HARRISON COUNTY HIGHWAY DEPARTMENT

Local Road Safety Plan

HARRISON COUNTY BOARD OF COMMISSIONERS

Kenny Saulman, President
Charlie Crawford, Member
Jim Heitkemper, Member

HARRISON COUNTY HIGHWAY DEPARTMENT

Kevin Russel, PE, Highway Director / County Engineer

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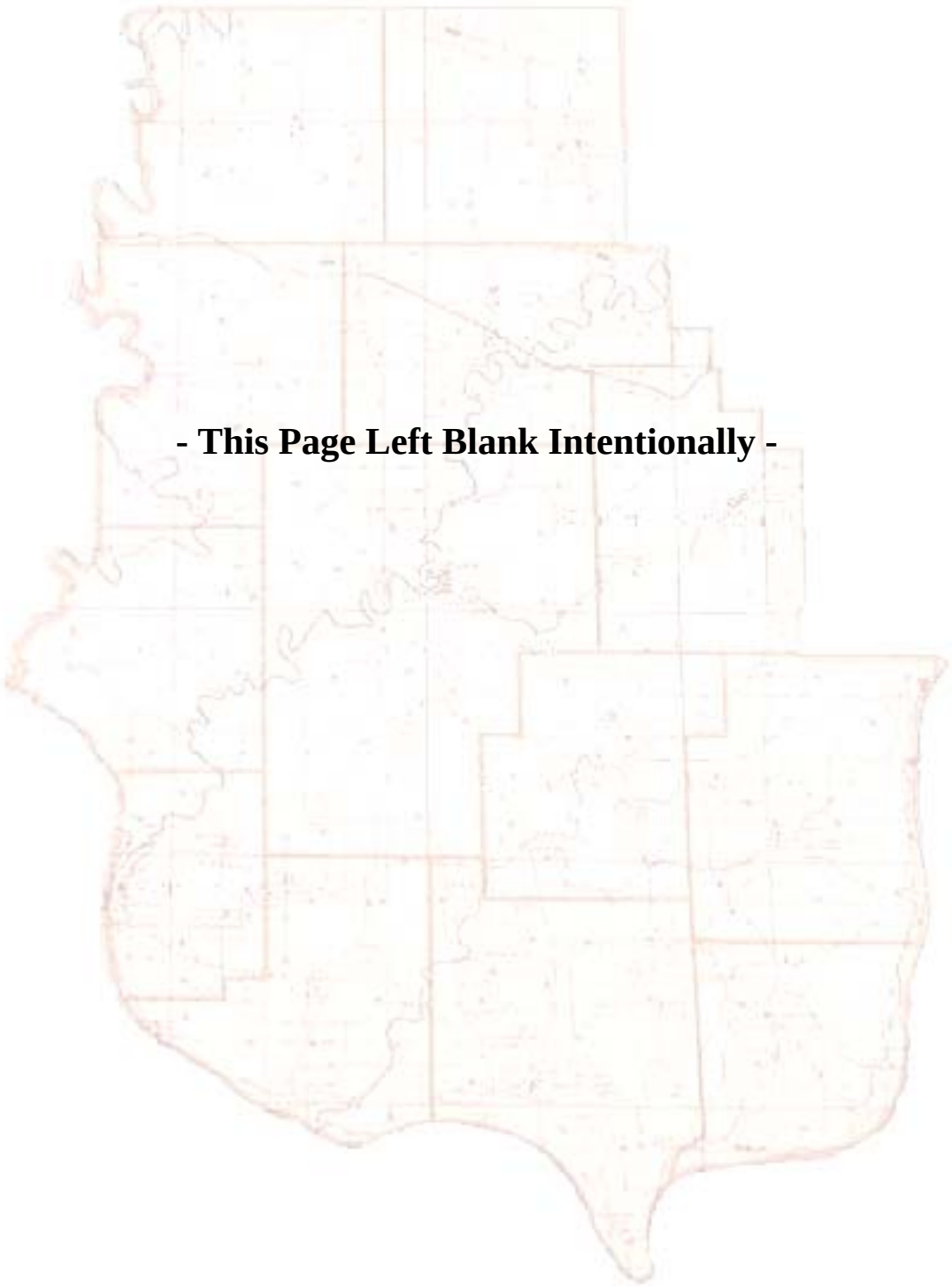

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HARRISON COUNTY HIGHWAY DEPARTMENT
LOCAL ROAD SAFETY PLAN

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A Message from the County Commissioners

Protecting the health and safety of the public is a core responsibility of any government. While roadway safety has always been a high priority for Harrison County, as leaders of Harrison County, we wish to formalize our position on the importance of roadway safety to ensure that we are allocating our resources and aligning our actions in such a way that maximizes our impact on roadway safety.

