near the Kinesiology Building, suggest a moderately high density. At a lesser risk, but moderate risk, DKMT, the Albertsons Library, University Apartments, and the Lincoln Townhomes suggest a moderate risk of a hot spot which differs from its overview and for some areas, previous years. Shifting from previous years, the concentration of crime can be seen in the center of campus ranging from a high to moderate density and a lesser density in the lower-left border of campus where BSU's fraternity and sorority houses are located, which is in the general address of Yale Ct.



Figure 28. Fall of 2017 (September-November) Hot Spots

The density of crime events on-campus during the Spring of 2017 is displayed in Figure 29. The kernel density estimated a mean of 491663.62 and a SD = 872992.43. Of 122 crime events only, 110 on-campus crime events were distributed within the campus

boundary polygon, which illustrates a very high concentration of crime events at of the Multipurpose Building, the ILC, Brady Street Garage, Math-Geo Building, and the buildings around them, which includes dining areas and areas where students tend to interact during the school season. Displaying an increase in density when compared to the fall, Chaffee Hall suggests a high risk as the Albertsons Library and the MBEB suggested a moderate risk of victimization. Suggesting a low density, Yale Ct, University Square, University Suites, University Apartments except for University Park, and areas in proximity to the SUB (i.e., Benjamin Victor Gallery, Pioneer Hall, Dechevrieux Field, and Cooper Basin Building). Ranging from moderate density to moderately low, the Extra Mile Arena, which suggested a moderate risk as the area in proximity suggested a lesser density (i.e., Bronco Gym Kinesiology Building, Auxiliary Gym).

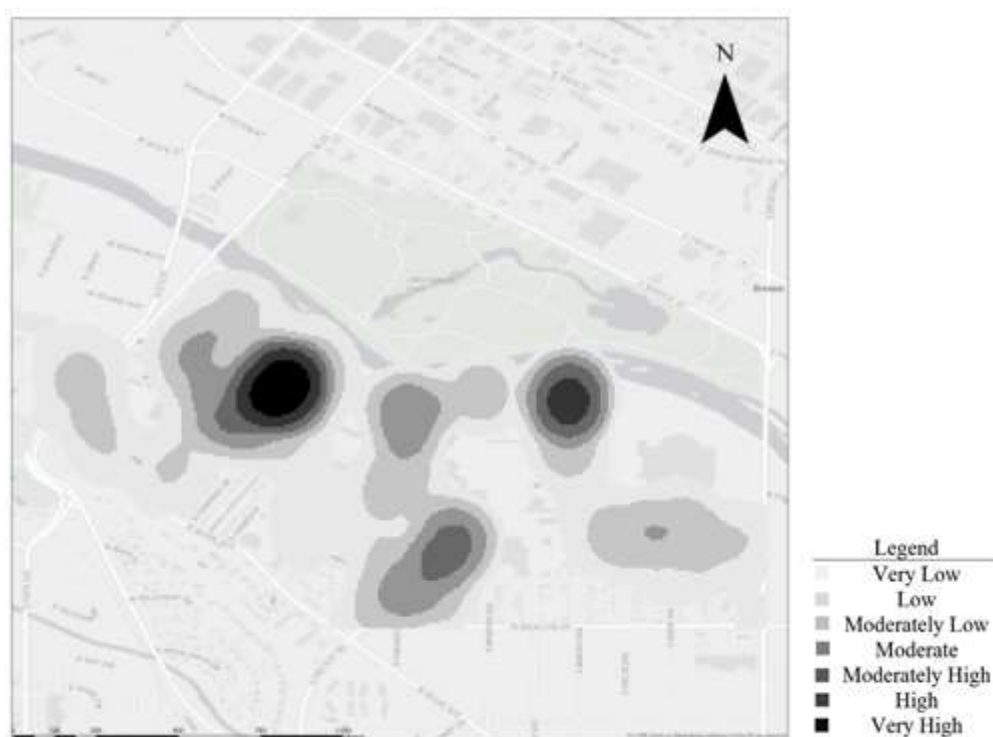


Figure 29. Spring of 2017 (March-May) Hot Spots

The density of crime events on-campus during the Winter of 2017 is displayed in Figure 30. The kernel density estimated a mean of 381454.72 and a SD = 516125.03. Of 100 crime events, 97 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at the Multipurpose Building, the ILC, and the Campus School with a high density at Brady Street Garage and the Lincoln Street Garage. Suggesting a moderately high density at the MBEB, DKMT, Chaffee Hall, and The Extra Mile Arena. At a moderate density, the general area in proximity to the SUB, and the general area in proximity to the Church of Jesus of Christ Latter-day Saints suggest that they are at moderate risk of victimization in the area as a lesser density can be seen in Figure 29 by University Square, University Suites, and University Apartments, the Albertsons Stadium Parking lot, and the Engineering Building.

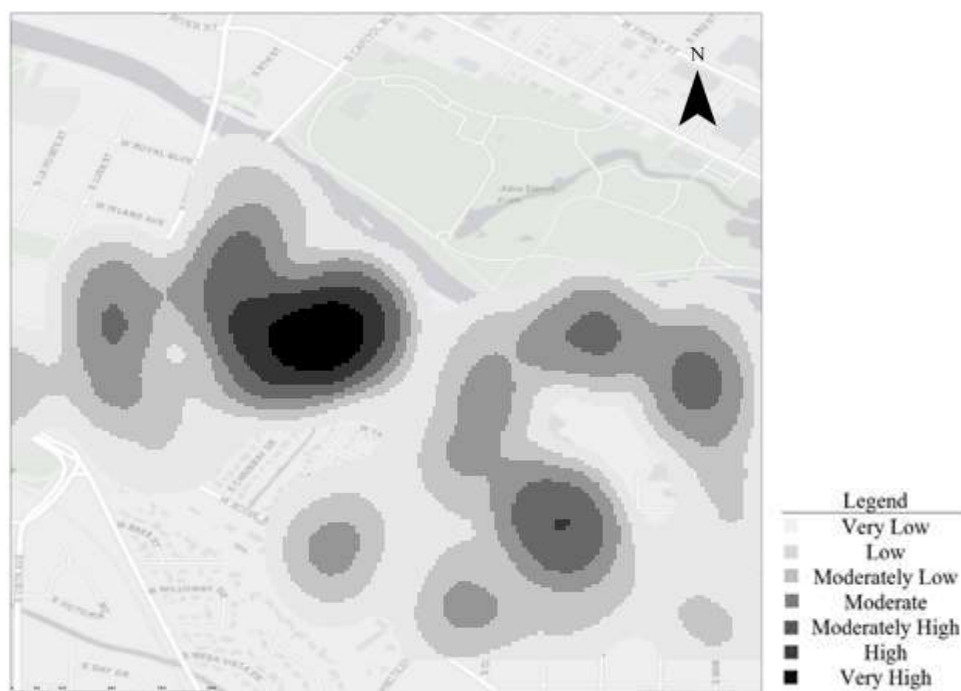


Figure 30. Winter of 2017 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2017 is displayed in Figure 31. The kernel density estimated a mean of 59258.24 and a SD = 190856.28. Eighty on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at the Multipurpose Building, the ILC, and the Campus School with proximity reaching to the Science/Education Building. At high risk of crime, the general area between the Albertsons Stadium Parking Lot and the Alumni & Friends Center, reaching the ERB suggests a high concentration of crime. Suggesting a moderately high density, the area around the Albertsons Stadium and the general area of the Benjamin Victor Gallery, Pioneer Hall, Dechevrieux Field, and Cooper Basin Building. Showing a moderately high density, as seen in Figure 31, the Amphitheater, also known as the Centennial Amphitheater, the Albertsons Library, and the Bronco Gym/Kinesiology Building.

Chaffee Hall and DKMT have decreased in density but still suggest a moderate risk of crime as University Square, and University Apartments (University Village and University Heights), increased in density when compared to the winter. Also suggesting a moderate risk of crime is the general area in Capital Village which includes Boise State's Human Resources Office, Campus Security, the Fine Arts Building, and a shared parking lot. At a lesser density, Yale Ct, the Lincoln Townhomes, and University Suites suggest that they are low risk hot spots.

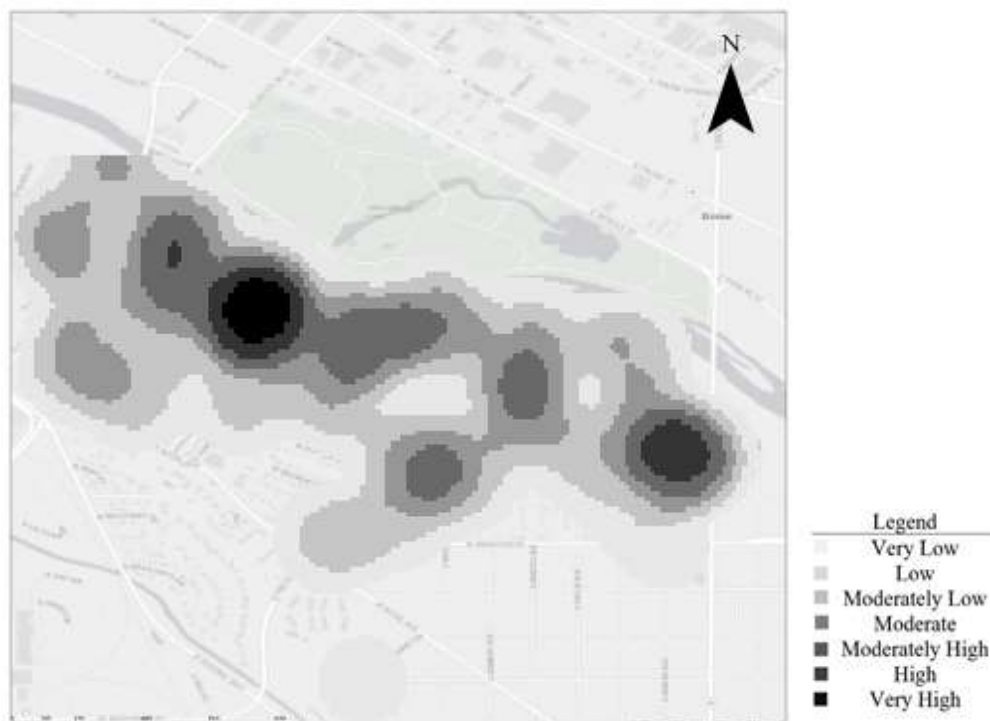


Figure 31. Summer of 2017 (June-August) Hot Spots

The geospatial distribution of crime events on-campus during 2018 is displayed in Figure 32. Of the 471 crime events, 446 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, St. Paul's Catholic Center, and the Multipurpose Building, the ILC, and the Campus School. The 2018 kernel density estimated a mean of 2059543.39 and a $SD = 3227243.08$.

More specifically, there were concentrations of incidents clustering at a high density at JB Towers with a lesser density, but at moderately high risk, are Brady Street Garage, the Lincoln Street Garage, and the area where the Center for Visual Arts Building, also referred as the Center for Fine Arts. Suggesting a moderate risk, the general area by the Alumni & Friends Center and the ERB. At a lesser density at University Square suggests a moderately low risk and a low risk at University Suites.

