

**Bicycle and Pedestrian Safety Commission
Agenda
Monday, February 27, 2012
5:30 p.m. - Hooker Conference Room**

- I. INTRODUCTIONS
- II. APPROVAL OF MINUTES
 - A. December 19, 2011
- III. PUBLIC COMMENT
(Items not on the agenda) Limit 3 minutes per person.
- IV. COMMISSION MEMBER'S COMMENTS
- V. DEPARTMENTAL UPDATES
 - A. City Planning
 - 1). 2010 MPO Crash Report
 - 2). Options for Better Living - 529 S. College Avenue
 - 3). Kroger – 528 S. College Avenue
 - B. City Engineering
 - 1). College Avenue Between 2nd Street & 3rd Street
 - 2). Sare Road & Rogers Road Roundabout Update
 - C. Bloomington Police Department
- VI. NEW BUSINESS
- VII. OLD BUSINESS
 - 1). West 3rd Street Traffic Calming

**NEXT WORK SESSION: Monday, March 5, 2012 at 5:30 p.m. in the Hooker
Conference Room at the Showers Building.**

**NEXT MEETING: Monday, March 19, 2012 at 5:30 p.m. in the Hooker Conference
Room at the Showers Building.**

MINUTES
BICYCLE AND PEDESTRIAN SAFETY COMMISSION
December 19, 2011

INTRODUCTIONS

MEMBERS

Present: Mike Gavin, Anne Phillips Holahan, Mitch Rice, Jim Rosenbarger, Carl Zager
Absent: Jacob Sinex, Gayle Stuebe

EX OFFICIO

Vince Caristo, Planning Department
Roy Aten, Engineering Department

**ADVISORY
MEMBERS**

PUBLIC

**APPROVAL OF
MINUTES**

Zager made a motion to recommend the approval of the minutes of the November 21, 2011 meeting. Gavin seconded the motion. The motion passed with a vote of 4-0-0 (Rice arrived after roll call and approval of minutes).

**PUBLIC
COMMENT**

**COMMISSION
MEMBER'S
COMMENTS**

Holahan wanted to say again how much she likes the new pedestrian signage on the B-Line trail.

**DEPARTMENT
UPDATES**

**Planning Department
Vince Caristo**

710 North College Avenue:

Caristo stated this development sets on two lots (3.5 acres) and will be a four story multi-family residential use. There will be 20 on site parking spaces with a drive cut onto College Avenue. The case is on the February 6th Plan Commission agenda for site plan approval. The developer is asking for several waivers. Caristo stated one of the concerns for the Planning Department is the access onto College Avenue rather than using the alleyway in the back. Rosenbarger stated if you think of the downtown core, big drive cuts are not appropriate. The City should look at existing productive pedestrian walkways to compare and see what works. Caristo stated the nearby buildings use the alley in the back of the buildings not the street frontage. Rosenbarger

asked how wide the cut would be and how fast would cars be able to go. Caristo stated the cut is 19' wide and would be two-way. The developer is not required to put in covered bike parking because he has 31 bedrooms and the minimum requirement is 32. There would be 6 bike racks. Rice stated he thought there should still be covered bike parking. Holahan asked if the north/south alley in the back was wide enough for two-way traffic. Caristo stated the alley is paved and narrow, 12' to 15' and would provide access to 11th Street, College Avenue and Walnut Street. Holahan asked if there would be a sight line issue for pedestrians, with the drive cut and parked vehicles. Zager asked if the developer would be responsible for improving the alley if this becomes their main access. Caristo stated he would need to check on this. Gavin asked who would clear the alley of snow. Aten stated the City would, but alleys are not at the top of the priority list for snow clearance, streets would be. Holahan asked if there were any available accident reports in relation to this type of drive cut. Caristo stated he would check on this.

**Engineering
Department –
Roy Aten**

There were no updates at this time.

NEW BUSINESS

Items not on the agenda:

Holahan had some concerns in regards to the overpasses on Indiana and Fess near 13th Street and on College and Walnut. She would like to see more lighting and the sidewalks underneath cleared of debris for pedestrian safety. She is also concerned with the stop at 13th & Indiana. She would like to see a painted crosswalk and the installation of a “yield to pedestrian” sign. Rosenbarger would like to see the accident counts for this intersection. Aten stated he would look at the intersection and report back to the Commission.

Rosenbarger would like an update on the Greenways Plan and the work being done by Alta Planning/Burgess & Niple. Caristo stated aspects of this design are up in the air and very rough. Caristo would present something to the Commission when things are more set in stone. Rosenbarger stated he would like to look at the rough design and see things now before they are set in stone so the Commission can give input.

There is concern about the sensitivity of the signalized intersection at Atwater and Henderson. When a bicycle is going northbound on Henderson they are not being picked up by the light. The other concern is that the one-way signs are too high on the mast and they would like to request that a sign be located lower or that a “Do Not Enter” sign be located at Henderson.

NOTE: The tape stopped early and a portion of the meeting was

not recorded.

OLD BUSINESS

Public Outreach/Education Efforts Update:

Caristo reported the Bicycle Bell Campaign was funded by the MLK Day Commission. The project will distribute 140 bicycle bells to bicyclists on the B-Line trail on January 18th and February 24th in order to promote greater civility and understanding among trail users.

Caristo asked for consent to pursue a grant from the Bloomington Bicycle Club on behalf of the Commission. The grant would fund safety promotion and outreach materials such as removable stickers and ankle bands. Caristo passed around examples from “Bicycle Indiana” and the City of Portland, OR. The Commission agreed this is a good idea and gave Caristo approval to pursue the grant.

ADJOURNMENT

The meeting adjourned at 7:00 p.m.

The next work session is tentatively scheduled for Monday, January 2, 2012 at 5:30 p.m. in the Hooker Conference Room. Please note this date is the observance of New Year’s Day and City Offices will be closed.

The next official meeting of the Bicycle and Pedestrian Safety Commission is tentatively scheduled for Monday, January 16, 2012 at 5:30 p.m. in the Hooker Conference Room. Please note this is Martin Luther King, Jr. Holiday and City Offices will be closed.

*Bloomington/Monroe County
Metropolitan Planning Organization*

Crash Report

Calendar Years 2008 through 2010

February 2012



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Executive Summary

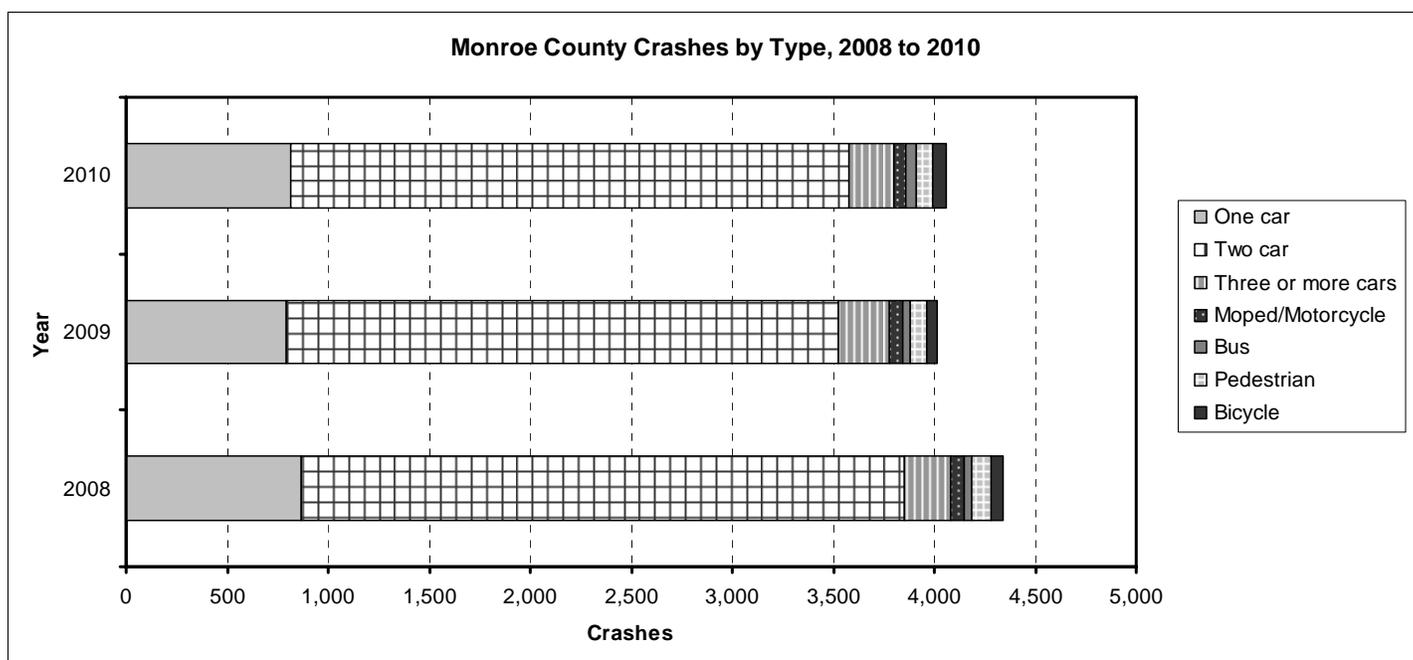
The current version of the Bloomington/Monroe County Metropolitan Planning Organization (MPO) Crash Report continues the MPO's effort to provide a thorough analysis of the causes and trends of crashes in Monroe County. This year's report includes crash data from 2008 to 2010.

This report has been compiled to provide information to the Citizen's Advisory Committee, Technical Advisory Committee, and Policy Committee of the MPO. Additionally, the report will be available to local government agencies, Indiana University, and the general public through the MPO website and the office of the Bloomington Planning Department.

A summary of the crash trends reported within Monroe County is provided below to highlight general information on crash data within Monroe County. In the following sections, detailed tables, charts, and summaries are provided to highlight information on the frequency, severity, and other related characteristics of crashes that occurred from 2008 to 2010. Additionally, the appendix contains information and analysis that may be of interest to some readers.

Summary of Crash Trends from 2008 to 2010

A total of 12,415 crashes were reported between 2008 and 2010 (Table 1). This figure is roughly the same as the three year total from 2007 to 2009, as reported in last year's crash report. Total crashes for 2010 increased 1.1% compared to 2009, but decreased 6.5% compared to 2008. Just over three quarters of the total crashes reported no injuries (property damage or unknown) and the rest reported various levels of severity in injuries sustained.



A further breakdown of the total 12,415 crashes provides useful insights into trends involving pedestrians, bicyclists, buses, mopeds/motorcycles, and crashes that resulted in fatalities. Over the course of the three years analyzed, there were 31 fatalities (Table 4), somewhat more than the 22 fatalities reported from 2007 to 2009. Of the 31 fatalities, almost half (13) were from single car crashes, six were from two-car crashes, six involved mopeds/motorcycles, and five involved a pedestrian. There were no fatalities involving a bicycle or a bus.

The time distribution of crashes continues to follow a predictable pattern. The greatest number of crashes occurred during weekday rush hours between 3:00 P.M. and 6:00 P.M., with an average slightly greater than 1 crash per hour (Figure 1). The weekend also follows a predictable pattern, but the crash rate has a more even distribution through the day and early

evening hours. Between the hours of 7pm and 4am, the weekend experiences a higher crash frequency than during the week. Friday continued to have the highest number of crashes overall, while Sunday had the lowest number of crashes (Figure 2).

State highways are prominently featured in the list of problematic intersections (Table 2). This could be attributable to several factors, but higher traffic volumes and speeds on these roads are likely factors. The intersection at College Avenue/Walnut Street and the State Road 45/46 Bypass topped the list of problematic intersections, followed by Bloomfield Road and State Road 37 and then W 3rd Street and State Road 37. Because these intersections continue to exhibit high numbers of crashes from year to year, safety improvements should be considered. Other locations that show a high number of crashes, but do not involve state managed highways, should also be considered for safety improvements through the MPO's Highway Safety Improvement Program (Table A1). Future reports would benefit from a reliable methodology to normalize crashes to volumes of traffic, road classification, and/or some other value so that ranking of problematic locations and intersections is not solely based on the total number of crashes.