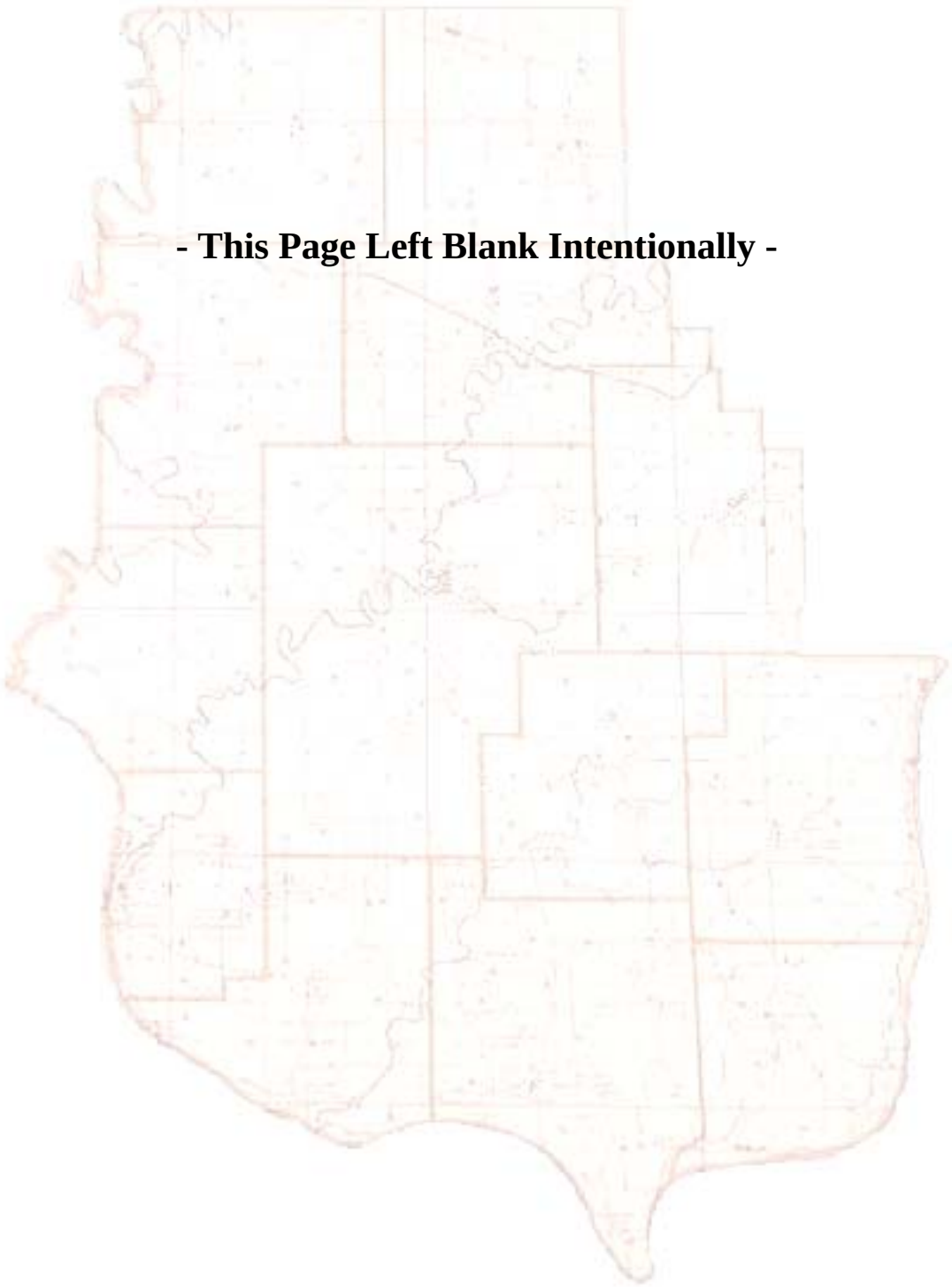
To that end, Harrison County adopts the Toward Zero Deaths Strategy for roadway safety. Toward Zero Deaths is a national strategy to reduce fatalities and serious injuries related to traffic crashes. Zero deaths uses a data-driven and interdisciplinary approach that targets specific areas for improvement and employs proven countermeasures that apply education, enforcement, engineering, and emergency services (the "4Es") to implement safety solutions. The zero deaths concept also incorporates basic principles such as broad institutionalization of the safety culture, a systems approach, and a recognition that the nature of humans to make mistakes means that infrastructure must be designed to mitigate driver error to the greatest extent possible.