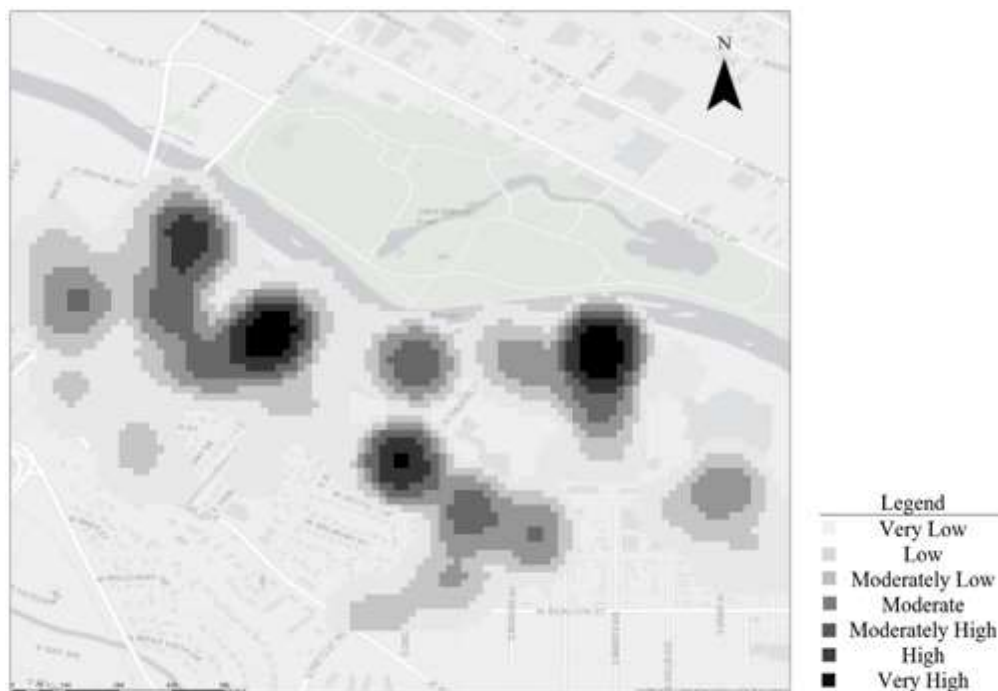


Figure 32. 2018 Hot Spots

The density of crime events on-campus during the Fall of 2018 is displayed in Figure 33. The kernel density estimated a mean of 833643.8 and a SD = 1032326.56. Of 168 crime events, 164 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events at Chaffee Hall, Honors College/Sawtooth Hall, the Multipurpose Building, the ILC, and the Campus School. Suggesting a high concentration of crime events, JB Towers, the area around the Brady Street Garage, the area around the Extra Mile Arena, the Albertsons Stadium Parking Lot, and the Lincoln Street Garage, as illustrated in Figure 33.

At a moderately high density, the Albertsons Library, Brady Street Garage, the Center for Fine Arts, and part of JB Towers parking lot suggested a moderately high risk of crime happening. At a higher density than its overview, University Square suggest a moderate risk which is higher than its general overview, which is illustrated in Figure 31.

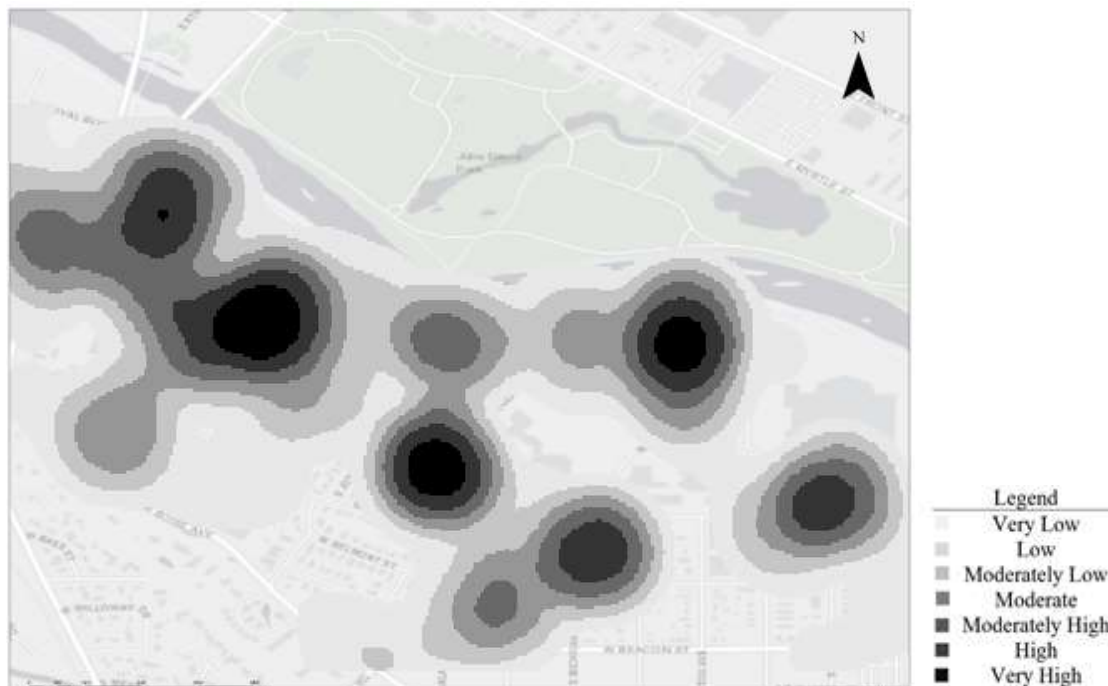


Figure 33. Fall of 2018 (September-November) Hot Spots

The density of crime events on-campus during the spring of 2018 is displayed in Figure 34. The kernel density estimated a mean of 568301.68 and a SD = 725822.85. Of 119 crime events, 111 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in Honors College/Sawtooth Hall, the Multipurpose Building, the ILC, the Campus School, the area in proximity of the Science/Education Building, and the SMASH building with a lesser density at the Math Building, but still suggesting a high risk. Differently from previous years, the Riverfront Hall and the area between the Quad and the Administration Building are at a moderately high-risk hot spot as the Albertsons Library, the Beady Street Garage had a high concentration of crime events. Suggesting a moderately high concentration of crime events, Chafee Hall, JB Towers, and the general area of the Center for Fine Arts and the MBEB.



Figure 34. Spring of 2018 (March-May) Hot Spots

The density of crime events on-campus during the Winter of 2018 is displayed in Figure 35. The kernel density estimated a mean of 511155.25 and a SD = 937115.80. Of 98 crime events, 93 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in Chaffee Hall. More specifically, there were concentrations of incidents clustering at a moderately high density in JB Towers, the Multipurpose Building, the ILC, and the Campus School as the Honors College/Sawtooth Hall, suggested a moderately low risk of crime.

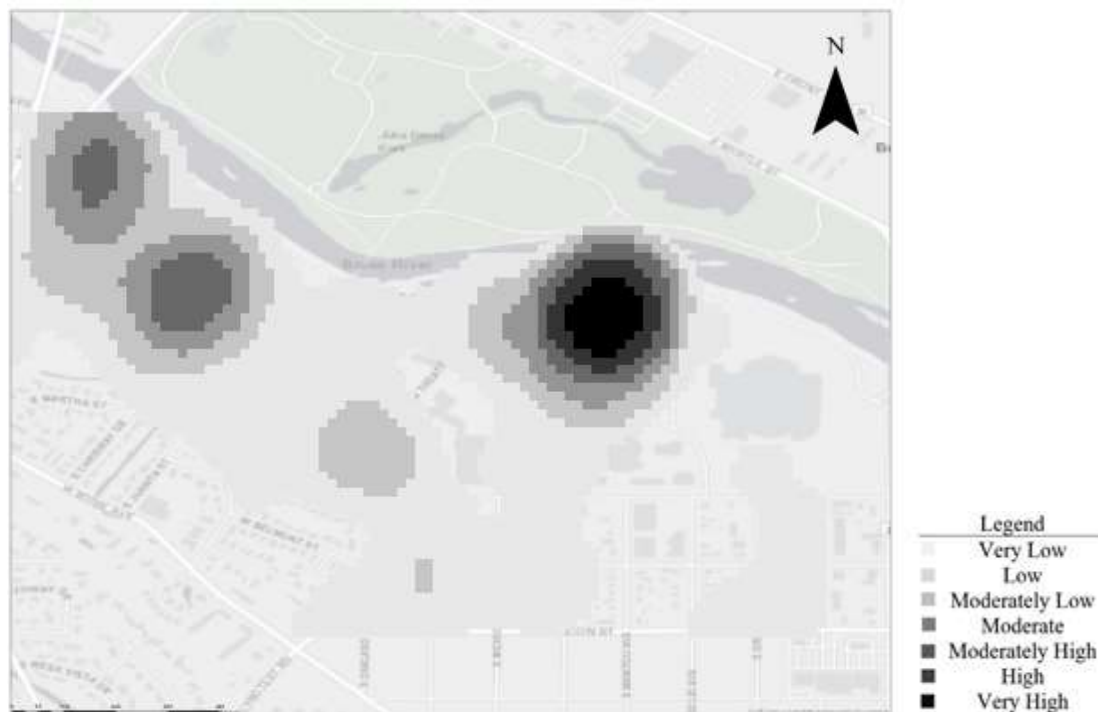


Figure 35. Winter of 2018 (December-February) Hot Spots

The density of crime events on-campus during the Summer of 2018 is displayed in Figure 36. The kernel density estimated a mean of 332498.01 and a SD = 429707.66. Of 86 crime events, 80 on-campus crime events were distributed within the campus boundary polygon, which illustrates a very high concentration of crime events in JB Towers, the Lincoln Street Garage, the Honors College, the Multipurpose Building, and the ILC. More specifically, there were concentrations of crime events clustering at a high density in the area around JB Towers, which is in the proximity to the Center for Fine Arts, and the Campus School.

At a moderately high concentrations of crime events clustering at Brady Street Garage, the Extra Mile Arena, University Suites, the MBEB, and Yale Ct. Suggesting a moderate density, the Albertsons Library, which is in the proximity of the Boise River

and the Boise Greenbelt, and the intersection between Broadway Ave & Beacon Ave, which is in proximity of stores, illustrated a moderate concentration of crime events.

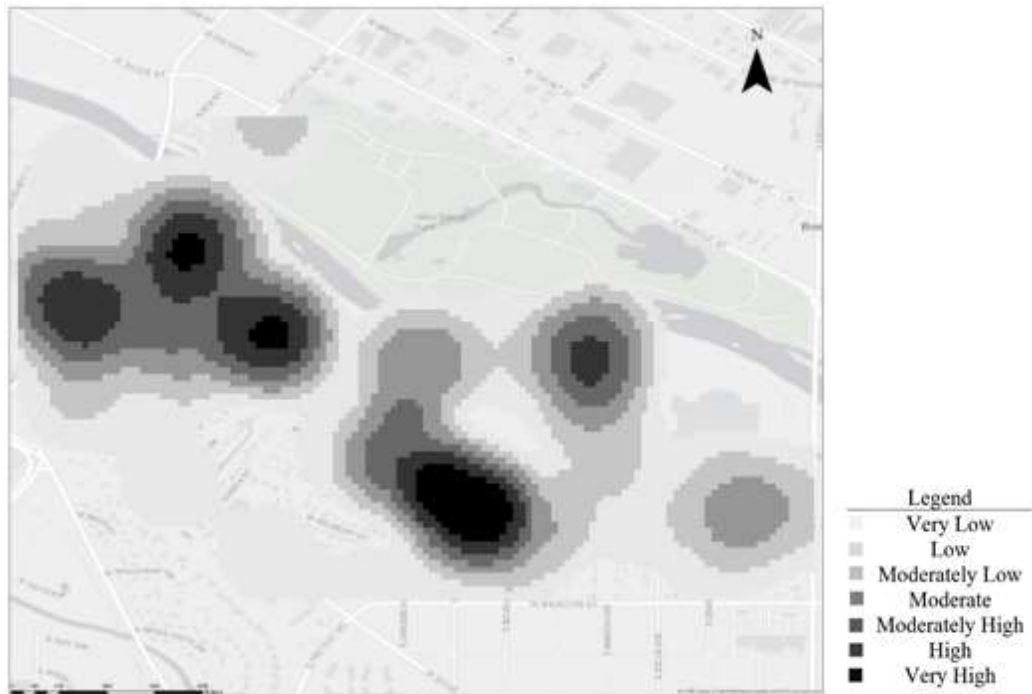


Figure 36. Summer of 2018 (June-August) Hot Spots

Yearly Kernel Densities

Even though results demonstrated some hot spot consistency, ranging from very high to moderately high crime density, supporting the hypothesis that crime patterns are partly but not entirely stable, it also identifies that some hot spots have moderately stable risks (Johnson et al., 2008). Overall, the magnitude of the concentration is seasonal, as hot spots reflected wide seasonal fluctuation.