The leading cause of crashes during the study period was once again failure to yield right of way with 2,470 incidents (Table 3). Other leading causes include reaction to other driver behaviors, following too closely, and unsafe backing. These causes may be reduced through law enforcement and education efforts as well as through physical improvements. Running off the right side of the road and speeding in adverse weather present opportunities for physical safety improvements, such as guard rails, rumble strips, and interactive signage. These types of improvements should be explored further to reduce crashes.

Bicycle and pedestrian crashes are an important consideration due to a relatively high number of non-motorized trips in the area, and the sensitivity to injury of individuals using these modes. It is well understood that when compared to other types of crashes, those involving bicyclists and pedestrians are much more likely to result in a fatality or incapacitating injury. Therefore, reducing the frequency of these crashes is a priority. The intersection of Dunn Street and Kirkwood Ave has topped the list for pedestrian crashes in two consecutive crash reports, warranting further investigation.

Introduction

Mobility continues to be a defining aspect of life in the United States and around the world. Investment in transportation infrastructure has led to new opportunities for trade, travel, recreation, relocation, and economic growth. The BMCMPO receives approximately \$3.1 million per year of federal transportation funding allocated from the Indiana Department of Transportation to invest in our local transportation network. Despite this continued investment, the effectiveness of our transportation system is undermined by human, economic, and financial costs attributable to motor vehicle crashes.

Motor vehicle crashes are a significant cause of death, injury, property loss and productivity loss in the United States. Data for 2008 shows that unintentional accidents were the 5th leading cause of death overall, and of the 121,902 total unintentional accidents reported, 42,709 (35.0%) are attributed to transportation.¹ While it may not be possible to completely eliminate motor vehicle crashes, gaining a better understanding of their causes can help transportation planners and engineers reduce their frequency and severity. This report attempts to characterize the motor vehicle crashes in Monroe County, Indiana, providing the basis for informed transportation policies and infrastructure investments.

The annual Crash Reports demonstrate that motor vehicle crashes contribute to a significant loss of life, property, and productivity in Monroe County. Through continued efforts in crash reporting and analysis, a better understanding of crash trends will be attained. From this information, targeted infrastructure investments should further improve safety on roads within the county. Therefore, the purpose of this report is twofold. First, the report provides a consistent and straightforward means to disseminate annual crash data which can be utilized by any interested individual or organization. Second, the report provides another tool for civil engineers, transportation planners, and local policy makers to use when considering mitigation strategies aimed to reduce the frequency and severity of transportation related crashes. Specifically, the Indiana Department of Transportation and the BMCMPO require Local Public Agencies (LPAs) to use crash data as part of the Highway Safety Improvement Program (HSIP). This program provides federal funding to target areas with high incidences of crashes. It is the overall goal of HSIP to reduce the number of fatal and incapacitating injury crashes. Through annual reporting and analysis, effective mitigation strategies can be implemented to further curtail crashes within Monroe County.

This report focuses on a three year period from 2008 to 2010. By focusing on a longer time horizon, random variations in annual crashes do not unduly influence the trends reported. For instance, annual variations in bicycle and pedestrian crashes, fatalities and incapacitating injuries, and location-specific crashes can be significant, even though there may not be an actual change in the likelihood of those crashes. By using a three-year window, identified trends are more likely to be meaningful. Results from 2010 alone are also presented in some instances to provide a snapshot of the most recent year.

¹ Centers for Disease Control, National Center for Health Statistics. National Vital Statistics Reports – Deaths: Final Data for 2008. Volume 59, Number 10. http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_10.pdf. Accessed on December 8, 2011.

Methodology and Data Considerations

The data for the Bloomington/Monroe County Crash Report originates from the “Automated Report and Information Exchange System” (ARIES) of the Indiana State Police. This system contains crash data from police reports since 2003. The police report data is organized by collisions, units (vehicles), and individuals. These entities are related to one another by a field in each table (Master Record Number), but can also be analyzed independently. It is possible to retrieve information regarding collisions (e.g., where and when did the greatest number of crashes occur?), vehicles involved (e.g., how many crashes involved bicycles?), and individuals involved (e.g., how old were the crash victims?). It is also possible to perform more complex analyses using attributes from each of these entities (e.g., which location had the most elderly crash victims?).

As with any database, the validity of conclusions resulting from the data is contingent upon accurate and complete data entry. Lack of information from hit-and-run collisions, confusion surrounding alternate names of roads (e.g., Country Club Drive, Winslow Road), misspelled or mis-entered street names, GPS errors, and incomplete data entry undoubtedly introduce some error into the results of this report. Therefore, results should not be interpreted rigidly.

A significant effort was made to correct data errors and validate results. It is important to note that the methodology was improved for this report. Consequently, some minor inconsistencies will be evident when comparing crash reports from different years. Therefore, it should be understood that the most recently issued Crash Report reflects the best and most accurate crash information. For this report, data was analyzed primarily based on the reported latitude and longitude of the crash location. This methodology was determined to be more reliable than using the reported location and captured over 90% of all reported crashes. Regardless of methodological changes and slight differences between reports, the list of problematic intersections remains relatively consistent, and the overall findings of this report are consistent with those of past years.

Collisions were categorized for analysis based on the type and severity of the crash. If the crash included a moped, motorcycle, bus, bicyclist or pedestrian, it was classified as a “moped/motorcycle”, “bus”, “bicycle” or “pedestrian” crash, accordingly, regardless of the number of vehicles involved. If the crash involved only motor vehicles, the “crash type” classification was based on the number of cars: one car, two cars, or three or more cars. The “severity” classification of a collision was based on the most severe injury that resulted from the crash. For example, if a crash resulted in a fatality as well as a non-incapacitating injury, the severity of the crash was classified as “Fatal Injury.” Most data methods used in the report are self-explanatory.

When reading the report, it is important to understand the distinction between “crashes” and “individuals.” The term “crash” is used when the characteristics of the crash itself are under consideration, whereas the terms “individual” and “fatality” are used when the focal point is the people involved. For example, the “Fatal Injury” column of Table 1 (“Crash by Type and Severity, 2008-2010”) shows how many crashes resulted in a fatal injury in 2010, but it would be incorrect to interpret this column as the number of fatalities in 2010, since more than one fatality can result from a single crash.

Analysis

Crash Characteristics

This section provides a summary of crash characteristics in Monroe County, including the type and severity of crashes from 2008-2010. These factors reflect trends in the overall safety of the transportation system.

In 2010, a total of 4,060 motor vehicle crashes were reported in Monroe County (Table 1). Of these, thirteen resulted in one or more fatalities, while 73 caused incapacitating injuries. For the vast majority of crashes (3,121), injuries were not reported. Two-car crashes were the most common, comprising 68% of the total. One-car crashes and those involving three or more cars were also common, accounting for 20% and 5% of total crashes reported, respectively. Crashes involving a pedestrian, cyclist, moped/motorcycle, or bus were much less frequent. However, with the exception of crashes involving a bus, these were much more likely to involve injury than vehicle crashes.

Compared with 2008 and 2009, the overall number of crashes in 2010 remained fairly constant (1.1% increase). However, the portion of crashes resulting in fatalities or incapacitating injury rose sharply to 2.1% of all crashes, from 1.5% in 2009 and 1.4% in 2008. This figure should be monitored in future years to see if this trend continues.

Table 1. Crashes by Type and Severity, 2008-2010

	Crash Type	Severity				Annual Total	Percent of Annual Total
		Fatal Injury	Incapacitating Injury	Non-incapacitating	No injury/unknown		
2008	One car	4	10	170	680	864	19.9%
	Two car	1	19	447	2523	2990	68.9%
	Three or more cars	0	4	72	149	225	5.2%
	Bus	0	0	6	63	69	1.6%
	Moped/Motorcycle	3	9	64	27	103	2.4%
	Bicycle	0	1	31	2	34	0.8%
	Pedestrian	3	4	41	8	56	1.3%
	Total	11	47	831	3452	4341	100.0%
	Percent of Annual Total	0.3%	1.1%	19.1%	79.5%	100.0%	
2009	One car	3	12	154	620	789	19.7%
	Two car	0	18	448	2273	2739	68.2%
	Three or more cars	1	4	94	151	250	6.2%
	Bus	0	1	5	57	63	1.6%
	Moped/Motorcycle	2	11	53	19	85	2.1%
	Bicycle	0	1	30	6	37	0.9%
	Pedestrian	1	6	41	3	51	1.3%
	Total	7	53	825	3129	4014	100.0%
	Percent of Annual Total	0.2%	1.3%	20.6%	78.0%	100.0%	
2010	One car	6	15	153	642	816	20.1%
	Two car	5	30	460	2265	2760	68.0%
	Three or more cars	0	3	93	125	221	5.4%
	Bus	0	0	5	57	62	1.5%
	Moped/Motorcycle	1	12	56	17	86	2.1%
	Bicycle	0	3	40	8	51	1.3%
	Pedestrian	1	10	46	7	64	1.6%
	Total	13	73	853	3121	4060	100.0%
	Percent of Annual Total	0.3%	1.8%	21.0%	76.9%	100.0%	
3-Year	Total	31	173	2509	9702	12415	
	Percent of 3-Year Total	0.2%	1.4%	20.2%	78.1%	100.0%	

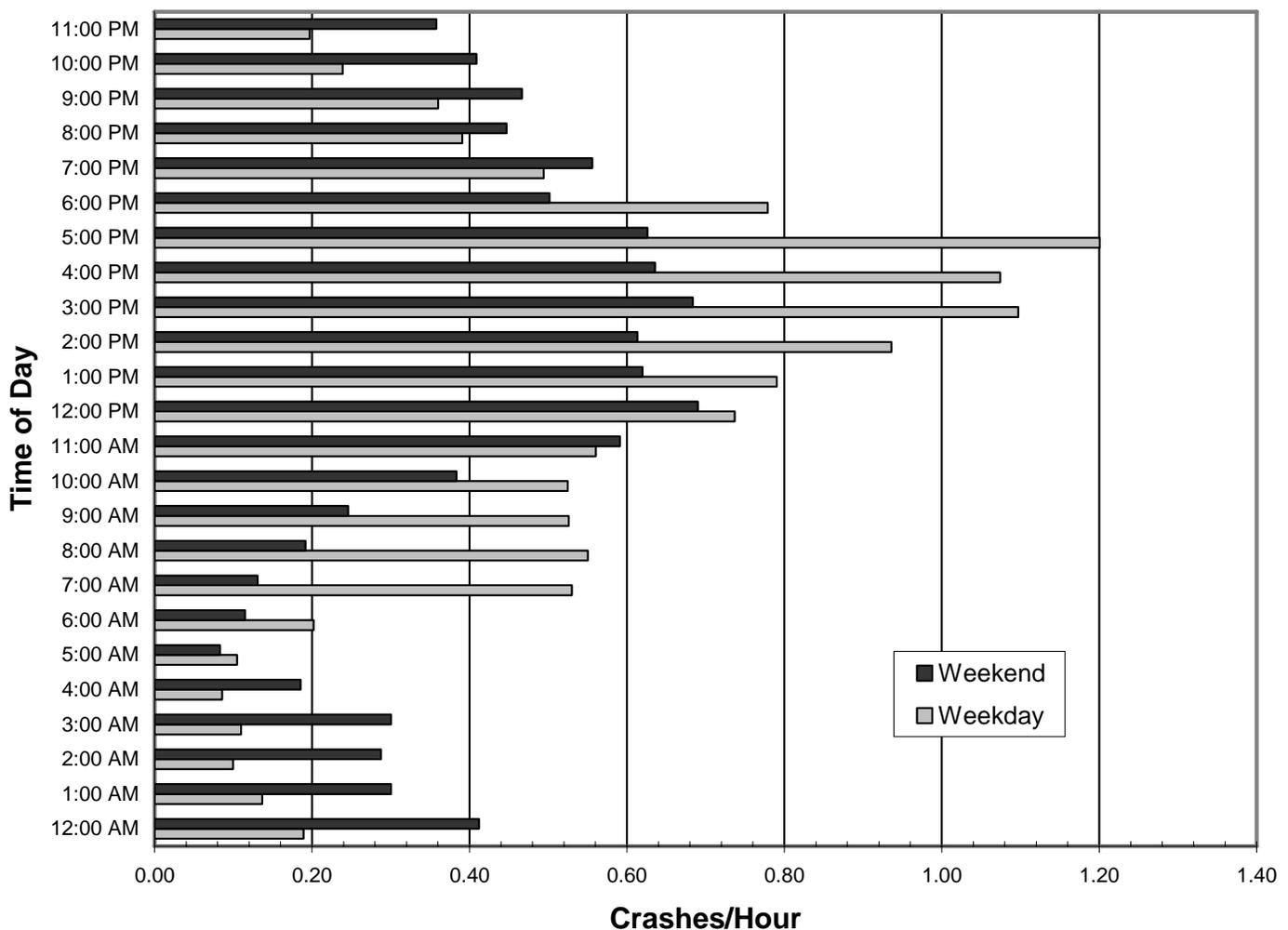
Time of Crashes

This section summarizes the number of crashes by hour and day. Information relating to the timing of crashes can be used by law enforcement agencies and emergency responders for planning purposes. Additionally, decision makers may use this information in an attempt to reduce peak crash times.