Traffic crashes in Indiana during 2015 claimed more than 800 lives and injured more than 18,000 people. The corresponding lost productivity, healthcare costs, and property damage costs exceed $5 billion. While property damage and economic considerations are important, property can be replaced. Our fellow Hoosiers who lost their lives in these crashes cannot be replaced.

Through the development, adoption, and implementation of this plan, it is our goal to save lives in Harrison County and set an example that can be followed throughout Indiana.

In that spirit, this Local Road Safety Plan is hereby adopted by the Harrison County Board of Commissioners on this, the 1st day of July, 2019.

Charlie Crawford	Kenny Saulman	Jim Heitkemper
Commissioner	Commissioner	Commissioner
District 1	District 2	District 3



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A Message from the County Highway Department

The Federal Highway Administration (FHWA) states that a local road safety plan (LRSP) provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. FHWA goes on to say that the LRSP development process and content should be tailored to local issues and needs. The process results in a prioritized list of issues, risks, actions, and improvements that can be used to reduce fatalities and serious injuries on the local road network. This document will not only be the first LRSP for Harrison County, but also the first county LRSP in the State of Indiana.

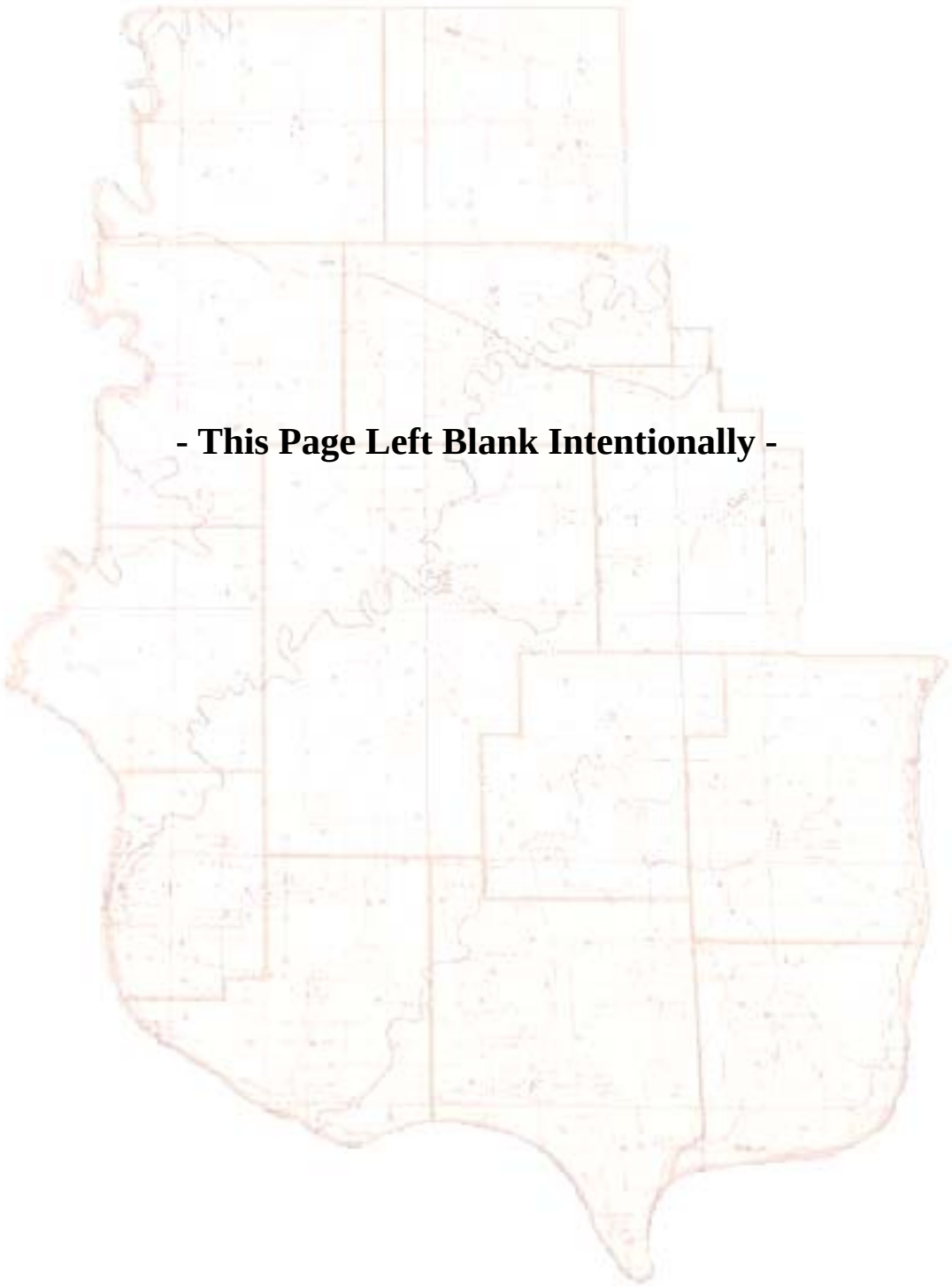
It has been a privilege for Harrison County to have been afforded this opportunity. Harrison County would first like to express our gratitude to Laura Slusher and Tino Atisso at the Indiana Local Technical Assistance Program (LTAP). Laura & Tino's data analysis work has been outstanding. Harrison County would also like to thank Rosemarie Anderson with the FHWA Office of Safety for making this opportunity available to Harrison County, as well as Rick Drumm with the Indiana Division of FHWA and Mike Holowaty with the Indiana Department of Transportation (INDOT) for sharing their expertise with Harrison County during the creation of this plan. Finally, Harrison County would like to thank Daniel Carter with the University of North Carolina's Highway Research Center for his assistance reviewing crash data and Eric Tang with FHWA's consultant contractor, VHB, for his assistance in leading us through the LRSP process.