Figure 37. 2012-2018 Hot Spots

Differently from previous maps, for Figures 37 to 41, the classification was set to equal intervals, as the data range of each class is held constant, to estimate for equal size kernels across the season, giving an equal class width with varying frequencies of observations per class. The maps of seasons per year presented in Figures 37 to 41 had a variety of case counts and sometimes highly concentrated spatial distributions, which

allowed for variable kernel cell sizes to be most appropriate. As data are condensed across years, this allows for equal kernel intervals to convey reliable information.

During 2012-2018, a total of 4,687 offenses were reported with 3,730 mapped with a kernel density estimated a mean of 19338805.85 and a $SD = 46537216.09$. Similar to the majority of the seasonal findings, Figure 37 showed that Chaffee Hall had a very high concentration of crime occurring as University Square showed a high concentration which differentiates from some of the findings gathered through the seasons.

At a moderate concentration, the Multipurpose Building, the ILC, and the intersection between W Theater Ln & W Cesar Chavez, which is near the Boise Greenbelt with a general location to the Centennial Amphitheatre illustrated a moderate density. Near the Centennial Amphitheatre, first-year resident housing Driscoll Hall, Taylor Hall, and the Communication Building show a lesser density, which contradicts some of the seasonal findings.



Figure 38. Fall 2012-2018 Hot Spots

During the Fall of 2012-2018, a cumulative total of 1,678 offenses out of 1,721 were mapped with a kernel density estimated mean of 8473772.01 and a SD = 19185469.85. Results found a very high-density near University Square and University Suites; however, Clearwater Suites is a shared office by the residents of University Square and University Suites. At a moderately high risk, Chaffee Hall shows a moderately high density, differing from seasonality results.

Figure 38 suggest that JB Towers, the Multipurpose Building, and the ILC are at a moderately low risk. Suggesting a moderately low density, the Extra Mile Arena, more specifically the entrance by Chaffee Hall, and a lesser density by the Albertsons Library.



Figure 39. Spring 2012-2018 Hot Spots

During the Spring of 2012-2018, a total of 1,134 offenses were reported and 1,087 were mapped with a kernel density estimated a mean of 5045960.62 and a SD = 9380767.52. Differing from Figure 37 and Figure 38, the spring results presented in figure 39 suggest that Chaffee Hall and the ILC had a high density of crime. Results found a moderately high density at Taylor Hall, University Square, and University Suites, which is different from the Figures 37 and 38. At a moderate density, the Albertsons Library, the Multipurpose Building, the Campus School and the area around the general area of University Square and University Suites as well as the area between DKMT, suggested a moderate risk of crime occurring.



Figure 40. Winter 2012-2018 Hot Spots

During the Winter of 2012-2018, a total of 1,119 offenses were reported and 1,057 were mapped with a kernel density estimated a mean of 5295683.22 and a SD = 11513319.47. The winter results presented in figure 40 suggest that Chaffee Hall had a high density of crime, similar to Figure 39. Clearwater Suites and the area in proximity by University Square had a moderately high density. At a moderate density were JB Towers, the Multipurpose Building, and the intersection between W Theater Ln & W Cesar Chavez. Findings suggest a moderately low crime density at the Lincoln Townhomes with a lesser density in its surrounding area.



Figure 41. Summer 2012-2018 Hot Spots

During the Summer of 2012-2018, a total of 756 offenses were reported and 719 were mapped with a kernel density estimated a mean of 3239400.8 and a SD = 5115053.39. Results presented in figure 41 found that Chaffee Hall had a very high density, which is similar to Figures 39 and 40. At moderately high densities are the ILC and the Mathematics Building, which differs from other seasons and previous years. At a moderately low risk, the Lincoln Garage and part of the SUB, University Square, University Suites, the intersection between W Theater Ln & W Cesar Chavez, and the intersection between S Capitol Blvd and W University Dr depict a moderately low density, which differs from other seasons and previous years. Results found a low density at the Albertsons Library, University Apartments, the Centennial Amphitheatre, Lincoln Townhomes, and the Albertsons Stadium, which differs from other seasons and previous years.

Summary of Findings

Seasonal crime counts are presented in Table 1. Similar to 2012, more property offenses were reported in 2013. Property crimes had an average of 52.5 offenses per season in 2013. A total of 419 crime offenses occurred in 2013. Different from 2012 and 2013, more alcohol-related & drug offenses were reported in 2014. Property crimes were reported the most during the summer and were the second most committed offense during the fall, spring, and winter with an average of 47.75 offenses per season in 2014.

Alcohol-related & drug offenses had an average of 86 offenses per season in 2014. A total of 761 crime offenses occurred in 2014, which is 61 more offenses when compare to its crime events. Similar to the 2014 data, more alcohol-related & drug offenses were reported than property crimes. However, alcohol-related & drug offenses were at a constant high all year long, with property offenses being the second most common type of offense being committed. Alcohol-related & drug crimes were reported the most with an average of 163.75 offenses per season in 2016. Property crimes were the second-highest offense reported all year round with an average of 74.5 offenses per season in 2016. A total of 1,365 crime offenses occurred in 2016. Property crimes were reported the most with an average of 68.5 offenses per season in 2017. Alcohol-related & drug crimes were the second-highest offense reported all year round with an average of 24.5 offenses per season in 2017. A total of 502 crime offenses occurred in 2017. Property crimes were reported the most with an average of 54 offenses per season in 2018.

Alcohol-related & drug crimes were the second-highest offense reported all year round with an average of 31.5 offenses per season in 2018. A total of 482 crime offenses occurred in 2018. Overall, property crimes and alcohol-related & drug offenses peak

were relatively high from 2012 to 2018 but tend to peak in different amounts through the years.

Considering seasonality, alcohol-related & drug offenses peaked during the fall five out of seven years. Alcohol-related & drug offenses did not peak in the fall but during the winter in 2012 and 2014. Almost consistently, property offenses peaked during the fall with the exception of 2014, in which property crimes peaked during the spring. Violent offenses peaked consistently until the fall, from 2012 to 2013 and 2015 to 2018, and peaked during the summer in 2014 aligning with the literature (Ranson, 2014; McDowall et al., 2011; Lauritsen and White, 2014). In 2018, violent offenses peaked during the fall and spring which differs slightly from the literature as higher temperatures caused more crime for most categories of violent crime (Ranson, 2014).

Peaking at different rates through the years during the fall, winter, and spring, sex offenses peaked almost consistently in the fall. However, in 2016, sex offenses peaked only in the winter and in 2014, sex offenses peaked during the fall and winter. In a slightly different manner, sex offenses peaked in 2018 during the fall and spring.

Peaking in three seasons out of four, white collar offenses peaked during the Winter of 2012 to 2013, the Summer of 2014, and the Fall of 2015 to 2018. As miscellaneous offenses peaked differently depending on the year. In 2012, miscellaneous offenses peaked during the winter and summer at similar rates. Slightly similar to 2012, in 2013, miscellaneous crimes peaked during the winter. As in 2014, miscellaneous crimes shifted and peaked during the spring. Differently from other seasons throughout the year, miscellaneous crimes peaked consistently during the Winter of 2015 to 2017, as it shifted to the fall in 2018.

Cumulatively, these results suggest that indeed, counts of various crime types (alcohol & drugs, property, violent, white-collar & financial crimes, or miscellaneous) will peak differently depending on the season (i.e., fall, winter, spring, and summer) as crime tends to fluctuate differently in the fall compare to the spring, spring to winter, winter to summer, and vice versa, which shows support of hypothesis 1. A Chi Square test statistic indicates statistically significant differences of the counts of crimes in the four seasons ($\chi^2 = 442.93$, $p < .001$, $df = 3$).

Throughout the study period, counts of alcohol-related and drug offenses were regularly the most frequent across seasons with the exception of the summer season, in support of hypothesis 2. Statistically significant differences in the counts of alcohol-related and drug offenses were found across seasons ($\chi^2 = 344.44$, $p < .001$, $df = 3$). Despite these categorical count differences, alcohol-related and drug offenses were generally found to be the most frequent crime type within each season of the academic year. Only during the summer were alcohol-related and drug offenses found to be the second most frequent crime type. Similarly, statistically significant differences in the counts of property offenses were also found across seasons ($\chi^2 = 99.59$, $p < .001$, $df = 3$). Property offenses were found to be the second most frequent crime type within each season of the academic year and the most frequent crime type during the summer season. Together, this suggests that although the frequencies of these crime types significantly vary by season, their importance is consistent across season, supporting hypothesis 2.

These findings support the literature (Haberman et al., 2018; Hill & Paynich, 2014, p. 220) that spatial and temporal patterns can vary year by year as hot spots are dynamic and change over periods of time. Due to the increased crime counts during the

years of 2015 and 2016, these chi-square statistics were reanalyzed omitting these years. Results were substantively the same, a Chi-Square test statistic indicates statistically significant differences of the counts of crimes in the four seasons ($\chi^2 = 80.16$, $p < .001$, $df = 3$). As property offenses were found to be statistically significant differences in the counts of property offenses across seasons ($\chi^2 = 161.41$, $p < .001$, $df = 3$).

These results suggest partial support for hypothesis 3 as introduction of new buildings will shift hot spots around campus but are not just particular to the addition of residential student housing locations. However, more research is warranted in this area as routine activities deliver easy crime opportunities to the offender (Felson, 1987), which the addition of new buildings shift. Additionally, the finding suggest that crime hot spots will vary depending on the season. This supports Johnson et al. (2008) findings that crime hot spots demonstrated that crime patterns are not entirely stable but suggest that the analysis aims to identify high crime areas with stable risks.

CHAPTER FIVE: LIMITATIONS

The study is limited in some ways, mostly through its study area and its data. First, this study area allows for very unique study conditions as Boise, Idaho is relatively safe and geographically unique due to its proximity to the Boise Greenbelt, the Zoo, and the Boise River, which limits its generalizability. Considering its population, demographics, and geography, these findings do not allow generalizations to more diverse, rural, or campuses in high crime areas. Despite this, it does provide important information to allocate resources at BSU and allows for the practice to be imitated by other institutions. Moreover, it is important to note that crime fluctuates through the seasons and by type may depend on the context and activities present on specific campuses.

Secondly, though not all students live exclusively on-campus, most may spend a substantial amount of time interacting with the space. Students, faculty, and staff may leave campus to shop, eat, drink, and socialize with a poor understanding of their relative risk when relying solely on Clery statistics for information (Noble et al., 2012). Considering this, campus crime can be impacted by BSU's proximity to the larger community such as stores, bus stops, banks, bars, and liquor stores, also referred as risky facilities, which can plausibly be hot spots at the city level (Eck, Clarke, & Guerette, 2007). Thus, it is important to examine these areas and the gender-specific dynamics of gendered spaces (e.g., grocery stores, banks, bars, etc.), which are known to influence routine activities (Savard, Kelley, & Merolla, 2017).

Third, it is important to note that the decrease in crime events in certain years can be attributed to the way data are entered and/or manipulated by departments. The increase of crime events in individual years can be partially be attributed to an increase in population as the number of students coming in and graduating, transferring, or leave fluctuates by semester and/or year.

Beyond the study area, the data had some limitations of its own by using second-hand data, which derived from the Boise State's 2012 to 2018 Campus Crime Logs (2018-b). Data are entered into the crime log when it is reported to the Boise State University Department of Public Safety, which is a limitation itself as it focuses on crimes that are initially reported to a campus security authority other than a member of the Department of Public Safety. From an outsider's perspective, viewing the crime logs and reading the jargon used by the officers to explain locations would have made geolocation impossible as names of building change or are abbreviated in a manner that only someone associated or who interacts with the university would understand. This does not present such a problem as the names of buildings can be traced back to BSU's archives but do not account for the exact location of such buildings without significant work when looking at historical data.

Moreover, the way data are reported does not account for the dark figure of crime or crimes that are underreported. Further, when the data are cleaned and data ranges (e.g. 12/2012-1/28/2013) are eliminated from the data set, a significant amount of crimes are removed, which limits the ability to capture the full figure of crime. Though it might not necessarily affect stable hot spot(s), it cannot capture the magnitude of the hot spot(s) or the clustering of crime in certain areas if there is patterning. Wilcox, Jordan, & Pritchard

(2007) note that there may be systematic bias in noncompliance whereby certain crimes (e.g., those committed by other students) are less often reported, less widely reported, or reported with fewer details. Furthermore, even if crimes committed by acquaintances, including other students, are reported by colleges and universities in the exact same manner as are crimes committed by strangers, these reports may be received differently on the part of college or university women (Wilcox et al., 2007).