On weekdays, the number of crashes typically increased in conjunction with traffic from the morning rush hour, 7:00 AM to 9:00 AM, and then increased gradually throughout the day until the end of the waning of the evening rush hour, 5:00 PM to 7:00 PM. The late afternoon was the most likely time for a crash to occur, with more than one per hour.

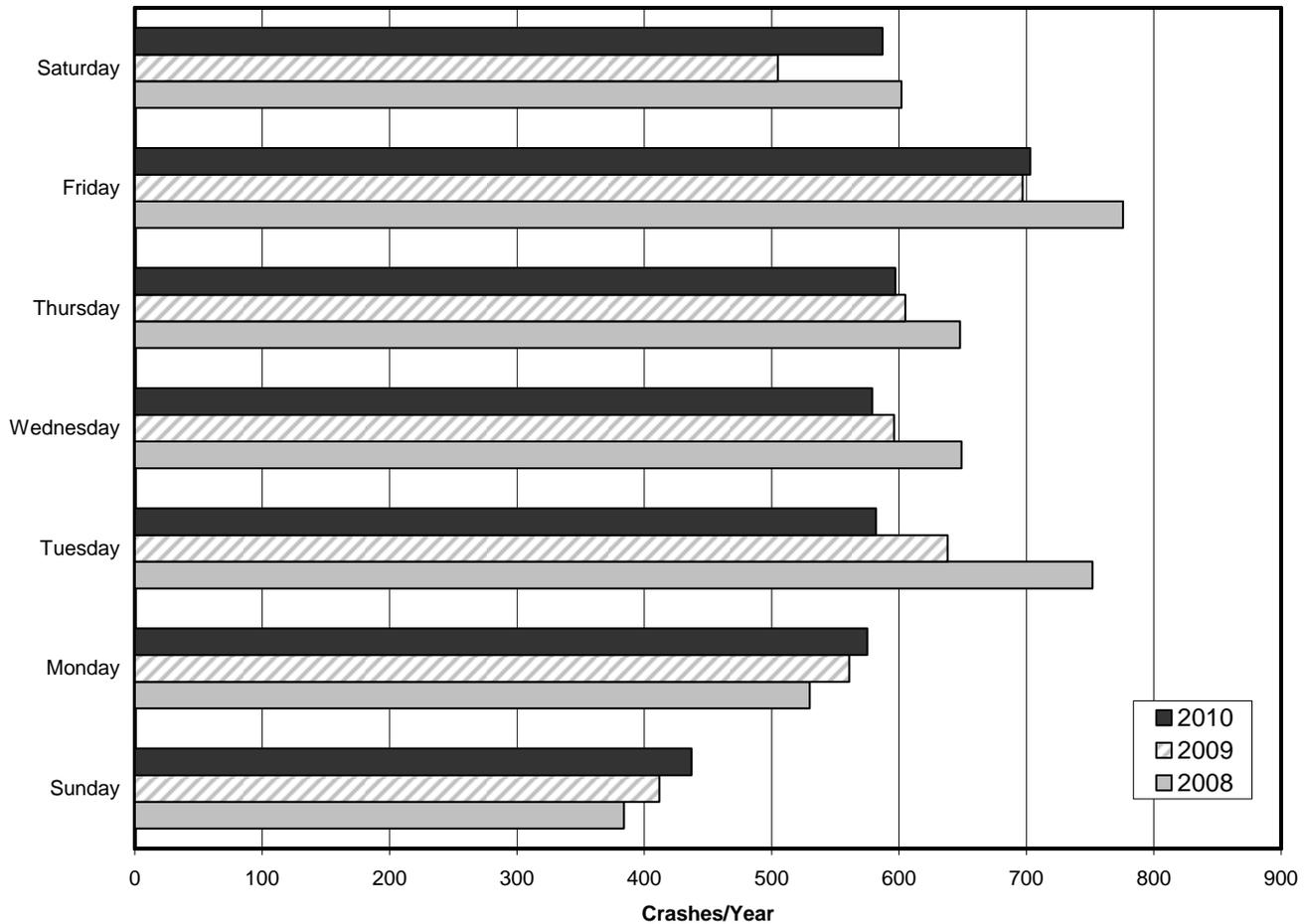
The hourly distribution of crashes for the weekend was less varied than for the work week. Crashes in the late evening and early morning were much more common during the weekend, and rush hour peaks were not as prevalent as on weekdays. During the study period, a greater number of crashes occurred on Fridays than on any other day and the fewest crashes occurred on Sundays (Figure 2).

Figure 1. Crashes by Time of Day, 2008-2010²



² Hours shown represent the beginning of the hour. For example, "12:00 AM" represents the time period from 12:00 AM to 12:59 AM.

Figure 2. Crashes by Day of Week, 2008-2010



Crash Locations

This section addresses the spatial distribution of crashes in Monroe County, highlighting problematic intersections and corridors. The ranking method is based on the total number of crashes that occurred at each location or intersection over three years. Transportation planners and engineers can use this information to prioritize infrastructure projects for safety improvements.

In 2010, the intersection with the greatest number of total crashes was E Third Street and Pete Ellis Drive, where 47 crashes were reported, an 81% jump from 2009 (Table 2). However, the intersection of College Avenue/Walnut Street and State Road 45/46 Bypass had the most crashes during the period 2008-2010 with 122 crashes. Although traffic volume is certainly an important element, intersection design factors, such as limited visibility, topographic constraints, and awkward turning movements, may contribute to greater crash frequency at some high crash locations.

Locations and intersections that have lower traffic and/or hazardous conditions may not be identified using this ranking method because the total number of crashes is not large enough to make any reasonable sized list. However, crashes may occur at a frequent rate and increased severity level for some of these locations. Therefore, future reports should develop a methodology to normalize the data such that traffic volumes, road classifications, and/or other attributes can be used to rank problematic locations using several methods to aid transportation planners, engineers, and officials.

Table 2. Top 50 Crash Locations, 2008-2010

Rank	Intersection	2008	2009	2010	3-Year Total
1	STATE ROAD 45/46 BYPASS @ N COLLEGE AVE/N WALNUT ST	52	41	29	122
2	STATE ROAD 37 @ W BLOOMFIELD RD	41	30	42	113
3	STATE ROAD 37 @ W 3RD ST	40	37	28	105
4	E 3RD ST @ S PETE ELLIS DR	30	26	47	103
5	STATE ROAD 46 @ E 3RD ST	32	36	33	101
6	STATE ROAD 37 @ W VERNAL PIKE	40	33	24	97
7	STATE ROAD 45 @ S CURRY PIKE/S LEONARD SPRINGS RD	31	31	27	89
8	STATE ROAD 45 @ S LIBERTY DR	29	23	36	88
9	STATE ROAD 45/46 BYPASS @ E 10TH ST	32	22	30	84
10	W 3RD ST @ S LIBERTY DR	29	25	24	78
11	W 3RD ST @ S GATES DR	23	22	21	66
12	E 3RD ST @ S KINGSTON DR	22	24	19	65
13	STATE ROAD 45 46 BYPASS @ N KINSER PIKE	21	19	19	59
14	E 10TH ST @ N FEE LN	17	15	24	56
15	W 10TH ST @ N COLLEGE AVE	18	15	22	55
16	E 10TH ST @ N JORDAN AVE	19	16	16	51
17	W 2ND ST @ S COLLEGE AVE	12	23	15	50
18	E 3RD ST @ S SMITH RD	15	20	14	49
18	W 7TH ST @ N WALNUT ST	16	15	18	49
20	E 3RD ST @ S WASHINGTON ST	8	24	16	48
20	S WALNUT STREET PIKE @ E WINSLOW RD	20	16	12	48
22	E 3RD ST @ S JORDAN AVE	17	11	18	46
23	W 3RD ST @ N WALNUT ST	16	18	11	45
23	STATE ROAD 37 @ W TAPP RD	11	11	23	45
23	E 10TH ST @ N PETE ELLIS DR/N RANGE RD	12	21	12	45
26	W 3RD ST @ S COLLEGE AVE	14	12	18	44
26	STATE ROAD 46 @ STATE ROAD 446	20	15	9	44
28	W GRIMES LN @ S WALNUT ST	17	12	13	42
28	W 2ND ST @ S ROGERS ST	15	10	17	42
28	W KIRKWOOD AVE @ N WALNUT ST	16	14	12	42
28	STATE ROAD 46 @ E EASTGATE LN	11	14	17	42
32	W 17TH ST @ N KINSER PIKE/N MADISON ST	13	14	14	41
33	E 3RD ST @ S WOODSCREST DR	16	21	3	40
33	E 17TH ST @ N FESS AVE	13	17	10	40
35	W 7TH ST @ N COLLEGE AVE	11	14	14	39
36	E RHORER RD @ S WALNUT STREET PIKE	16	9	13	38
36	W 3RD ST @ S CORY LN	6	9	23	38
36	W 3RD ST @ S CURRY PIKE	20	14	4	38
36	E 10TH ST @ N SUNRISE DR	11	13	14	38
36	E 13TH ST @ N INDIANA AVE	17	10	11	38
41	E ATWATER AVE @ S HENDERSON ST	17	10	10	37
41	STATE ROAD 45/46 BYPASS @ N DUNN ST	12	13	12	37
43	E 3RD ST @ S WOODLAWN AVE	16	7	13	36
43	E 3RD ST @ S FESS AVE	13	10	13	36
43	E 4TH ST @ S WALNUT ST	16	6	14	36
43	N INDIANA AVE @ E KIRKWOOD AVE	13	11	12	36
47	E 10TH ST @ N UNION ST	12	10	13	35
47	N JORDAN AVE @ E LAW LN	16	6	13	35
47	W 17TH ST/W ARLINGTON RD @ N MONROE ST	17	11	7	35
50	S BASSWOOD DR @ W BLOOMFIELD RD	16	8	10	34
50	E 3RD ST @ S PARK RIDGE RD	9	13	12	34

Crash Factors

This section summarizes the primary crash factors from 2008 to 2010. An understanding of these causes informs infrastructure investments, enforcement activities, and educational efforts. For instance, unsafe speeds can be addressed by traffic enforcement and road design, while the tendency of motorists to drive off the road can be mitigated with a guardrail or rumble strips. Similarly, enforcement and education could reduce the number of crashes attributable to alcohol.