Sometimes abbreviations in the current data made it harder to identify a general address based on general locations. If a person is not familiar with BSU or its jargon, it would be plausible that some general locations would never be a link to a general address and be eliminated. For instance, when crimes are described to occur on campus, it becomes harder to distinguish if the offenses were committed at the Campus School (see Location Book, Appendix B) or if the where committed on campus unless specified. The way data are managed made it harder to read or figure out locations as, in some instances, no information was found, but the crime was reported for statistical purposes. Grammar mistakes and the use of “and/or” to describe the general location of space made it hard, if not impossible, for addresses to be pinpointed as, in some cases, the intersections did not exist on a map or were too far from each other for the address to be pinpointed. In some instances, the intersections were geographical impossible but could have been explained if it was assumed that such offense(s) were committed in multiple locations. The vagueness of addresses led to some addresses to be deleted as proximity to the Greenbelt would map the area along with it unless identifiers were given to describe the proximity to the Greenbelt.

Moreover, the data inserted into Boise State' Campus Crime Logs is not GIS friendly as it only provides a general location of where the incident happened and provides multiple locations or ranges. This method is not helpful as no X or Y axis is provided; thus, making it more time consuming to understand when inserted into their data sets to narrow down a more specific location. Hours/time were removed as not every case was given a time of occurrence. Violations had to be split as, in some cases, the natural classification of the crime did not match just one crime type. Off-campus and unknown cases were removed for study purposes.

Like most studies following a routine activities framework, a suitable target was not directly measured as the crime event had already taken place and reported to BPD for the crime event to appear on the logs. Regarding capable guardianship, the presence of people around campus and other entities invokes guardianship but does not measure its capability or presence. Capable guardianship is implied as some buildings provide surveillance and lightning inside and outside the property and/or street(s). Regarding the role of a motivated offender, the presence of a crime event invokes that at some point in space and time, such motivation existed, which led to illegal activity.

CHAPTER SIX: DISCUSSION AND CONCLUSION

Identification of hot spots allows for the allocation of resources by police departments, which can be used more efficiently by instituting programs such as problem-oriented policing (Bowers et al., 2004; Eck et al., 2005; Johnson et al., 2008; Johnson, 2000). Through the collection of crime data, patterns of crime can be used to better patrol areas and establish better resources to address alcohol-related & drug offenses as well as property offenses that tend to peak at different points in space and time (Eck et al., 2005; Chainey et al., 2008). The forecast of future crime in areas where crime concentrates in space and time can lead to the eventual decrease of crime.

This study examined the crime type fluctuation through seasonal patterns using kernel density hot spot analysis. The data were mapped to identify geospatial patterns of crime through the seasons on a campus in Boise, Idaho over a seven year period. Under the framework of routine activity theory, it was hypothesized that certain crime types would peak depending on the season, that the introduction of resident housing locations will shift hot spots around campus using 2012-2018 Boise State Crime Logs, that the prevalence of alcohol-related offenses and property crimes will be consistent, and that crime hot spots will vary depending on the season. The findings of this study largely support these hypotheses and add to the literature discussed.

The results of this study support that different crime types have seasonal patterns that are likely driven by different spatial activity patterns. Results illustrated that from 2012 to 2018, property and alcohol-related & drug offenses are consistently high across

years but tend to peak at different times during the seasons. Property crimes consistently peak through the years and seasons during 2012, 2013, 2017, 2018 and only peaked during the Summer of 2014. During 2014, alcohol-related & drug offenses peak during the fall, spring, winter, but not the summer. Consistently, alcohol-related & drug offenses peak through the years of 2015 and 2016, which support the literature that crime is not spread evenly across time (Eck et al., 2005) and that crime patterns are not entirely stable (Johnson et al., 2008).

Through these findings, hot crimes exhibited seasonal behavior and followed slightly similar cycles through the years (McDowall et al., 2011). Nevertheless, some of the findings differ from the literature as alcohol-related & drug offenses and property offenses peak almost consistently during the fall. Slightly supporting the literature regarding high temperatures causing most violent crime, violent offenses were consistently until the fall, from 2012 to 2013 and 2015 to 2018; with 2018 experiencing a peaked of violent offenses during the fall and spring. Aligning with the literature (Lauritsen & White, 2014; McDowall et al., 2011; Quetelet, 1842; Ranson 2014), summer and spring accounted for warmer temperatures in Idaho as fall ranges from warm to cold weather. Findings can be used to allocate their resources and prioritize the high-density locations for intervention efforts.

Regarding sex offenses, they peaked almost consistently during the fall but peaked at different rates through the years, which is almost similar to Lauritsen and White's (2004) findings. White collar offenses peaked mostly during the winter and the fall as miscellaneous offenses peaked differently depending on the year. Hence, alcohol-related & drug offenses and property offenses peak almost consistently during the fall as

students are new to campus and responsibilities in a new milieu making them more susceptible to crime. Overall, these findings suggest that various crime types, also referred to as “hot crimes,” will suggest a very high density differently depending on the season as property and alcohol-related & drug offenses remained consistently high through the years but varied in seasonality.

Collectively, results suggested some stability in the types of crime that are most prevalent in each season throughout the years, particularly the high prevalence of property and alcohol-related and drug crimes. This provides partial support for hypothesis 1 and firm support for hypothesis 2.

Although this study assessed seasonality of crime types, future research should assess separate spatial analyses for each crime type (Chainey et al., 2008; Malleson & Andresen, 2015) as conducting spatial analyses on each crime type by season will illustrate the frequency of hot crimes and hot locations. Even though conducting spatial analyses on campus limits your area to the institution, it allows for the identification of routine activities through crime analyses. However, academic institutions are relatively safe (Daigle & Muftić, 2016), these findings can allow higher institutions, such as BSU, to conduct hot spots analysis to address their relatively low crime rates.

When considering spatial distributions, first-year resident housing Chaffee Hall and JB Towers showed that they consistently generate a higher amount of calls making them high-risk hot spots for offenses. DKMT, Lincoln Townhomes, University Square, and University Suites showed that they play a role in generating a higher amount of calls making them high-risk hot spots depending on the season (Eck et al., 2005). First-year residence halls, such as Chaffee Hall, Taylor Hall, JB Towers, and dining areas were

found to be stable hot spots throughout 2012. The concentration of crime events that occur at the Albertsons Stadium and the Extra Mile Arena, which are in areas where sports tailgating occurs, increased crime generators and crime attractors on campuses. However, they did not become significant attractors until 2016 as their parking lot produced more criminal activity. The Albertsons Stadium and the Extra Mile Arena proximity to restaurants and bars off-campus potentially happened as likely offenders, and suitable targets are attracted to these locations on campus to enjoy sports and other events (LaRue & Andresen, 2015). The stadium's and arena's proximity to bars and restaurants off-campus, provide both a crime-generating milieu and a point where all three aspects of routine activity theory converge in space and time. Regarding seasonality, first-year residents' halls generated a higher amount of calls making them high-risk hot spots through the seasons but peaking at different frequencies through the years. This suggests that hypothesis 4, which hypothesized that hotspots will vary by season, is not supported.

Regarding hypothesis 3, the addition of new buildings did seem to shift the activity on-campus, which can be seen from 2016 to 2018. With the addition of the Alumni & Friends Center and the Center for Fine Arts, crime activity started concentrating at different rates in the proximity and those areas. This finding is in line with routine activity theory, as crime would be expected to rise in areas where there is an introduction of suitable targets.

Overall, the current study offers contributions to the literature on college student crime, campus crime, crime mapping, and the seasonality of crime through a routine activity framework. Clearly, various crime types, mostly alcohol & drugs and property

crimes, will peak differently depending on the season (i.e., fall, winter, spring, and summer) as the introduction of new buildings, not just residential student housing locations, seem to shift the routine activities of individuals around campus. Through a routine activity framework, these findings are to be expected as alcohol & drugs hinder the senses of a suitable target and/or guardian, depending on the situation, which hinders two of the three elements that can prevent victimization. Regarding the consistent prevalence of alcohol-related offenses and property crimes, these results found partial support as alcohol & drugs and property offenses were relatively high but differentiated in frequency throughout the seasons, which makes sense as a capable guardian, a likely offender, and a suitable target may converge in different points in space and time as the likely offender may be motivated by a different need or want at the time where these three elements converged.

Through a routine activity framework, crime hot spots vary depending on the season as a capable guardianship, a likely offender, and a suitable target may be motivated by a different drive at the time where these three elements converged depending on the season. A likely offender may be motivated to steal more during the winter than the summer due to holidays and may be more prone to violent offenses in the summer than the fall because of the temperature. While this seasonality of crime types is in support of routine activity theory, little evidence was present that variation in the routine activities of campus impact the spatial distribution of crime hot spots.

REFERENCES

- Altizer, T. (2005). *Sexual harassment: A test of routine activities theory and general theory of crime*. (Unpublished doctoral dissertation). University of North Carolina at Charlotte.
- Andresen, M. A., & Hodgkinson, T. (2019). Place-Based Data, Methods, and Analysis: Past, Present, and Future. In *Handbook on Crime and Deviance* (pp. 3-19). Springer, Cham.
- Andresen, M. A., & Malleson, N. (2013). Crime seasonality and its variations across space. *Applied Geography*, *43*, 25-35.
- Barrera, D. J., Rubio, R., Idong, J., Banua, J., Silorio, A., Sojor, D. M., & Calunod, C. (2015). Victimization among Lesbian, Gay, and Bisexual Filipino College Students: The Role of Lifestyle and Neighborhood Characteristics. *Prism*, *20*(1).
- Bethune, K. M. (2016). A perfect storm: A routine activity analysis of female undergraduate sexual assault. (Unpublished doctoral dissertation). The University of North Carolina at Greensboro.
- Boise State University. (2019). *About Boise State University*. Retrieved from <https://www.boisestate.edu/about/>
- Boise State University. (2019-a). *Crime Prevention and Resources*. Retrieved from <https://security.boisestate.edu/crime-prevention/>
- Boise State University. (2019-b). *Campus Crime Log*. Retrieved from <https://security.boisestate.edu/crimelog/>
- Boise State University. (2019-c). *Boise State University Campus Map*. Retrieved from <https://maps.boisestate.edu/?id=715#!m/115308?ct/33178,21174,8947,8943,8948,12062,27695,27732,27733,27734,8956,15184,15185,15186,15187,15188,14127,14128>

- Boise State University. (2019-d). *The Boise State Story-Buildings*. Retrieved from <https://archives.boisestate.edu/universityarchives/timeline/buildings/>
- Boise State University. (2019-e). *Student Affairs and Enrollment Management*. Retrieved from <https://www.boisestate.edu/saem/about-our-division/reports-and-enrollment-data/enrollment-data/>
- Boise State University. (2019-f). *2018 Annual Security and Fire Safety Report*. Retrieved from <https://www.boisestate.edu/publicsafety-security/campus-crime/annual-security-report/>
- Bowers, K. J., Johnson, S. D., & Pease, K. (2004). Prospective hot-spotting: the future of crime mapping?. *British journal of criminology*, 44(5), 641-658.
- Brower, A. M., & Carroll, L. (2007). Spatial and temporal aspects of alcohol-related crime in a college town. *Journal of American College Health*, 55(5), 267-275.
- Centers for Disease Control and Prevention. (2018, March 27). CDC-Data and Maps-Alcohol. Retrieved from <https://www.cdc.gov/alcohol/data-stats.htm>
- Centers for Disease Control and Prevention. (2018, August 2). CDC-Fact Sheets-Underage Drinking-Alcohol. Retrieved from <https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm>
- Centers for Disease Control and Prevention (2011, November). National Intimate Partner and Sexual Violence Survey: 2010 Summary Report. Retrieved November 2019, from https://www.cdc.gov/violenceprevention/pdf/NISVS_Report2010-a.pdf
- Chainey, S., Tompson, L., & Uhlig, S. (2008). The utility of hotspot mapping for predicting spatial patterns of crime. *Security journal*, 21(1-2), 4-28.
- Cohen, L., & Felson, M. (1979). Social change and crime Rate Trends. *A Routine Activity Approach American Sociological Review*, 44.
- Cohen, L. E., & Felson, M. (2003). Routine activity theory. *Criminological Theory: Past to Present (Essential Readings)*. Edited by Francis Cullen, Robert Agnew. Los Angeles, California, 284-294.

- Cohn, E. G., & Rotton, J. (2000). Weather, seasonal trends and property crimes in Minneapolis, 1987–1988. A moderator-variable time-series analysis of routine activities. *Journal of Environmental Psychology, 20*(3), 257-272.
- Cross, J., Zimmerman, D., & O’Grady, M. (2009). Residence hall room type and alcohol use among college students living on campus. *Environment and Behavior, 41*(4), 583-603.
- Daigle, L. E. & Muftić, L. R. (2016). *Victimology*. Thousand Oaks, CA: Sage Publications.
- DeFour, D. C., David, G., Diaz, F. J., & Thompkins, S. (2003). The interface of race, sex, sexual orientation, and ethnicity in understanding sexual harassment. *Academic and workplace sexual harassment: A handbook of cultural, social science, management, and legal perspectives*, 31-45.
- De Melo, S. N., Pereira, D. V., Andresen, M. A., & Matias, L. F. (2018). Spatial/temporal variations of crime: A routine activity theory perspective. *International journal of offender therapy and comparative criminology, 62*(7), 1967-1991.
- Dziech, B. W. (2003). Sexual harassment on college campuses. *Academic and workplace sexual harassment: A handbook of cultural, social science, management, and legal perspectives*, 147-172.
- Eck, J.E. (1994) Drug markets and drug places. Unpublished PhD dissertation, University of Maryland, College Park, MD.
- Eck, J., Chainey, S., Cameron, J., & Wilson, R. (2005). Mapping crime: Understanding hotspots.
- Eck, J. E., Clarke, R. V., & Guerette, R. T. (2007). Risky facilities: Crime concentration in homogeneous sets of establishments and facilities. *Crime prevention studies, 21*, 225.
- Felson, M. (1987). Routine activities and crime prevention in the developingmetropolis. *Criminology, 25*(4), 911-932.

- Fineran, S. (2002). Sexual harassment between same-sex peers: Intersection of mental health, homophobia, and sexual violence in schools. *Social Work, 47*(1), 65-74.
- Fisher, B. S., Cullen, F. T., & Turner, M. G. (2000). The Sexual Victimization of College Women. Research Report.
- Fisher, B. S., Daigle, L. E., & Cullen, F. T. (2010). What distinguishes single from recurrent sexual victims? The role of lifestyle—routine activities and first—incident characteristics. *Justice Quarterly, 27*(1), 102-129.
- Gardella, J. H., Nichols-Hadeed, C. A., Mastrocinque, J. M., Stone, J. T., Coates, C. A., Sly, C. J., & Cerulli, C. (2015). Beyond Clery Act statistics: A closer look at college victimization based on self-report data. *Journal of interpersonal violence, 30*(4), 640-658.
- Green, Erica L. (2018 November 16). Sex Assault Rules Under DeVos Bolster Defendants' Rights and Ease College Liability. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/11/16/us/politics/betsy-devos-title-ix.html>
- Groff, E. R. (2008). Adding the temporal and spatial aspects of routine activities: A further test of routine activity theory. *Security Journal, 21*(1-2), 95-116.
- Haberman, C.P., Sorg, E.T., & Ratcliffe, J.H. (2018). The seasons they are a changing': Testing for seasonal effects of potentially criminogenic places on street robbery. *Journal of Research Crime and Delinquency, 55*(3), 425-459.
- Henson, V. A., & Stone, W. E. (1999). Campus crime: A victimization study. *Journal of Criminal Justice, 27*(4), 295-307.
- Hill, B., & Paynich, R. (2014). *Fundamentals of Crime Mapping* (2nd ed.). Burlington, MA: Jones & Bartlett Learning.
- Hollis, M. E., Felson, M., & Welsh, B. C. (2013). The capable guardian in routine activities theory: A theoretical and conceptual reappraisal. *Crime Prevention and Community Safety, 15*(1), 65-79.
- Johnson, S. D., & Bowers, K. J. (2008). Stable and fluid hotspots of crime: differentiation and identification. *Built Environment, 34*(1), 32-45.

- Johnson, C. P. (2000, January). Crime mapping and analysis using GIS. In *Geomatics Conference on Geomatics in Electronic Governance, January*.
- LaRue, E., & Andresen, M. A. (2015). Spatial patterns of crime in Ottawa: the role of universities. *Canadian Journal of Criminology and Criminal Justice*, *57*(2), 189-214.
- Lauritsen, J. L., & White, N. (2014). Seasonal Patterns in Victimization Trends. *Oxford Bibliographies Online Datasets*, 1-20. Retrieved May 28, 2019, from <https://www.bjs.gov/content/pub/pdf/spcvt.pdf>.
- Malleson, N., & Andresen, M. A. (2015). The impact of using social media data in crime rate calculations: shifting hot spots and changing spatial patterns. *Cartography and Geographic Information Science*, *42*(2), 112-121
- McDowall, D., Loftin, C., & Pate, M. (2011). Seasonal cycles in crime, and their variability. *Journal of Quantitative Criminology*, *28*(3), 389-410.
- McNeal, L. R. (2007). Clery act: Road to compliance. *Journal of Personnel Evaluation in Education*, *19*(3-4), 105-113.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, *100*(4), 674-701.
- Nobles, M. R., Fox, K. A., Khey, D. N., & Lizotte, A. J. (2012). Community and campus crime: A geospatial examination of the Clery Act. *Crime & Delinquency*, *59*(8), 1131-1156.
- Popp, A. M., & Peguero, A. A. (2011). Routine activities and victimization at school: The significance of gender. *Journal of interpersonal violence*, *26*(12), 2413-2436.
- Quetelet, L. A. J. (1842). A treatise on man and the development of his faculties. Edinburgh: W. and R. Chambers.
- Ranson, M. (2014). Crime, weather, and climate change. *Journal of environmental economics and management*, *67*(3), 274-302.

- Savard, D. M., Kelley, T. M., & Merolla, D. M. (2017). Routine activities and criminal victimization: The significance of gendered spaces. *Journal of interpersonal violence*, 0886260517721170.
- Schwartz, M. D., DeKeseredy, W. S., Tait, D., & Alvi, S. (2001). Male peer support and a feminist routing activities theory: Understanding sexual assault on the college campus. *Justice Quarterly*, 18(3), 623-649.
- Sherman, L.W., Gartin, P. R., & Buerger, E. M. (1989). Hot spots of predatory crime: Routine activities and the criminology of place. *Criminology*, 27(1), 27-54.
- Short, M. B., Brantingham, P. J., Bertozzi, A. L., & Tita, G. E. (2010). Dissipation and displacement of hotspots in reaction-diffusion models of crime. *Proceedings of the National Academy of Sciences*, 107(9), 3961-3965.
- Sorg, E. T., & Taylor, R. B. (2011). Community-level impacts of temperature on urban street robbery. *Journal of Criminal Justice*, 39(6), 463-470.
- Steffensmeier, D. J., Allan, E. A., Harer, M. D., & Streifel, C. (1989). Age and the distribution of crime. *American journal of Sociology*, 94(4), 803-831.
- Stotzer, R., & MacCartney, D. (2016). The role of institutional factors on on-campus reported rape prevalence. *Journal of Interpersonal Violence*, 31(16), 2687-707. doi: 10.1177/0886260515580367
- Tewksbury, R., & Mustaine, E. E. (1998). Predicting risks of larceny theft victimization: A routine activity analysis using refined lifestyle measures. *Criminology*, 36(4), 829-858.
- Tewksbury, R., & Mustaine, E. E. (2001). Lifestyle factors associated with the sexual assault of men: A routine activity theory analysis. *The Journal of Men's Studies*, 9(2), 153-182.
- Tewksbury, R., & Mustaine, E. E. (2003). College students' lifestyles and self-protective behaviors: Further considerations of the guardianship concept in routine activity theory. *Criminal Justice and Behavior*, 30(3), 302-327.

- Townsley, M. (2008). Visualising space time patterns in crime: the hotspot plot. *Crime patterns and analysis*, 1(1), 61-74.
- USA News. (2018). Boise State University Student Life. Retrieved November 6, 2019, from <https://www.usnews.com/best-colleges/boise-state-university-1616/student-life>
- USA News. (2019). How Does Boise State University Rank Among America's Best Colleges? Retrieved November 4, 2019, from <https://www.usnews.com/best-colleges/boise-state-university-1616>.
- 2017 NCVRW Resource Guide: School and Campus Crime Fact Sheets. (2017). [PDF] Northwest, Washington, D.C.: Office for Victims of Crime, pp.1-3. Available at: https://ovc.ncjrs.gov/ncvrw2017/images/en_artwork/Fact_Sheets/2017NCVRW_SchoolCrime_508.pdf [Accessed 8 Aug. 2019].
- Wang, Z., Liu, L., Zhou, H., & Lan, M. (2019). How Is the Confidentiality of Crime Locations Affected by Parameters in Kernel Density Estimation?. *ISPRS International Journal of Geo-Information*, 8(12), 544.
- Wilcox, P., Jordan, C. E., & Pritchard, A. J. (2007). A multidimensional examination of campus safety: Victimization, perceptions of danger, worry about crime, and precautionary behavior among college women in the post-Clery era. *Crime & Delinquency*, 53(2), 219-254.
- Wilkins, D.L. (1996). The spatial and temporal distribution of crime on a university campus: A 'hot spots' analysis. (Unpublished doctoral dissertation). University of Alabama at Birmingham.

APPENDIX A

Crime Types

Crime Types 2012

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Fraud	Alcohol Violation (Alcohol)	Arson	Attempted Burglary	Forcible Penetration by Foreign Object	Contempt
	Alcohol Violation (x2)	Assault	Bike Theft	Rape	Disturbing the Peace
	Alcohol Violation (x3)	Assault on Police Officer	Burglary	Sexual Assault	Duty Upon Striking Unattended Vehicle
	Alcohol Violation (x4)	Aggravated Battery	Commercial Burglary		Failure to Appear
	Alcohol Violation (x6)	Battery	Graffiti		Failure to Appear-Warrant
	Alcohol Violation (x7)	Battery with Intent to Commit a Serious Felony	Grand Theft		False Impersonation
	Alcohol Violation (x8)	Battery on an officer	Malicious Injury to Property		Fugitive to Idaho
	Detox Hold	Harassment	Trespassing/Trespass		Hit and Run
	Driving Under the Influence (DUI)	Intimidation State Witness	Theft		Inattentive Driving
	Furnishing Alcohol	Resisting & Obstructing (R&O)	Theft (Bike Tires)		Leaving the Scene (of accident)
	Illegal consumption, drug, paraphernalia	Stabbing-Aggravated Battery	Vandalism		Providing False Information (Info)
	Liquor Violations (x2)	Strangulation (Attempted)	Vehicle Burglary		Probation Violation Charges
	Minor in Consumption (MIC)				Suicidal Subject
	Multiple alcohol violations				Suspicious Circumstances
	Narcotics Violation				Traffic-Insurance
	Narcotics Violation (x2)				Traffic-Registration/Insurance
	Narcotics Violation (x3)				Traffic Violation-Leaving the Scene

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
	Open Container				Tampering with a Motor Vehicle
	Possession of Narcotics				Vehicle-Hit and Run
	Possession of Controlled Substance				Warrant
	Possession of Marijuana				Warrant Arrest