Failure to yield right of way was the most common cause of crashes during the study period, contributing to over 2,500 crashes from 2008 to 2010. Other driver errors, following too closely, and unsafe backing were also significant crash factors. Table 3 shows the top 10 primary crash factors for 2008-2010, which account for over three-quarters of total crashes. Driving under the influence of alcohol (ranked 14th with 252 total crashes) or driving left of center (ranked 16th with 219 crashes) do not contribute to as many crashes overall, but such crashes tend to be more severe.

Table 3. Top 10 Primary Crash Factors by Severity, 2008-2010

Rank	Primary Factor	Severity				3-Year Total
		Fatal Injury	Incapacitating Injury	Non-Incapacitating Injury	No Injury/Unknown	
1	Failure to yield right of way	2	36	621	1,811	2,470
2	Other driver errors	2	12	253	1,282	1,549
3	Following too closely	0	11	384	1,119	1,514
4	Unsafe backing	0	1	23	1,170	1,194
5	Ran off road right	6	14	167	438	625
6	Speed too fast for weather conditions	0	4	105	439	548
7	Driver distracted	1	3	140	386	530
8	Disregard signal/reg sign	0	10	155	288	453
9	Roadway surface condition	0	7	56	387	450
10	Animal/object in roadway	1	8	43	372	424

Fatalities

This section provides a focused look at motor vehicle fatalities in Monroe County from 2008 to 2010. As with previous sections, the material presented here can be useful for enforcement, education, and decision-making.

In 2010, there were thirteen fatalities in Monroe County (Table 4). Of these, six resulted from single-car crashes, five from two-car crashes, one from a crash involving a moped or motorcycle, and one from a crash involving a pedestrian. Over the period from 2008 to 2010, the average annual number of fatalities per 100,000 residents was 7.8 for Monroe County. This figure is below the U.S. average of 11.01 for 2009.³

Table 4. Fatalities by Crash Type, 2008-2010

Year	Crash Type						Total	Fatalities per 100,000 Population
	One car	Two cars	Three cars or more	Moped and Motorcycle	Bicycle	Pedestrian		
2008	4	1	0	3	0	3	11	8.5
2009	3	0	1	2	0	1	7	5.4
2010	6	5	0	1	0	1	13	9.4
Total	13	6	1	6	0	5	31	7.8

³ U.S. Department of Transportation, National Center for Statistics & Analysis. Fatality Analysis Reporting System, Web-Based Encyclopedia. <http://www-fars.nhtsa.dot.gov/> Accessed on December 29, 2011.

Fatal Crash Locations

This section summarizes the locations for crashes that resulted in fatalities. From 2008 to 2010, there were 31 fatal crashes, which resulted in 31 fatalities. The locations of these fatal crashes are identified in Table 5. Location information will aid transportation planners and engineers to identify problematic locations. Fatalities are a major factor in determining HSIP funding eligibility (see the Table A1 in the appendix for more information).

Table 5. Fatal Crashes by Type and Location, 2008-2010

Location	Crash Type				
	One Car	Two Cars	Three or More Cars	Moped or Motorcycle	Pedestrian
AIRPORT RD from CAVE RD to KIRBY DR	1	0	0	0	0
ANDERSON RD from DORA RD to LYDY RD	0	0	0	1	0
ARLINGTON RD & CANTERBURY CT	1	0	0	0	0
COCKRELL RD from ROCKPORT RD to SWEETWATER LN	0	0	0	0	1
CURRY PIKE & BEASLEY DR	1	0	0	0	0
CURRY PIKE & PROFILE PKWY	0	0	0	0	1
E 13TH & N FEE LN	0	0	0	0	1
E ELLIS RD & N SHOWERS RD**	0	0	0	1	0
LEONARD SPRINGS RD & STAPLETON	0	1	0	0	0
MONROE COUNTY (exact location unknown)	0	0	0	1	0
MONROE DAM RD from STRAIN RIDGE RD to FOGGY MORNING RD	1	0	0	0	0
N THOMAS RD & W VERNAL PIKE	1	0	0	0	0
NORTH DR & WALNUT ST	0	1	0	0	0
OLD STATE ROAD 37 from GOURLEY PIKE to CLUB HOUSE DR	0	0	0	1	0
PIONEER LN & WOODYARD DR	1	0	0	0	0
S JOHNSON AVE & BEAUMONT LN	0	0	0	0	1
STATE ROAD 45 & OLD STATE ROAD 45	0	1	0	0	0
STATE ROAD 37 & SAMPLE RD	0	1	0	0	0
STATE ROAD 37 & WAYPORT RD	0	1	0	0	0
STATE ROAD 37 from ELLIS RD to WYLIE RD	1	0	0	0	0
STATE ROAD 446 from OLD RICHARDSON RD to MERRITT DR	0	1	0	0	0
STATE ROAD 446 from CHAPEL HILL RD to ALLENS CREEK RD	1	0	0	0	0
STATE ROAD 46 & KINGS RD	1	0	0	0	0
STATE ROAD 46 & TRAILWAY DR	1	0	0	0	0
STATE ROAD 45 from AIRPORT RD to LEONARD SPRINGS RD	0	0	0	0	1
STATE ROAD 46 from FLATWOODS RD to RED HILL RD	0	0	1	0	0
W 3RD ST & S PATTERSON DR	0	0	0	1	0
W ELLER RD & S GARRISON CHAPEL	0	0	0	1	0
W HOWARD RD & N STARNES RD	1	0	0	0	0
W PROSPECT ST & S ROGERS ST	1	0	0	0	0
W VERNAL PIKE from STATE ROAD 48 to OARD RD	1	0	0	0	0

Bicycle and Pedestrian Crashes

This section reports on the number of bicycle and pedestrian crashes in Monroe County from 2008 to 2010. Such crashes are an important consideration in Bloomington and Monroe County due to a relatively high number of non-motorized trips in the area. For instance, the 2005-2009 American Community Survey (5-Year Estimate) reported that 2.6% of commuters in Bloomington use a bicycle as their primary mode of transportation, while 10.8% walked. By comparison, 0.6% of US commuters reported bicycling and 2.9% reported walking as their primary modes in 2009. Individuals using these modes of transportation are particularly vulnerable to injury.

In 2010, there were 51 reported crashes involving a cyclist and 64 involving a pedestrian (Table 1). Of these, one pedestrian was killed. There were also ten pedestrian and three bicycle crashes in 2010 that resulted in incapacitating injuries. During the period from 2008 to 2010, 293 pedestrian and bicycle crashes were reported, resulting in five pedestrian fatalities. It is well understood that bicycle and pedestrian crashes more often result in injury when compared with other crash types, thus there is a need to reduce the frequency and severity of these crashes.

Table 6. Top 14 Bicycle and Pedestrian Crash Locations, 2008-2010

Intersection	Crash Type		Total
	Bicycle	Pedestrian	
N DUNN ST @ E KIRKWOOD AVE	0	7	7
E 4TH ST @ S WASHINGTON ST	0	4	4
E 7TH ST @ N WALNUT ST	0	4	4
E 10TH ST @ N JORDAN AVE	2	2	4
S COLLEGE MALL RD @ EASTLAND PLAZA	2	1	3
E 3RD ST @ S WALNUT ST	1	2	3
E 3RD ST @ S WOODSCREST DR	2	1	3
W 6TH ST @ N ROGERS ST	1	2	3
W 7TH ST @ N COLLEGE AVE	1	2	3
STATE ROAD 45 46 BYPASS @ E 10TH ST	0	3	3
E 10TH ST @ N FEE LN	2	1	3
N FEE LN @ E LAW LN	1	2	3
E 15TH ST @ N WALNUT ST	3	0	3
E 17TH ST @ N FEE LN	0	3	3

Conclusion

This report has demonstrated a number of meaningful trends relating to motor vehicle crashes in Monroe County. The information should inform transportation decision-making and, ultimately, lead to a safer, more efficient transportation system.

Some problem areas noted in this and past reports have already been improved or are in the process of being addressed. For example, the City of Bloomington completed improvements to the intersection of 17th Street and Fee Lane in 2009, and improvements to the intersection of Atwater Avenue and Henderson Street in 2011. Additionally in 2009, Monroe County finished improvements to the dangerous curve at Rogers Road and Smith Road. These projects are expected to reduce the frequency and severity of crashes and we will highlight crash data for these locations in future reports.

There are many additional locations that will require further study to see if physical improvements could be implemented to improve safety. Several intersections along State Roads (37, 45, 46, Bypass) continue to be problematic due to the sheer frequency of crashes. Due to jurisdictional boundaries at these locations, state and local officials, engineers, and staff will need to coordinate targeted safety improvements and reach agreements before any improvements can occur.

Data and analysis on other attributes are included within the report (e.g. bus, moped, motorcycle, fatalities, causes, locations, severity of crashes), providing additional information to identify trends and/or areas of concern. Future versions of this report may consider a more detailed analysis of the circumstances of fatal crashes and the characteristics of individuals involved in fatal crashes. An improved understanding of these factors would help the community to better focus its efforts on reducing motor vehicle fatalities, which is one of the primary purposes of this report.

Beginning with the next Crash Report, covering the period from 2009 to 2011, future reports will evaluate locations that have implemented safety improvements. As mentioned above, this will include the 17th Street and Fee Lane intersection, the Rogers Road and Smith Road curve, and the Atwater Avenue and Henderson Street intersection. Evaluation of past and future crash data at these, and other, locations will further aid in implementing appropriate and effective mitigation strategies to reduce crashes. Agencies receiving funding through the HSIP will also be required to analyze crash trends before and after road improvements. This report has taken the first step by identifying problematic locations. It is expected that transportation planners, engineers, and officials together will use this information to prioritize locations that need immediate attention, and possibly seek Highway Safety Improvement Program funding or other means (enforcement, education) to improve safety.

Figure A2. Intersections with Three or More Bicycle and Pedestrian Crashes, 2008-2010