Crime Types 2013

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Fraud	Alcohol Violation	Assault	Bike Theft	Exposure	Car Accident
Fraudulent use of Financial Transaction Card	Alcohol Violations (x2)	Arson	Theft	Indecent Exposure	Contempt of Court
Forgery/Counterfeiting	Alcohol Violations (x3)	Attempted Strangulation	Grand Theft	Video Voyeurism	Disturbing the Peace
Issuing Checks without Funds	Alcohol Violations (x4)	Aggravated Assault	Petit (Petty) Theft		Driving without Privileges
	Alcohol Violations (x5)	Battery	Burglary		Fail to Arrest
	Alcohol Violations (x6)	Bomb Threat	Commercial Burglary		Fail to Carry Driver's License
	Alcohol Violations (x7)	Domestic Physical	Possession of Burglary Tools		Fail to Carry Insurance
	Alcohol Violations (x9)	Harassment	Burglary-Residential		Fail to Purchase Driver License
	Alcohol Violations (x10)	Injury to Child	Injury by Graffiti		Fail to Obey (x3)
	Alcohol Overdose	Malicious harassment	Malicious Injury to Property		False 911 Call
	Driving Under the Influence (DUI)	Obstruct/Delay	Malicious Injury to Private Property		False Identification (ID)/Fake Identification
	Frequenting where drugs are used/sold	Resisting & Obstructing (R&O)	Malicious Injury to Property Felony		False information to Police
	Found paraphernalia	Resisting & Obstructing an Officer (x2)	Stolen Vehicle		Hit and Run
	Liquor Violations	Stabbing	Trespassing		Hit and Run Accident
	Minor in Consumption (MIC)	Stalking	Attempted Unlawful Entry		Inattentive Driving
	Narcotic Violations	Threats over a communication device (harassing phone calls)	Unlawful Entry		Invalid Driver's License
	Narcotic Violations (x2)		Vandalism		Juvenile Beyond Control
	Narcotic Violations (x3)		Vehicle Burglary		Leaving the Scene (of an accident)

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
	Narcotic Violations (x6)				Mental Hold
	Open Container				Noise Prohibitions
	Pedestrian Under the Influence				No Proof of Insurance
	Possession of Alcohol by Minor (Minor in Possession/MIP)				Operate Vehicle without Registration
	Possession of Controlled substance				Reckless Driving
	Possession of Drug Paraphernalia				Urinating in Public
	Possession of Drug Paraphernalia (x3)				Urinating in Public (x2)
	Public Intoxication				Vehicle Prowler
	Possession of Psilocybin Mushrooms				Warrant Arrest
	Possession of Marijuana				Warrant Arrest Probation Violations
	Possession of Marijuana (x3)				
	Possession of Schedule II Narcotic				
	Possession of Schedule IV w/out Prescription				
	Possession with intent to deliver Marijuana				
	Smell of Marijuana				
	Under the Influence in Public				

Crime Types 2014

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Criminal Possession of Financial Transaction Card	Alcohol Violation	Aggravated Battery	Attempted Break in	Indecent Exposure	Aiding & Abetting
Fraud	Alcohol Violation (x2)	Arson	Attempted Vehicle Burglary	Lewd and Lascivious	Carry concealed weapon without license
	Alcohol Violation (x3)	Assault	Theft x3	Lewd Contact with a Minor	(Conspiracy) Witness to Intimidate, Threaten, Harass or Prevent Testimony in Juvenile Case
	Alcohol Violation (x4)	Attempted Strangulation	Burglary	Soliciting	Copyright Infringement
	Alcohol Violation (x5)	Assault & Battery on an Officer	Bike Theft	Sexual Battery of a minor	Dog fight
	Alcohol Violation (x6)	Attempted arson (3 rd degree)	Grand Theft	Rape	Disturbing the Peace
	Alcohol Violation (x7)	Battery	Grand Theft Auto		Driving without Privileges
	Alcohol Violation (x8)	Domestic Battery	Injury by Graffiti		Fail to Obey Citation
	Alcohol Violation (x9)	Harassment	Malicious Injury to Property		Fail to notify unattended vehicle
	Alcohol Violation (x11)	Stalking	Theft		Fail to Provide Proof of Insurance
	Alcohol Violation (x12)	Domestic Violence	Theft (attempted)		Fail to Register
	Alcohol Violation (x18)	Domestic Verbal	Trespassing (Trespass)		Fail to Purchase Driver License
	Driving under the influence	Dating Violence	Unlawful Entry		Fail to notify upon striking unattended vehicle
	Drug paraphernalia- Use or possess/ Possession of methamphetamine	Resisting & Obstructing	Vandalism		Harboring a runaway
	Frequenting place where drugs are used	Threat	Vandalism (hate crimes-gender bias)		Hit and Run
	Marijuana Possession	Telephone-Use to Annoy, Harass, Intimidate/Threaten	Vehicle Burglary		Inattentive Driving
	Minor in Consumption (MIC); Underage Consumption				Inattentive

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
	Narcotic Violation				Protection order violation
	Narcotic Violation (x2)				Public urinating
	Narcotic Violation (x3)				Warrant Arrest
	Narcotic Violation (x4)				Juvenile Curfew
	Open Container				Leaving the scene of an Accident
	Public Intoxication				Misappropriation of Personal Identifying Information
	Purchase				Noise Violation
	Possession of Alcohol by Minor (Minor in Possession/MIP)				Operate motorcycle without endorsement
	Possession of Paraphernalia				Warrant contempt of Court
	Possession of Paraphernalia (x2)				Weapons Violation
	Possession of Paraphernalia with intent to use				Weapons Violation (x2)
	Possession of Spice and controlled substance				

Crime Types 2015

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Attempted Fraud	Alcohol Violation	Aggravated Battery	Auto Theft	Fondling	Cancelled Registration
Counterfeiting Coin	Alcohol Violation (x7)	Assault & Battery on an Officer	Aggravated Assault	Exposure	Carry Concealed without License
Criminal Possession of Financial Transaction Guard	Correctional Facilities-Major Contraband Unlawfully Possessed, Introduced or Removed	Attempted Assault	Attempted Vehicle Burglary	Indecent Exposure	Contempt of Court
Embezzling	Driving Under the Influence (DUI)	Assault	Battery with the Intent to Commit a Serious Felony	Lewd Conduct	Death Investigation
Extortion	Driving Under the Influence (DUI), 2 nd Degree	Arson	Burglary	Possession of Sexually Exploitive Material	Disorderly Conduct
Fraud	DUI 2 nd Offense	Battery	Bike Theft	Rape	Disorderly Conduct (x2)
Fraudulent use of Financial Card	DUI 3 rd Offense	Battery with the Intent to Commit a Felony	Grand Theft	Sexual Battery	Disturbing the Peace
Fraud Fictitious Bills, Notes, and Checks	Drunk in Public	Dating Violence	Grand Theft Auto	Sexual Assault	Driving without Privilege
Fraudulent Misrepresentation	Drunk in Public (x2)	Domestic Violence	Littering	Sexual Exploitation of a Child	Exhibition of a Deadly Weapon
Forgery	Drug Law Violation	Domestic Battery	Malicious Injury to Property	Video Voyeurism by Disseminating without Contact	Expired Registration
Forgery of a Financial Transaction Card	Narcotic Violation	Domestic Assault	Malicious Injury to Property-Vehicle Vandalism		Fail to Appear
Possession of Fictitious Bills	Narcotic Violation (x2)	Harassment	Petty Theft		Fail to Stop at Stop Sign

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
	Narcotic Violation (x3)	Hate crime - Theft Characterized by Race Bias	Possession of a Fake ID		Fail to Provide Insurance
	Narcotic Violation (x4)	Hate crime Vandalism Characterized by Race Bias	Trespassing		Fail to Provide Proof of Insurance-2 nd Offense
	Possession of Paraphernalia	Intimidation	Trespass x5		Fail to Notify Strike Unattended Vehicle
	Pedestrian intoxicated in Public	Resisting & Obstructing	Theft		Fail to Notify Upon Striking
	Prescription in other than Original Container	Stalking	Theft by Acquiring Lost Property		Fail to Stop for Damage Accident
	Public Intoxication	Stalking, 2 nd Degree	Tampering with a Vehicle		Failure to Appear (FTA)
	Tobacco Violation	Telephone Harassment	Unlawful Entry/ Malicious		False Personation
		Telephone-Use to Annoy, Harass, Intimidate/ Threaten	Vandalism		False Information to Police
		Threat	Vehicle Burglary		False Information
			Vehicle Prowler		Felony Warrant
			Vehicle Vandalism		Felony Warrant x2
					Fictitious Display
					Hit and Run
					Inattentive Driving
					Leaving the Scene of an Accident
					No Contact Order Violation (Order Violation)
					No Insurance

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
					Notify of Accident
					Operating Vehicle with restricted license
					Possession of Fake ID
					Probation to Violation
					Reckless Driving
					Tampering with a vehicle
					Unattended Vehicle
					Unauthorized Access
					Unlawful Imprisonment
					Warrant
					Warrant (x3)
					Warrant Arrest
					Warrant Arrest (x2)
					Warrant Arrest (x4)
					Warrant Arrest-Failure to Appear (x4)

Crime Types 2016

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Counterfeiting Coin or Bullion	Alcohol Violation	Aggravated Assault	Attempted Theft	Attempted Rape	Attempted Unlawful Access
Enticement	Alcohol Violation (x2)	Arson	Attempted Unlawful Entry	Fondling	Destruction of evidence/ Correctional Facilities/Major contraband unlawfully possessed
Extortion	Alcohol Violation (x4)	Assault	Bike Theft	Indecent exposure	Computer Crime Uses, Accesses or Attempts Access
Fiscal Misconduct	Aggravated DUI	Battery	Burglary	Rape	Computer Crime
Fraud	DUI	Dating Violence	Grand Theft	Sexual Exploitation of a Child	Disorderly conduct
Forgery	Narcotic Violation	Domestic Battery	Grand theft auto	Sexual Penetration w/ Foreign Object	Death Investigation
Forgery of Financial Transaction Card	Narcotic Violation (x2)	Domestic Violence	Hate crime-Theft Characterized by Race Bias		Disturbing the Peace
Possession of fictitious Bills	Narcotic Violation (x3)	Domestic Dispute	Littering		Driving without Privileges (DWP)
Possession of Forged Notes or Bank Bills or Check	Public Intoxication (Drunk in Public)	Felon with a Firearm	Loitering		Eluding
		Harassment	Malicious injury to property		Enticement
		Hate crime	Motor Vehicle Theft		Fail to Purchase Driver License
		Intimidation	Possession of Burglary tools		Fail to Maintain Insurance
		Injury to Child	Theft		Fail to Stop at Accident
		Poisoning of Animal	Theft by Acquiring Lost Property		False Imprisonment
		Resisting & Obstructing	Trespassing (Trespass)		False Personation
		Stalking	Vandalism		False Personation

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
		Stalking in the 2 nd degree	Vandalism-Graffiti		Felon with a Firearm
		Stalking (cyber)	Vandalism Characterized by Race Bias		False Information
		Telephone Harassment	Vehicle Burglary		Hit and Run
		Threat	Vehicle vandalism		Identity Theft
		Unlawful Possession of Destructive Device			Inattentive Driving
					Leaving the Scene of an Accident x2
					Misappropriation of Identifying Information
					Misuse of Driver's license
					No Contact Order Violation
					No insurance 2 nd offense
					Noise Ordinance Violation (x2)
					Possession of Fake ID
					Providing False info
					Racing x2
					Reckless Driving
					Urinating in Public (Public Urination)
					Vehicle Prowler
					Warrant Arrest
					Weapon Laws Violation

Crime Types 2017

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Fraud	Alcohol Violation	Aggravated Assault (Agg. Assault)	Attempted Grand Theft	Rape	Car accident
Forgery	Alcohol Violation (x2)	Animal Abuse	(Attempted) Armed Robbery	Indecent Exposure	Disorderly Conduct
	Alcohol Violation (x3)	Attempted Strangulation	Attempted Vehicle Burglary	Sexual Assault	Disturbing the Peace
	Alcohol Violation (x4)	Assault (attempted)	Attempted Theft	Child Pornography	Disturbing the Peace (x3)
	DUI	Assault (Threats)	Bike Theft		Disorderly House (x3)
	DUI (2 nd)	Armed Robbery	Bike Theft (x2)		Driving without Privileges
	Drug Violation (x2)	Battery	Burglary		Fail to Provide Proof of Insurance
	Possession of Controlled Substance	Battery (x2)	Burglary (Attempted)		Hit and Run
	Public Intoxication	Battery (x4)	Bike Theft in Progress		Inattentive Driving
	Narcotic Violation	Battery with Intent to commit a serious felony	Conspiracy to Commit Theft		Intimidating State Witness
	Narcotic Violation (x2)	Domestic Battery	Grand Theft		Invalid Driver's License
	Narcotic Violation (x3)	Domestic Violence	Grand Theft Auto		Leaving the Scene
	Narcotics (x2)	Harassment	Lost Property		Protection Order
	Possession of Paraphernalia	Harassment (x3)	Malicious Injury to Property		Solicitation without License
	Possession of Marijuana	Injury to Child	Petit theft		Violation of Protection Order
	Possession of Marijuana and Paraphernalia	Obstruct & Delay	Trespassing (Trespass)		Warrant
		Stalking	Theft		Warrant Arrest
		Threat	Unlawful Entry		Warrant Arrest (x2)
		Telephone Harassment	Vandalism		
			Vandalism by Graffiti		
			Vehicle Burglary		
			Vehicle Burglary (x23)		
			Vehicle Theft (Joy riding)		