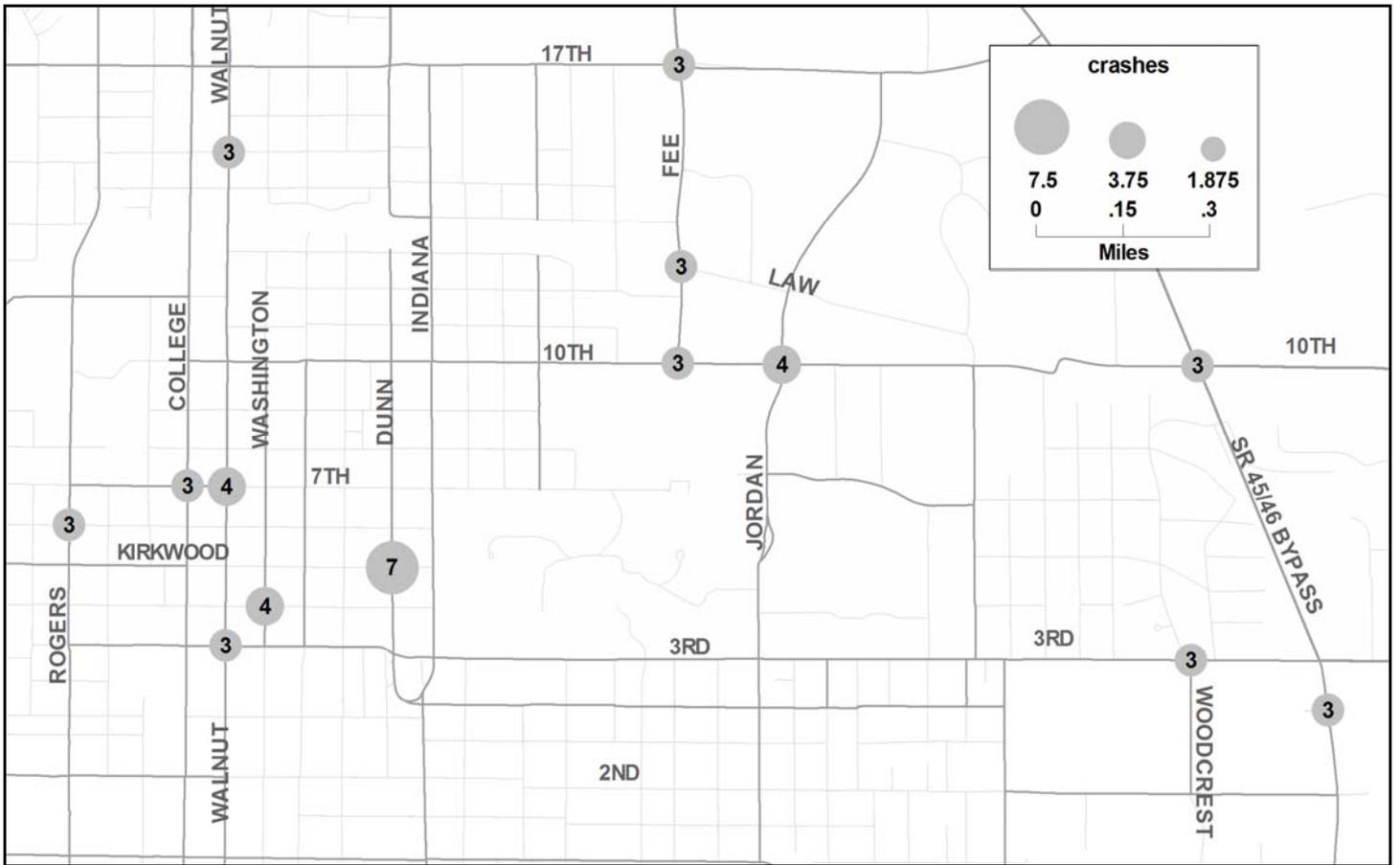


Figure A3. Fatal Crashes in Monroe County, 2008-2010

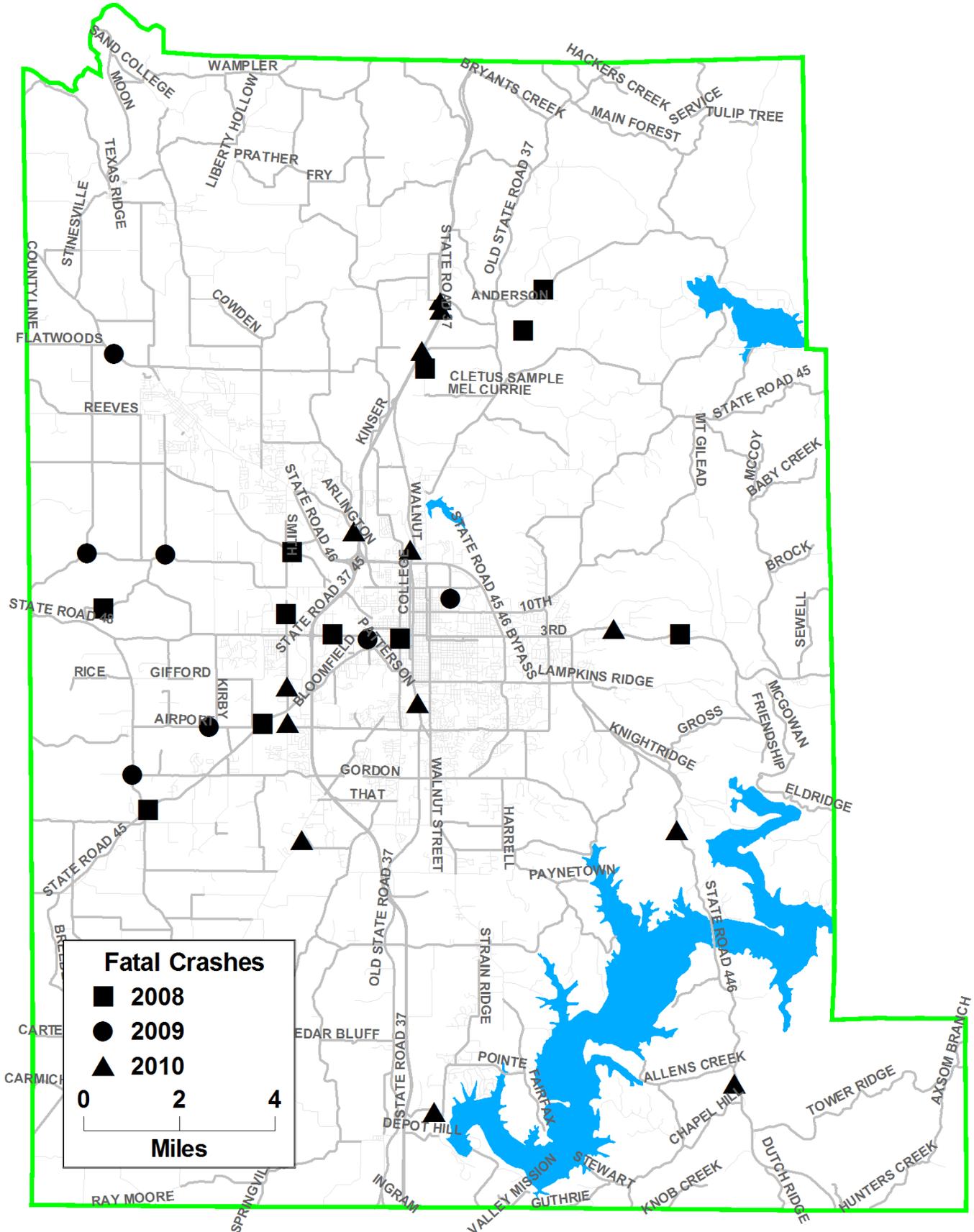


Figure A4. Fatalities by Gender and Crash Type, 2008-2010

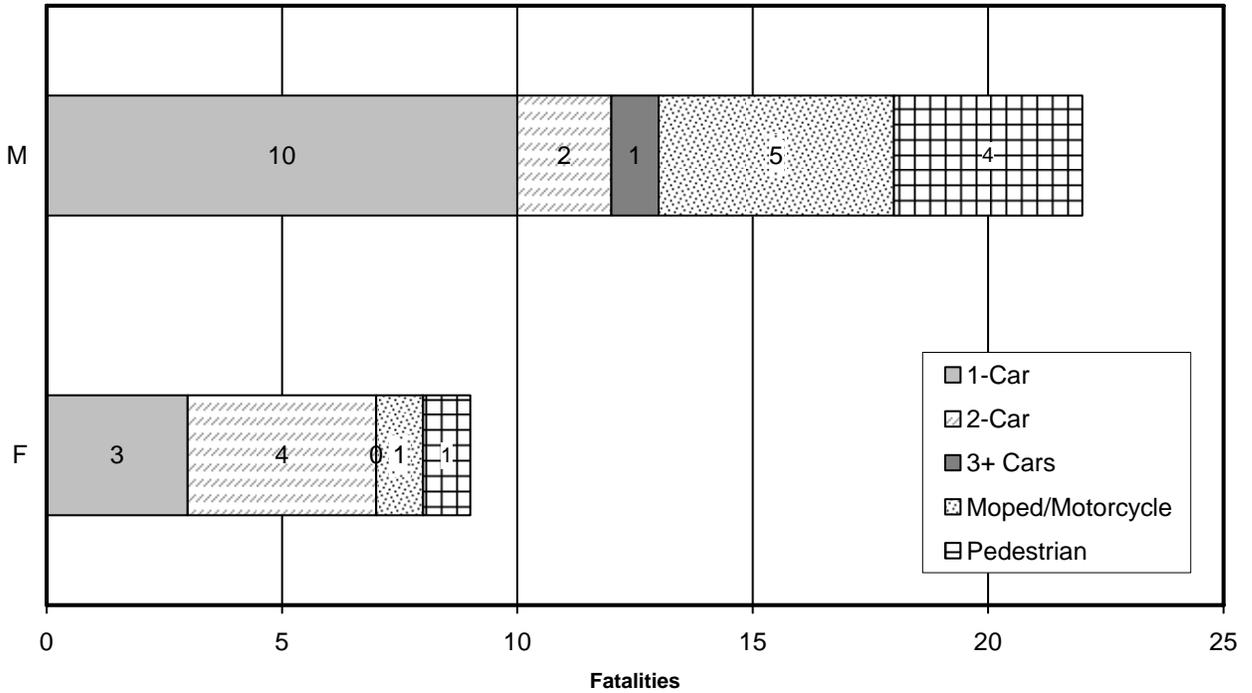
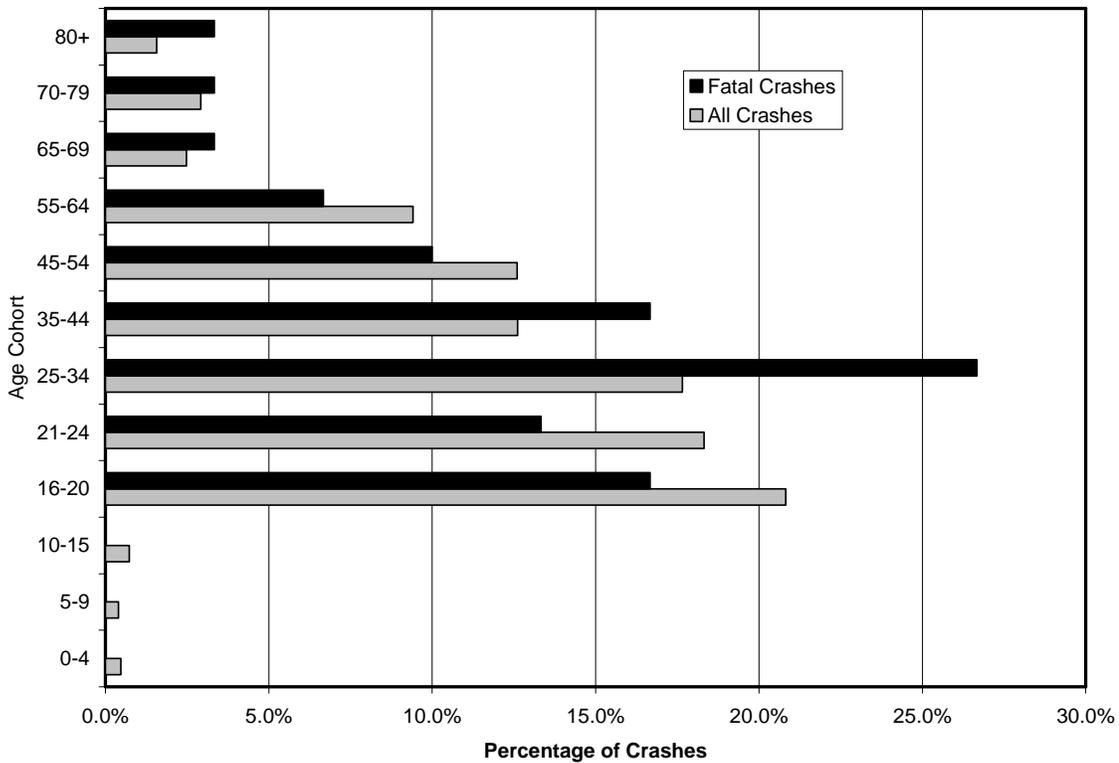


Figure A5. Portion of Individuals in All Crashes and Individuals Fatally Injured, by Age Class, 2008-2010⁴