Crime Types 2018

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
Fraud	Alcohol Violation	Arson	Bicycle part theft	Exposure	Camping
Criminal Possession of Financial Transaction Card	Alcohol Violation-Policy	Arson (3 rd degree)	Bicycle theft	Lewd Conduct	Computer Crime
	Found Narcotic equipment	Aggravated Battery	Burglary	Forcible Fondling	Disturbing the Peace
	Driving Under the Influence (DUI)	Armed Robbery	Burglary, Commercial	Rape	Disorderly conduct
	Minor Consuming Alcohol (MIC)	Assault with Deadly Weapon (Rocks)	Graffiti	Sexual Assault	Driving car without owners' consent
	Narcotic Violation	Attempted Strangulation	Grand Theft		Driving without Privileges
	Narcotic Violation (x2)	Battery on Officer	Grand Theft Auto		Fail to Provide Proof of Insurance
	Narcotic Violation (x4)	Battery	Grand Theft (Bicycle)		Fail to purchase Driver's License
	Narcotic Violation-(Paraphernalia & marijuana)	Domestic Battery	Grand Theft by Extortion		Fail to Provide Insurance (2 nd offense)
	Narcotic Violation-Possession of Controlled Substance	Domestic Violence	Loitering		Fail to Obey Citation Warrant
	Narcotic Violation-Possession of Paraphernalia	Dating Violence	Malicious Injury to Property		Failure of Probation Warrant
	Narcotic Equipment Violation	Harassment	Motor Vehicle Theft		Felony Failure to Appear-Warrant
	Open Container	Imminent danger to a child	Petit Theft		Hit and Run
	Possession of Marijuana	Resisting & Obstructing	Theft of Financial Transaction Card (FTC) or numbers		Illegal Camping
	Public Intoxication	Strangulation, domestic battery	Trespass (Trespassing)		Leaving the Scene of an accident
		Stalking	Theft		Misappropriation of Personal Identifying Information
		Stalking-1 st degree	Theft (bike tires)		Public Urination

White-Collar & Financial	Alcohol-Related & Drugs	Violent	Property	Sex	Miscellaneous
		Stalking- 2 nd degree	Theft- Possession of FTC		Runaway to Boise
		Strangulation	Theft-Larceny		Violation of Probation Warrant
		Telephone Harassment/ Obscene Call	Theft of a motor vehicle		Warrant- Misdemeanor FTO
		Threats	Unlawful Entry		Warrant (x2)
			Vandalism		Warrant Arrest for Violation of Protect Order
			Vandalism- Tipped car on its side		Warrant Failure to Appear (x4)
			Vehicle Vandalism		Weapon(s) Violation
			Vehicle Burglary		