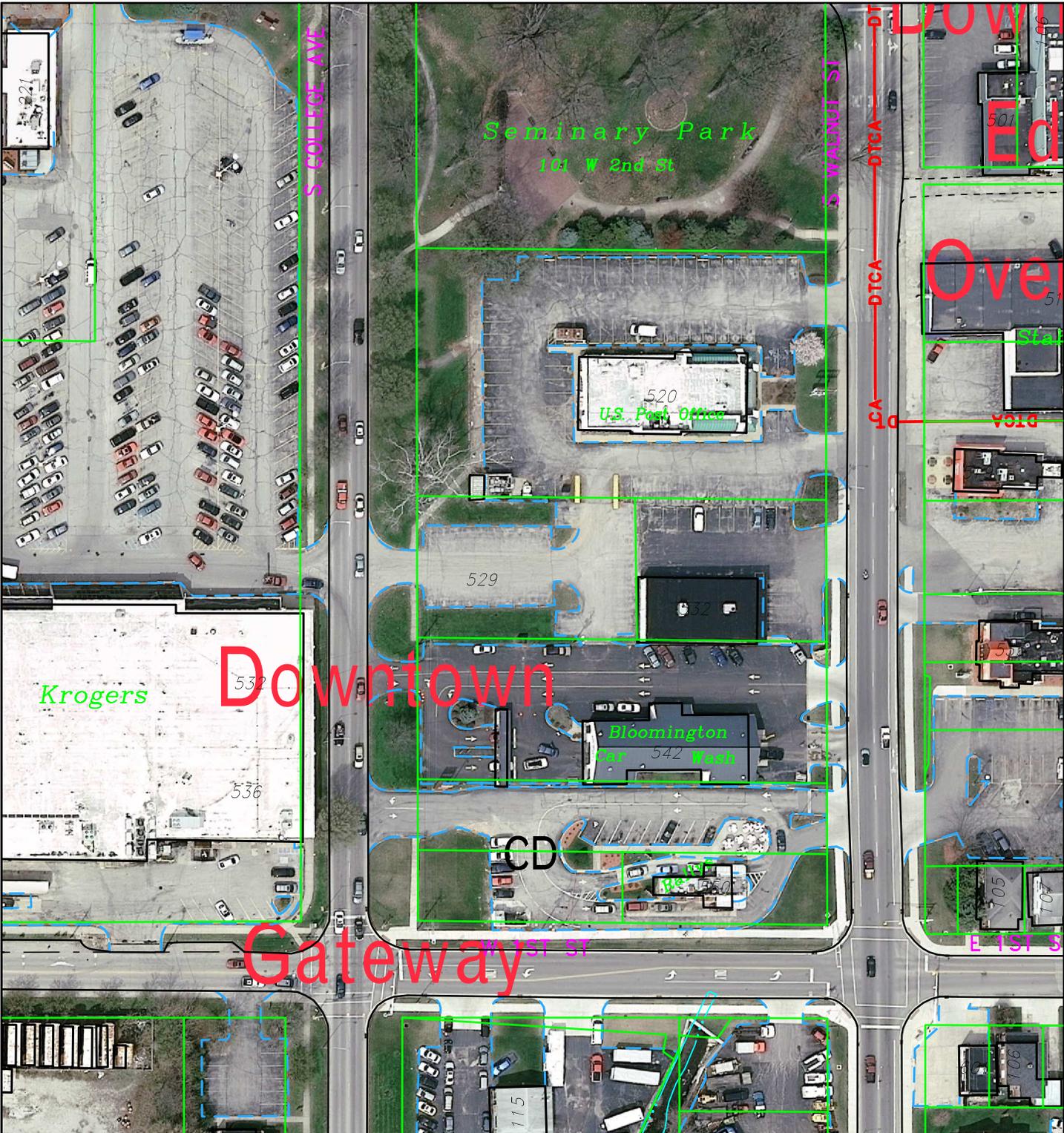
⁴ For the purposes here, individuals whose age was not reported were excluded from the total number of individuals.

HSIP Eligibility List

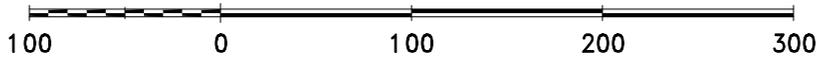
The Highway Safety Improvement Program (HSIP) is a program that provides federal funding for areas with a high incidence of crashes, as identified through the annual crash reports. Emphasis is paid to locations which have high frequencies of fatal and incapacitating crashes. The intent of the funding is to leverage effective safety improvements in a timely fashion to reduce the severity and frequency of crashes. Below is the list of eligible locations for HSIP funding located along local roads. Other locations not listed below may be eligible for HSIP funding and additional information can be found within the detailed HSIP application and procedures.

Table A1. Eligible HSIP Locations, 2008 – 2010

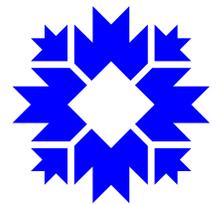
Rank	Location	Fatal & Incapacitating Injury Crashes	Total Crashes	Fatal	Incapacitating	Non-incapacitating	Property Damage
1	W 2ND ST @ S WALKER ST	3	11	0	3	5	3
2	W 3RD ST @ S PATTERSON DR	2	20	1	1	3	15
3	S CURRY PIKE @ W GIFFORD RD	2	13	0	2	3	8
4	N CURRY PIKE @ W JONATHAN DR	2	9	0	2	4	3
5	E 7TH ST @ W 7TH ST @ N WALNUT ST	1	49	0	1	9	39
6	S WALNUT STREET PIKE @ E WINSLOW RD	1	48	0	1	9	38
7	E 3RD ST @ S WALNUT ST	1	47	0	1	7	39
8	E 3RD ST @ S JORDAN AVE	1	46	0	1	8	37
9	W 2ND ST @ S ROGERS ST	1	42	0	1	8	33
	W 17TH ST @ N KINSER PIKE @ N						
10	MADISON ST	1	41	0	1	10	30
11	E 10TH ST @ N SUNRISE DR	1	38	0	1	4	33
12	E 4TH ST @ S WALNUT ST	1	36	0	1	4	31
13	N JORDAN AVE @ E LAW LN	1	35	0	1	4	30
	W GORDON PIKE @ S OLD STATE ROAD 37						
14	@ S WALNUT ST @	1	30	0	1	6	23
15	N DUNN ST @ N OLD STATE ROAD 37	1	27	0	1	11	15
16	E 3RD ST @ S SWAIN AVE	1	26	0	1	1	24
17	E 13TH ST @ N FEE LN	1	21	1	0	4	16
18	E 15TH ST @ N WALNUT ST	1	20	0	1	5	14
19	E 17TH ST @ N LINCOLN ST	1	18	0	1	4	13
20	S FAIRFAX RD @ S WALNUT STREET PIKE	1	17	0	1	8	8
21	E 3RD ST @ S BALLANTINE RD	1	16	0	1	2	13
22	W 3RD ST @ S YANCY LN	1	16	0	1	4	11
23	E DILLMAN RD @ S OLD STATE ROAD 37	1	15	0	1	3	11
24	E 10TH ST @ N FESS AVE	1	15	0	1	1	13
25	W 15TH ST @ N COLLEGE AVE	1	15	0	1	0	14
26	E 18TH ST @ N DUNN ST	1	14	0	1	1	12
27	S CURRY PIKE @ W ROLL AVE	1	13	0	1	2	10
	S COLLEGE MALL RD @ E DRIVE TO						
28	EASTLAND PLAZA	1	13	0	1	4	8
	N GRANT ST @ S GRANT ST @ E						
29	KIRKWOOD AVE	1	12	0	1	2	9
30	N THOMAS RD @ W VERNAL PIKE	1	11	1	0	2	8
31	S WALNUT ST @ S WALNUT STREET PIKE	1	11	0	1	0	10
32	E ATWATER AVE @ S PARK AVE	1	11	0	1	2	8
33	S FAIRFAX RD @ E SCHACHT RD	1	10	0	1	4	5
34	N ELM ST @ W KIRKWOOD AVE	1	9	0	1	0	8
35	W 11TH ST @ N MORTON ST	1	8	0	1	0	7
36	W ALLEN ST @ S PATTERSON DR	1	8	0	1	2	5
37	W FULLERTON PIKE @ S ROCKPORT RD	1	7	0	1	1	5
	S FAIRFAX RD @ E RAMP CREEK RD @ E						
38	SMITHVILLE RD	1	6	0	1	2	3
39	S ROGERS ST @ W THAT RD	1	6	0	1	1	4
40	S CURRY PIKE @ W DOYLE AVE	1	6	0	1	1	4
41	W HOWE ST @ S ROGERS ST	1	6	0	1	1	4
42	N OLD STATE ROAD 37 @ E ROBINSON RD	1	5	0	1	2	2
43	E NORTH DR @ S WALNUT ST	1	5	1	0	1	3
44	W BEASLEY DR @ S CURRY PIKE	1	5	1	0	1	3
45	E 11TH ST @ N INDIANA AVE	1	5	0	1	1	3
	E INVERNESS WOODS RD @ S						
47	KNIGHTRIDGE RD	1	4	0	1	1	2
	N CURRY PIKE @ S CURRY PIKE @ W						
48	GRAND AVE	1	4	0	1	1	2
49	N FRITZ DR @ N WALNUT ST	1	4	0	1	1	2



By: greulice
31 Jan 12



City of Bloomington
Planning



Scale: 1" = 100'

For reference only; map information NOT warranted.

MATERIALS LEGEND

- ① 1.5" BITUMINOUS SURFACE #11 ON 2.5" BITUMINOUS BINDER #8 OR #9 ON 6" COMPACTED AGGREGATE BASE #53, TYPE "O"
- ② CONCRETE SIDEWALK - WIDTH VARIES 4" THICK CONCRETE 4" COMPACTED AGGREGATE BASE #53, TYPE "O"
- ③ 6" STANDING CURB
- ④ MONOLITHIC CURB AND SIDEWALK, 6" CURB FACE
- ⑤ CONCRETE SLAB 6" CONCRETE ON 6" COMPACTED AGGREGATE BASE #53
- ⑥ CONCRETE STAIRS
- ⑦ HANDRAIL
- ⑧ GUARDRAIL
- ⑨ MASONRY DUMPSTER ENCLOSURE
- ⑩ LINE, PAINT, SOLID, WHITE, 4"
- ⑪ LINE, PAINT, SOLID, BLUE, 6"
- ⑫ TRANSVERSE MARKINGS, PAINT, BLUE, HANDICAP SYMBOL
- ⑬ LINE, PAINT, WHITE, 24" CROSSWALK
- ⑭ NURSERY SOD
- ⑮ HANDICAP RAMP TYPE C
- ⑯ HANDICAP RAMP TYPE K
- ⑰ PARKING CONTROL SIGN "HANDICAP PARKING"

GENERAL NOTES

- 1) SEE SMITH NEUBECKER STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
- 2) TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS: A) MANHOLES: R/W ELEVATION B) INLETS: SEE DETAIL PACKET
- 3) LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.

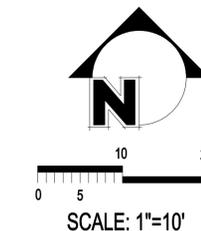
SITE PLAN NOTES

- 1) SIDEWALK RAMP SHALL BE IN ACCORDANCE WITH THE LATEST ADA AND CITY OF BLOOMINGTON REQUIREMENTS. CONTRACTOR SHALL COORDINATE WORK WITH CITY ENGINEERING PRIOR TO COMMENCEMENT.
- 2) CONTRACTOR IS RESPONSIBLE FOR MAINTAINING STORE ACCESS AND RESTRICTING PEDESTRIAN AND VEHICULAR ACCESS TO WORK AREAS.
- 3) CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CITY R/W EXCAVATION PERMIT IF WORK WITHIN THE PUBLIC R/W IS NECESSARY FOR THE PROJECT COMPLETION.