APPENDIX B

Location Book

Shape	General Location	General Address	City	State	Zip Code
Point	Academic Career Center	1464 W University Dr	Boise	ID	83725
Point	Administration Building** *includes parking lot, (FO&M)	1910 W University Dr	Boise	ID	83725
Point	Albertsons Library *includes bike racks, Starbucks, parking, Criminal Justice (L166), World Language Department and kiosk.	1865 W Cesar Chavez Ln	Boise	ID	83725
Point	Albertsons Stadium (Bronco Stadium) *includes bike racks, parking lot, and blue turf	1190 W University Dr	Boise	ID	83706
Point	Allen Noble Hall of Fame	1190 W University Dr	Boise	ID	83706
Point	Alumni and Friends Center *includes bike racks and west and east parking lot	1173 W University Dr	Boise	ID	83706
Point	Ann Morrison Park	1000 S Americana Blvd	Boise	ID	83706
Point	Ann Morrison Park/Capitol	Capitol & Ann Morrison NWC	Boise	ID	83706
Point	Ann Morrison Park/Lusk	W Ann Morrison Park Dr & S Lusk St	Boise	ID	83706
Point	Appleton Tennis Center	1555 W Cesar Chavez Ln	Boise	ID	83706
Point	Art Annex 1	1426 Belmont St	Boise	ID	83706
Point	Axiom Gym/Parkcenter	801 E Parkcenter Blvd	Boise	ID	83706
Point	Benjamin Victor Gallery	4902 Bronco Ln	Boise	ID	83725
Point	Beacon/ Michigan	W Beacon St & S Michigan Ave	Boise	ID	83706
Point	Beacon/Lincoln	W Beacon St & S Lincoln Ave	Boise	ID	83706
Point	Belmont/Lincoln	S Lincoln Ave & Belmont St	Boise	ID	83706
Point	Belmont/Euclid	S Euclid Ave & Belmont St	Boise	ID	83706
Point	Beacon/Vermont	W Beacon St & S Vermont Ave	Boise	ID	83706
Point	1212 Beacon	1212 Beacon St	Boise	ID	83706
Point	1216 Beacon	1216 E Beacon St	Boise	ID	83706
Point	1909 Boise	1909 W Boise Ave	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	2100 Blk Boise Ave	2100 W Boise Ave	Boise	ID	83706
Point	1200 Blk Belmont	1200 Belmont St	Boise	ID	83706
Point	1225 Belmont	1225 Belmont St	Boise	ID	83706
Point	1800 Blk Belmont	1800 Belmont St	Boise	ID	83706
Point	Belmont/Oakland	S Oakland Ave & Belmont St	Boise	ID	83706
Point	2601 Boise	2601 W Boise Ave	Boise	ID	83706
Point	2607 Boise	2607 W Boise Ave	Boise	ID	83706
Point	2605 W Boise Ave	2605 W Boise Ave	Boise	ID	83706
Point	2600 Blk Boise	2600 W Boise Ave	Boise	ID	83706
Point	2302 W Boise	2302 W Boise	Boise	ID	83706
Point	BOAS Tennis & Soccer Complex	1507 Oakland Ave	Boise	ID	83706
Point	Boise State Downtown at BODO *includes Esports Arena	301 S Capitol Blvd	Boise	ID	83706
Point	Boise State University JB Towers (Towers) *includes floors, bike racks and parking lot	2303 W Cesar Chavez Ln	Boise	ID	83706
Point	1909 Boise	1909 W Boise Ave	Boise	ID	83706
Point	Boise/Chrisway	W Boise Ave & Chrisway Dr	Boise	ID	83706
Point	Boise/Juanita	W Boise Ave & Juanita St	Boise	ID	83706
Point	Boise/Protest	W Boise Ave & S Protest Rd	Boise	ID	83706
Point	Boise/Oakland	S Oakland Ave & W Boise Ave	Boise	ID	83706
Point	Boise Bike Project	1027 S Lusk St	Boise	ID	83706
Point	Boulder Hall *includes Intensive English Program	1464 W University Dr	Boise	ID	83725
Point	Brady Street Garage	W Diploma St	Boise	ID	83725
Point	Broadway/ Belmont	Broadway Ave & Belmont St	Boise	ID	83706
Point	Broadway/Boise	Broadway Ave & W Boise Ave	Boise	ID	83706
Point	Broadway/ University Dr	Broadway Ave. & University Dr	Boise	ID	83706
Point	Broadway/Highland	Broadway Ave & W Highland St	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Bronco Gymnasium	1404 Bronco Cir	Boise	ID	83706
Point	Boise State Recreation Center (REC) *includes bike racks and locker rooms	1515 W University Dr	Boise	ID	83706
Point	Boise State REC Aquatics Center	1516 W University Dr	Boise	ID	83706
Point	Boise State University Department of Public Safety	2245 W University Dr	Boise	ID	83706
Point	Burger King at Belmont & Broadway	1121 S Broadway Ave	Boise	ID	83706
Point	Campus Planning & Facilities *#204 - Euclid Annex #3	1129 S Euclid Ave	Boise	ID	83706
Point	Campus School *includes the Public Affairs and Art West (PAAW)	2100 W University Dr	Boise	ID	83706
Point	Capitol/Cesar Chavez	S Capitol Blvd & W Cesar Chavez Ln	Boise	ID	83725
Point	1401 Cesar Chavez	1401 W Cesar Chavez Ln	Boise	ID	83706
Point	Capitol/University	S Capitol Blvd & W University Dr	Boise	ID	83706
Point	Capitol/Lusk	S Capitol Blvd & S Lusk St	Boise	ID	83706
Point	Caven-Williams Sports Complex *includes Keith Stein Band Hall and bike racks	1201 W Cesar Chavez Ln	Boise	ID	83706
Point	Centennial Amphitheater	1711 Theatre Ln	Boise	ID	83725
Point	Central Reserve Parking Lot	1819 W Cesar Chavez Ln	Boise	ID	83706
Point	Charles P. Ruch Engineering Building *default Engineering Building	1375 W University Dr	Boise	ID	83706
Point	Capital Village 1 *default & includes the Intermountain Bird Observatory, Human Resources Services, bike racks, and the Employee Learning and Development	2710 W Boise Ave; 2209, 2231 2225* W University Dr	Boise	ID	83706
Point	Chaffee Hall *includes bike racks and area between Chafee Hall and Taco Bell Arena (TBA)	1421 W Cesar Chavez Ln	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Children's Center	1820 Beacon St	Boise	ID	83706
Point	Christ Chapel	1915 W University Dr	Boise	ID	83706
Point	Chrisway Annex 1	2103 W University Dr	Boise	ID	83706
Point	Chrisway Annex 2	1406 Chrisway Dr	Boise	ID	83706
Point	1411 Chrisway	1411 Chrisway Dr	Boise	ID	83706
Point	1615 Chrisway	1615 Chrisway Dr	Boise	ID	83706
Point	Clearwater Building at City Center Plaza	777 W Main St	Boise	ID	83702
Point	Clearwater Suites (Clearwater- C)	1309 Chrisway Dr	Boise	ID	83706
Point	Colorado Ave	Colorado Ave	Boise	ID	83706
Point	Communication Building	1711 W Cesar Chavez Ln	Boise	ID	83706
Point	Cooper Basin Building	1310 W University Dr	Boise	ID	83706
Point	Cycle Learning Center	1607 W University Dr	Boise	ID	83706
Point	Dale St	S Dale St	Boise	ID	83706
Point	Department of Public Safety (DPS)	2245 University Dr	Boise	ID	83706
Point	1000 Blk Denver	1000 S Denver Ave	Boise	ID	83706
Point	Conservatory Apt	1076 S Denver Ave	Boise	ID	83706
Point	1400 Blk Denver	1400 S Denver Ave	Boise	ID	83706
Point	Denver/University	W University Dr & S Denver Ave	Boise	ID	83706
Point	Dona Larsen Park	150 S Broadway Ave	Boise	ID	83702
Point	Drisco Hall (Driscoll Hall)	1607 W Cesar Chavez Ln	Boise	ID	83706
Point	English Annex	1875 W University Dr	Boise	ID	83706
Point	Environmental Research Building (ERB)	1295 W University Dr	Boise	ID	83706
Point	1113 Euclid	1113 S Euclid Ave	Boise	ID	83706
Point	Euclid/Rossi	Rossi St & S Euclid Ave	Boise	ID	83706
Point	Euclid/University	W University Dr & S Euclid Ave	Boise	ID	83706
Point	Fine Arts Building	2249 W University Dr	Boise	ID	83706
Point	Friendship Bridge	Friendship Bridge	Boise	ID	83702
Point	Gateway Center	2055 W University Annex	Boise	ID	83706
Point	Gene Bleymaier Football Center	1185 W Cesar Chavez Ln	Boise	ID	83706
Point	Grant Avenue Annex	1015 S Grant Ave	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Grant Ave	S Grant Ave	Boise	ID	83706
Point	Grant/ Belmont	Belmont St & S Grant Ave	Boise	ID	83706
Point	1052 Grant	1052 S Grant Ave	Boise	ID	83706
Point	1070 Grant	1070 S Grant Ave	Boise	ID	83706
Point	Grant Annex 4	1023 S Grant Ave	Boise	ID	83706
Point	Greenbelt near Taylor Hall	1799 W Cesar Chavez Ln	Boise	ID	83706
Point	Greenbelt near Taco Bell Arena (Pavilion/Extra Mile Arena)	1401 Bronco Ln	Boise	ID	83706
Point	Greenbelt by Pioneer Bridge	S Pioneer St	Boise	ID	83702
Point	Harry Morrison Civil Engineering Building	1019 S Euclid Ave	Boise	ID	83706
Point	Health Science-Riverside	950 S Lusk St	Boise	ID	83706
Point	Hemingway Western Studies Center	1819 W Cesar Chavez Ln	Boise	ID	83706
Point	Honors College & Sawtooth Hall *includes bike racks and Southfork market	1801 W University Dr	Boise	ID	83706
Point	1102 Hawthorne	1102 Hawthorne Dr	Boise	ID	83703
Point	Hale St	W Hale St	Boise	ID	83706
Point	Interactive Learning Center (ILC) *includes floors, bike racks and dining options.	2120 W University Dr	Boise	ID	83725
Point	1917 Island	917 Island Ave	Boise	ID	83706
Point	Julia Davis Park (JD Park)	700 S Capitol Blvd	Boise	ID	83702
Point	Keiser Hall *includes area between Keiser and Taco Bell Arena (TBA)	1663 W Cesar Chavez Ln	Boise	ID	83706
Point	Kinesiology Annex	1476 Bronco Ln	Boise	ID	83706
Point	Leatherman Peak Building (Central Receiving Building) *includes Facilities Operations & Maintenance and warehouse	1374 Belmont St	Boise	ID	83706
Point	Liberal Arts Building *includes Writing Center and bike racks	1874 W University Dr	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Lincoln Athletic Field	1104 S Oakland Ave	Boise	ID	83706
Point	Lincoln Avenue	S Lincoln Ave	Boise	ID	83706
Point	Lincoln Apartment (Townhomes/ Townhouses)	1102 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Aspen)	1106 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Cedar)	1104 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Hawthorne)	1102 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Juniper)	1103 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Spruce)	1107 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Townhome (Tamarack)	1105 S Lincoln Ave	Boise	ID	83706
Point	Lincoln Avenue Garage <small>*includes bike racks, Student Media, Veteran Services, and the Educational Access Center (EAC)</small>	1621 W University Dr	Boise	ID	83706
Point	1607 Lincoln	1607 S Lincoln Ave	Boise	ID	83706
Point	Joyce	S Joyce St	Boise	ID	83725
Point	1400 Blk Joyce	1400 S Joyce St	Boise	ID	83706
Point	1517 Joyce	1517 S Joyce St	Boise	ID	83706
Point	155 Blk Juanita	1500 Juanita St	Boise	ID	83706
Point	Lusk/Royal	S Lusk St & W Royal Blvd	Boise	ID	83706
Point	Lusk/Sherwood	S Lusk St & W Sherwood St	Boise	ID	83706
Point	1021 Manitou	1021 S Manitou Ave	Boise	ID	83706
Point	1444 S Manitou	1444 S Manitou Ave	Boise	ID	83706
Point	Manitou	S Manitou Ave	Boise	ID	83706
Point	Manitou/Beacon	W Beacon St & S Manitou Ave	Boise	ID	83706
Point	Manitou/Belmont	S Manitou Ave & Belmont St	Boise	ID	83706
Point	Manitou/Denver	S Denver Ave & W University Dr	Boise	ID	83706
Point	Manitou/University	W University Dr & S Manitou Ave	Boise	ID	83706
Point	Maintenance Shops	1356 W University Dr	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Mathematics Building (Math-Geo) *includes bike racks and parking lot	2000 W University Dr	Boise	ID	83706
Point	Micron Business and Economics Building (COBE/MBEB) *includes bike racks and parking lot	2360 W University Dr	Boise	ID	83706
Point	Micron Engineering Center	1020 S Manitou Ave	Boise	ID	83706
Point	Morrison Center for the Performing Arts *includes bike racks, CapEd ATM, and parking lot	2201 W Cesar Chavez Ln	Boise	ID	83725
Point	Morrison Hall *includes bike racks between Morrison and Taylor	1559 W Cesar Chavez Ln	Boise	ID	83706
Point	Multipurpose Classroom Building	2110 W University Dr	Boise	ID	83706
Point	Myrtle/Martha	W Myrtle St & W Main St	Boise	ID	83702
Point	1600 Blk of S Martha	1600 Martha St	Boise	ID	83706
Point	Main St	Main St	Boise	ID	83706
Point	Michigan St	S Michigan Ave	Boise	ID	83706
Point	1617 Michigan Ave	1617 S Michigan Ave	Boise	ID	83706
Point	Michigan/Belmont	Belmont St & S Michigan Ave	Boise	ID	83706
Point	1200 Block Michigan	1200 S Michigan Ln	Boise	ID	83706
Point	Michigan/University	W University Dr & S Michigan Ave	Boise	ID	83706
Point	1000 N Americana Blvd	1000 N Americana Blvd	Boise	ID	83706
Point	Old Idaho Penitentiary	2445 Old Penitentiary Rd	Boise	ID	83712
Point	Opaline School	1103 W Cesar Chavez Ln	Boise	ID	83706
Point	1009 Oakland	1009 S Oakland Ave	Boise	ID	83706
Point	Oregon Trail Apartments	1630 Martha St	Boise	ID	83707
Point	1953 Owyhee	1953 S Owyhee St	Boise	ID	83705
Point	Pioneer Hall	1490 W University Dr	Boise	ID	83725
Point	Potter/Beacon	W Beacon St & W Potter Dr	Boise	ID	83706
Point	Potter St	W Potter Dr	Boise	ID	83706
Point	1900 Blk Potter	1900 W Potter Dr	Boise	ID	83706
Point	Potter/Juanita	W Potter Dr & Juanita St	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Portland/Boise Greyhound Bus	1212 W Bannock St	Boise	ID	83702
Point	The Quad	The Quad	Boise	ID	83725
Point	River Edge Apartments	1004 W Royal Blvd	Boise	ID	83706
Point	Riverfront Hall (Old Business Bldg.)	1987 W Cesar Chavez Ln	Boise	ID	83725
Point	Ron & Linda Yanke Family Research Park	220 Parkcenter Blvd	Boise	ID	83706
Point	Science/Education Building *includes bike racks, Department of Literacy, and Raptor Research Center (RRC)	2133 W Cesar Chavez Ln	Boise	ID	83725
Point	Simplot/ Micron Advising and Success Hub (SMASH)	2055 W Cesar Chavez Ln	Boise	ID	83725
Point	Special Events Center (SPEC) *includes bike racks, box office and dressing rooms	1800 W University Dr	Boise	ID	83706
Point	St. Paul's Catholic Center	1915 W University	Boise	ID	83706
Point	Student Union Building (SUB/Substation) ** *includes bike racks, Boise River Café (BRC) and CapEd ATM	1910 W University Dr	Boise	ID	83725
Point	Boise State Bronco Shop (SUB Bookstore) ** *located inside SUB	1910 W University Dr	Boise	ID	83725
Point	Stadium Lot	Bronco Cir	Boise	ID	83706
Point	Stueckle Sky Center	1910 W University Dr	Boise	ID	83725
Point	Student Success Center	1885 W University Dr	Boise	ID	83725
Point	Taco Bell Arena (TBA; Pavilion or Extra Mile Arena) *includes Arguinchona Basketball Complex and Auxiliary Gym	1401 Bronco Ln	Boise	ID	83706
Point	Taylor Hall *includes bike racks	1799 W Cesar Chavez Ln	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	Theater Arts Annex *includes University/Theater	2611 W Boise Ave	Boise	ID	83706
Point	The Center for Visual Arts	1110 S Capitol Blvd	Boise	ID	83725
Point	The Church of Jesus Christ of Latter-day Saints—Boise Institute of Religion	1929 W University Dr	Boise	ID	83706
Point	Transportation and Parking Services (Transportation Hub)	1700 W University Dr	Boise	ID	83706
Point	University/Chrisway	W University Dr & Chrisway Dr	Boise	ID	83706
Point	University/Earle	W University Dr & S Earle St	Boise	ID	83706
Point	University/ Grant	W University Dr & S Grant Ave	Boise	ID	83706
Point	University/ Joyce	W University Dr & S Joyce St	Boise	ID	83725
Point	University/ Lincoln	W University Dr & S Lincoln Ave	Boise	ID	83706
Point	University Drive	W University Dr	Boise	ID	83706
Point	University Heights (Heights) *default	2650, 2652, 2654, 2656, 2658, 2660* W Boise Ave	Boise	ID	83706
Point	University Manor (Manor) *default	1910*, 1928, 1946, 1962, 1980, 2000, 2008, 2019, 2024 W Boise Ave	Boise	ID	83706
Point	University Park (Park)	860 W Sherwood St	Boise	ID	83706
Point	Selway Suites (Selway- A)	1313 Chrisway Dr	Boise	ID	83706
Point	Payette Suites (Payette- B)	1311 Chrisway Dr	Boise	ID	83706
Point	University Plaza	960 Broadway Ave	Boise	ID	83706
Point	University Square *includes main office, bike racks, and parking lot	1309 Chrisway Dr	Boise	ID	83706
Point	University Square (Jade- D)	1307 Chrisway Dr	Boise	ID	83706
Point	University Square (Topaz- E)	1305 Chrisway Dr	Boise	ID	83706
Point	University Square (Jasper- F)	1301 Chrisway Dr	Boise	ID	83706

Shape	General Location	General Address	City	State	Zip Code
Point	University Square (Garnet- G)	1303 Chrisway Dr	Boise	ID	83706
Point	University Village (Village) *default and Village Community Center	2530, 2540, 2550*, 2560, 2570, 2580 W Boise Ave	Boise	ID	83706
Point	U.S. Geological Survey's Snake River Field Station	970 S Lusk St	Boise	ID	83706
Point	University Annex 1	1695 W University Dr	Boise	ID	83706
Point	University Annex 2	2055 W University Dr	Boise	ID	83706
Point	1711 University	1711 W University Dr	Boise	ID	83706
Point	1929 University Dr	1929 W University Dr	Boise	ID	83725
Point	2200 University (2200 Blk University)	2200 W University Dr	Boise	ID	83725
Point	Varsity Center	1190 W University Dr	Boise	ID	83706
Point	Vista East Apartments	1100 S La Pointe St	Boise	ID	83706
Point	Vista West Apartments	1570 S Lusk Place	Boise	ID	83706
Point	1110 Vermont St	1110 S Vermont Ave	Boise	ID	83706
Point	1100 Blk Vermont	1100 S Vermont Ave	Boise	ID	83706
Point	Women's Center (Gender Equity Center)	1700 W University Dr	Boise	ID	83725
Point	Woodbridge Lane	Woodbridge Ln	Boise	ID	83706
Point	803 Beacon Parking Lot	W Beacon St	Boise	ID	83706
Point	Yale Ct (Yale Blk Ct)	W Yale Ct	Boise	ID	83706
Point	Yale/ Joyce	W Yale Ct & S Joyce St	Boise	ID	83706
Point	9/Yale	S Yale Ln	Boise	ID	83706
Point	9/State	W State St & N 9th St	Boise	ID	83702
Point	1900 Blk Yale (1900 Blk W Yale Ct)	1900 W Yale Ct	Boise	ID	83706
Point	925 Sherwood	925 W Sherwood St	Boise	ID	83706
Point	989 Sherwood	989 W Sherwood St	Boise	ID	83706
Point	989 Sherwood Apt# 303	989 W Sherwood St #303	Boise	ID	83706

Note: ** Share addresses as a default to the campus address (1910 W University Dr. Boise, ID 83725)