SITE DEVELOPMENT DATA

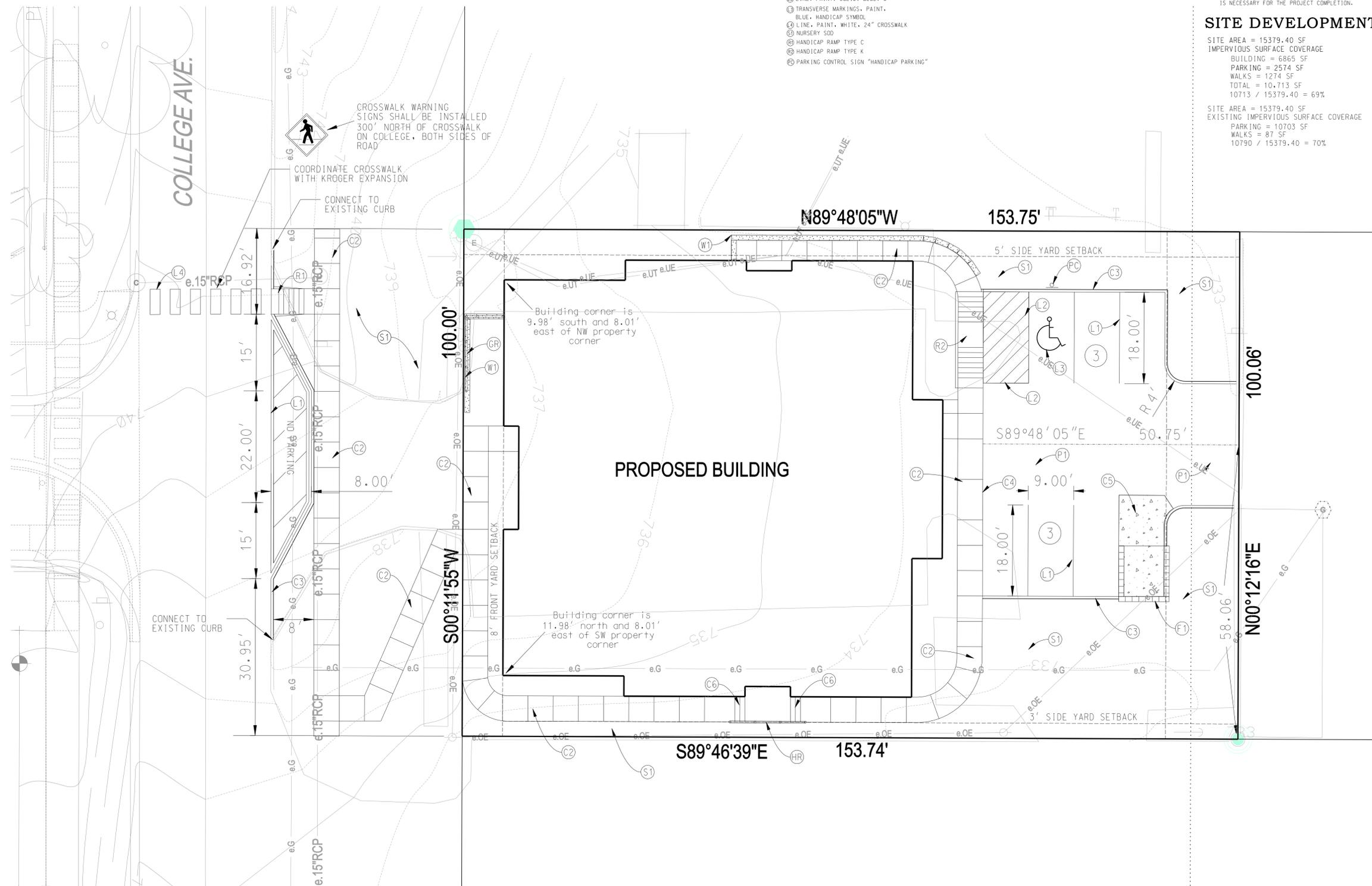
SITE AREA = 15379.40 SF
 IMPERVIOUS SURFACE COVERAGE
 BUILDING = 6865 SF
 PARKING = 2574 SF
 WALKS = 1274 SF
 TOTAL = 10,713 SF
 10713 / 15379.40 = 69%

SITE AREA = 15379.40 SF
 EXISTING IMPERVIOUS SURFACE COVERAGE
 PARKING = 87 SF
 WALKS = 87 SF
 10790 / 15379.40 = 70%



SITE LEGEND

- ① DRAINAGE EASEMENT 10' OE
- ② UTILITY EASEMENT 10' UE
- ③ DR. & UT. EASEMENT 10' D&UE
- ④ 2" CURB AND GUTTER
- ⑤ 6" STANDING CURB
- ⑥ CONCRETE SIDEWALK
- ⑦ HANDICAPPED RAMP
- ⑧ HANDICAPPED RAILING
- ⑨ RET. WALL (CONCRETE)
- ⑩ RET. WALL (MASONRY)
- ⑪ RET. WALL (STONE)
- ⑫ RET. WALL (WOOD)
- ⑬ FENCE (BARR WIRE)
- ⑭ FENCE (CHAIN LINK)
- ⑮ FENCE (SMOOTH WIRE)
- ⑯ FENCE (POST & RAIL)
- ⑰ FENCE (WOOD SLAT)
- ⑱ GUARD RAIL
- ⑲ PROPOSED STREET TREE
- ⑳ BOLLARD
- ㉑ DUMPSTER (WOOD)
- ㉒ DUMPSTER (MASONRY)



Smith Neubecker & Associates, Inc.
 453 S. Claitor Boulevard
 Bloomington, Indiana, 47401
 Telephone: (812) 336-6396
 Fax: (812) 336-0613
 Web: www.sna-inc.com

CERTIFICATION DATE: / /

JOB TITLE:
MILESTONE VENTURES
521 SOUTH COLLEGE AVE.
BLOOMINGTON, IN

REVISIONS	BY	DATE

DESIGNED	DRAWN	RGB	CHECKED	DATE

JOB NUMBER
4794
 SHEET
2 OF **9**
 DATE
 02/03/12
 SITE PLAN



FRONT ELEVATION - NORTH



PARTIAL SIDE ELEVATION - WEST

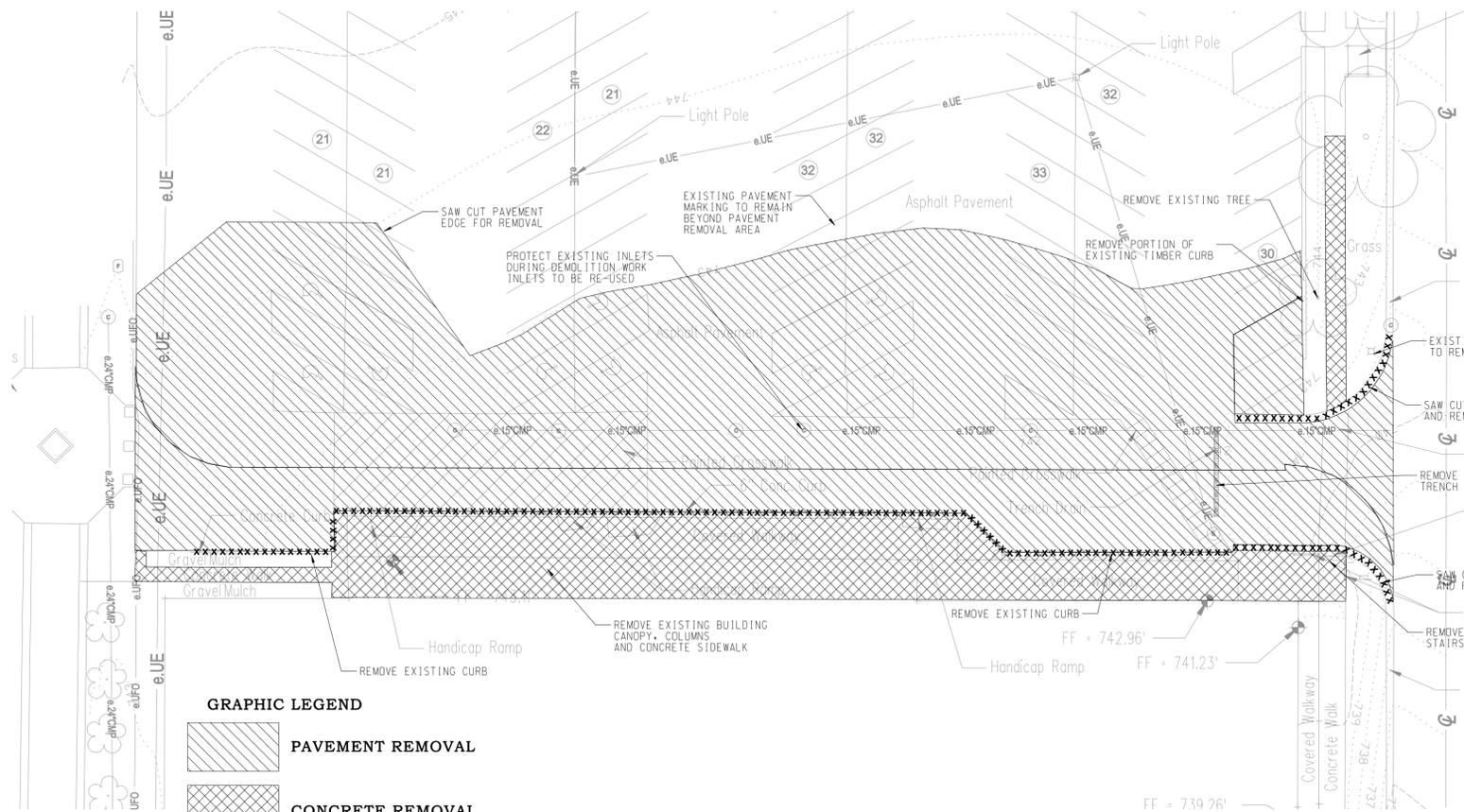


February 14, 2012

Kroger J091

Bloomington, IN
900510.08





GRAPHIC LEGEND

	PAVEMENT REMOVAL
	CONCRETE REMOVAL
	CURB REMOVAL

DEMOLITION PLAN

UTILITIES

AT&T (Phone)
Brent McCabe - (812) 334-4521
4517 E. Indiana Bell Ct.
P.O. Box 56
Bloomington, Indiana 47408
(812) 334-4594 Fax

DUKE ENERGY (Electric)
Kerry Ducker (812) 337-3035
1100 W. 2nd St.
Bloomington, IN 47403
(812) 337-3000 Fax

CITY OF BLOOMINGTON
UTILITIES (Water/Sewer)
Nancy Axson (812) 349-3689
600 E. Millier Dr.
Bloomington, IN 47402
(812) 349-3683 Fax

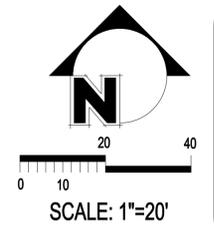
VECTREN (Gas)
Doug Anderson (812) 330-4031
205 S. Madison
Bloomington, IN 47404
(812) 330-4057 Fax

COMCAST (Cable)
Scott Templeton (812) 355-7822
2450 S. Henderson St.
Bloomington, IN 47401
(812) 332-0129 Fax

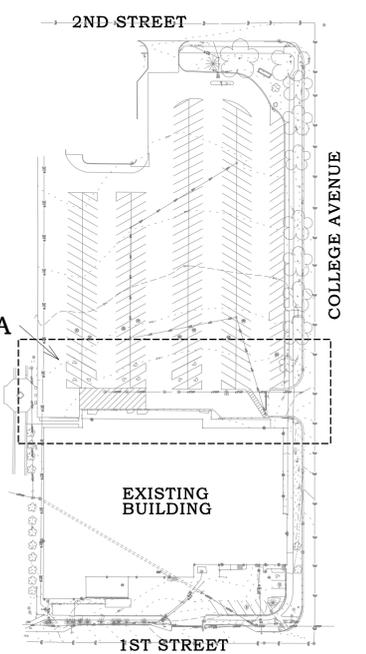
GENERAL NOTES

- SEE SMITH NEUBECKER STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
- TOP OF CASTING ELEVATIONS ARE GIVEN IN THE FOLLOWING LOCATIONS: A) MANHOLES; RIM ELEVATION B) INLETS; SEE DETAIL PACKET
- LOCATION OF EXISTING UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. PLEASE NOTIFY ENGINEER IF FIELD ADJUSTMENTS ARE NECESSARY.

DEMOLITION NOTES AND GENERAL CONSTRUCTION SEQUENCE



Smith Neubecker & Associates, Inc.
453 S. Claitor Boulevard
Bloomington, Indiana 47401
Telephone: (812) 336-6396
Fax: (812) 336-0613
Web: www.snainc.com

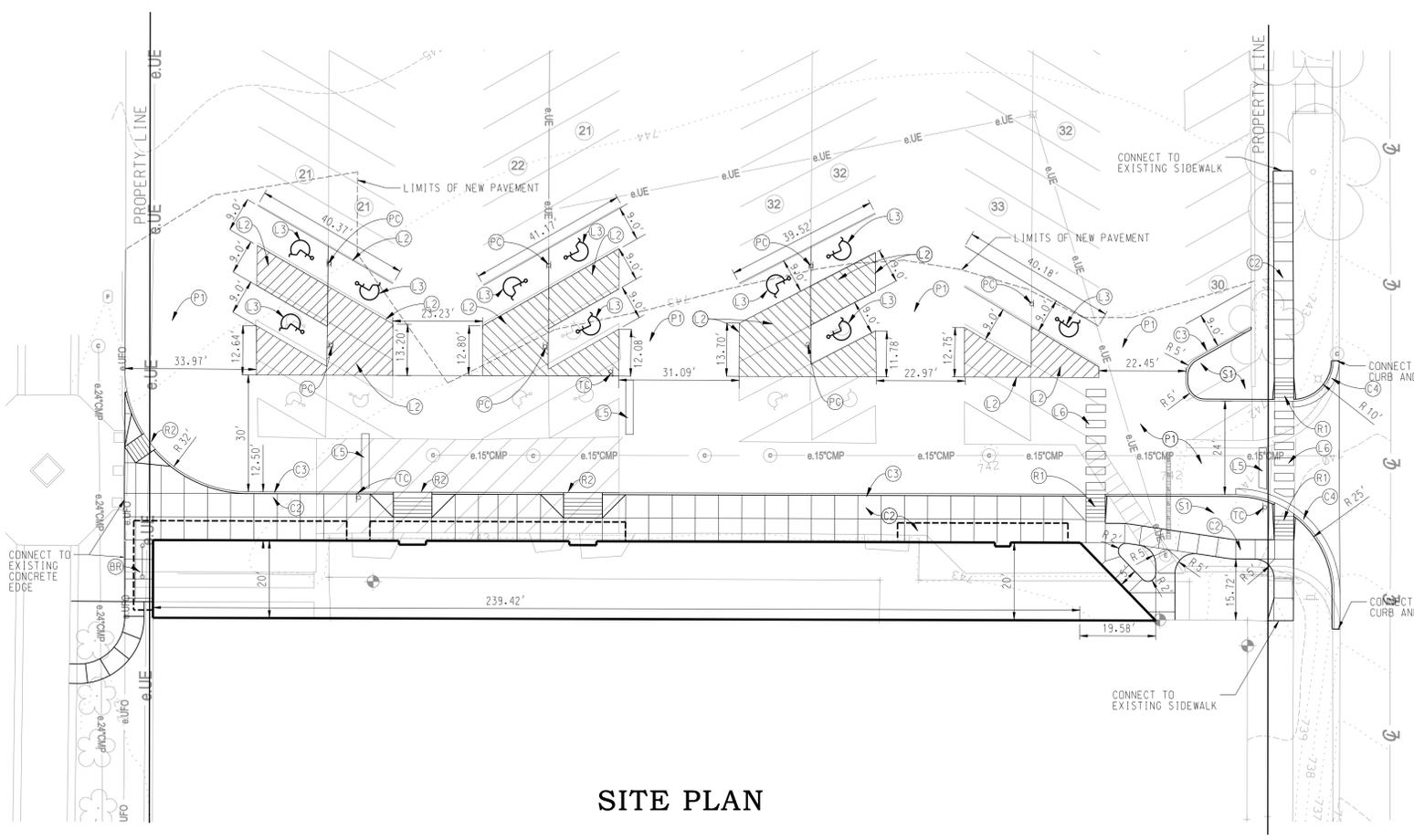


WORK AREA

CERTIFICATION DATE

//

JOB TITLE
**KRIGER EXPANSION
STORE J-091
BLOOMINGTON, IN**

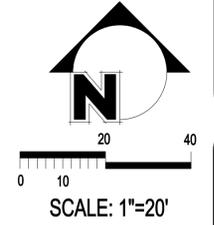


MATERIALS LEGEND

- ① 1.5" BITUMINOUS SURFACE #11 ON 2.5" BITUMINOUS BINDER #8 OR #9 ON 6" COMPACTED AGGREGATE BASE #53, TYPE "D"
- ② CONCRETE SIDEWALK - WIDTH VARIES 4" THICK CONCRETE 4" COMPACTED AGGREGATE BASE #53, TYPE "D"
- ③ 6" STANDING CURB
- ④ 2" CONCRETE CURB AND GUTTER
- ⑤ 12" CONCRETE EDGE RESTRAINT
- ⑥ LINE, PAINT, SOLID, WHITE, 4"
- ⑦ LINE, PAINT, SOLID, BLUE, 6"
- ⑧ TRANSVERSE MARKINGS, PAINT, BLUE, HANDICAP SYMBOL
- ⑨ LINE, PAINT, SOLID, WHITE, 24" STOP BAR
- ⑩ LINE, PAINT, SOLID, YELLOW, 24", CROSSWALK
- ⑪ TRAFFIC CONTROL SIGN, R1-1 "STOP" 30" X 30"
- ⑫ NURSERY SOD
- ⑬ HANDICAP RAMP TYPE G
- ⑭ HANDICAP RAMP TYPE K
- ⑮ PARKING CONTROL SIGN "HANDICAP PARKING"

SITE PLAN NOTES

- SIDEWALK RAMP SHALL BE IN ACCORDANCE WITH THE LATEST ADA AND CITY OF BLOOMINGTON REQUIREMENTS. CONTRACTOR SHALL COORDINATE WORK WITH CITY ENGINEERING PRIOR TO COMMENCEMENT.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING STORE ACCESS AND RESTRICTING PEDESTRIAN AND VEHICULAR ACCESS TO WORK AREAS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CITY R/W EXCAVATION PERMIT IF WORK WITHIN THE PUBLIC R/W IS NECESSARY FOR THE PROJECT COMPLETION.



SITE LEGEND

DRAINAGE EASEMENT	10' OE
UTILITY EASEMENT	10' UE
DR. & UT. EASEMENT	10' D&UE
2" ROLL CURB	
2" CURB AND GUTTER	
6" STANDING CURB	
CONCRETE SIDEWALK	
HANDICAPPED RAMP	
HANDICAPPED RAILING	
RET. WALL (CONCRETE)	
RET. WALL (MASONRY)	
RET. WALL (STONE)	
RET. WALL (WOOD)	
FENCE (BARB WIRE)	
FENCE (CHAIN LINK)	
FENCE (SMOOTH WIRE)	
FENCE (POST & RAIL)	
FENCE (WOOD SLAT)	
GUARD RAIL	
PROPOSED STREET TREE	
BOLLARD	
DUMPSTER (WOOD)	
DUMPSTER (MASONRY)	

SITE PLAN

REVISIONS

BY	DATE

DESIGNED
SAB

DRAWN
RGB

CHECKED
RGB

DATE

JOB NUMBER
4794

SHEET
2 OF 5

DATE
//

DEMO / SITE PLAN

Block Pavers
Plaza

EXISTING
BENCHES

B-LINE
TRAIL

CONNECT TO
EXISTING
CONCRETE
EDGE

EXISTING
STONE BOLLARDS

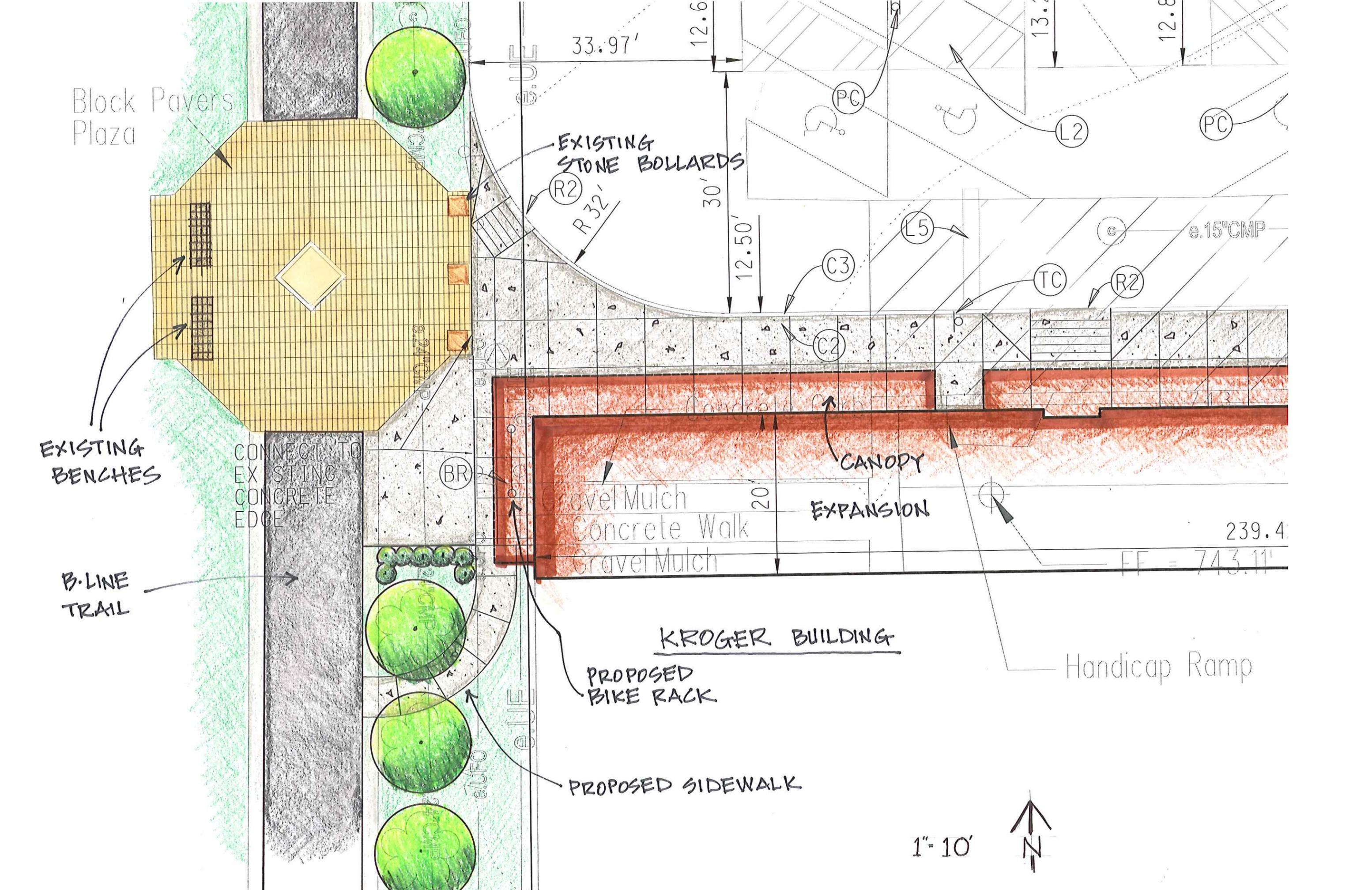
KROGER BUILDING

PROPOSED
BIKE RACK

PROPOSED SIDEWALK

Handicap Ramp

1" = 10'



33.97'

12.6'

13.2'

12.8'

30'

12.50'

e.15" CMP

239.4'

FF = 743.11'

R 32'

20'

CANOPY

EXPANSION

Gravel Mulch
Concrete Walk
Gravel Mulch

EXISTING
STONE BOLLARDS

R 32'

PC

L2

PC

L5

C3

TC

R2

C2

BR

2' CMP

2' CMP