The Harrison County Highway Department exists to serve the citizens of Harrison County by efficiently utilizing the resources available to us to provide our citizens a comprehensive transportation network functioning at the highest level of service possible. Public safety is at the core of our purpose and factors in to all facets of our day to day operations. While a respect and concern for public safety is always included in these day to day operations, this LRSP will serve to optimize our activities in a way that will focus our attention and maximize the positive effects of our efforts on public safety through the reduction of fatalities and injury crashes on our transportation system.

What is an acceptable number of fatalities on Harrison County roads? We desire for that number to be zero. Through the implementation of this LRSP and the continued evaluation of the data available to us to further tailor our efforts in the years to come, it is our intent to move toward zero deaths on Harrison County roadways, and in doings so, to save the lives of our friends and neighbors around our community that we otherwise might lose to the tragedy of roadway crashes.

Sincerely,

Kevin J. Russel, PE
Highway Director / County Engineer
Harrison County Highway Department



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SECTION 1 GENERAL INFORMATION

1.1 Toward Zero Deaths (TZD)

In 2009, multiple traffic safety stakeholders began a dialogue toward creating a national strategic highway safety plan at a workshop in Savannah, Georgia. The majority of participants expressed that there should be a highway safety vision to which the nation aspires, even if at that point in the process it was not clear how or when it could be realized. This group concluded that the elimination of highway deaths is the appropriate goal, as even one death is unacceptable. With this input from over 70 workshop participants and further discussions with the Steering Committee following the workshop, the name of this effort became "Toward Zero Deaths: A National Strategy on Highway Safety."

One person dies every 16 minutes in a traffic crash in the United States. Over the course of a lifetime, nearly every U.S. resident is touched by consequences of traffic crashes. Toward Zero Deaths is the United States' highway safety vision. It is the only acceptable target for our nation, our families, and us as individuals. *Figure 1.1* shows trends and the relationship between Highway Fatalities and Fatality Rates in the United States.

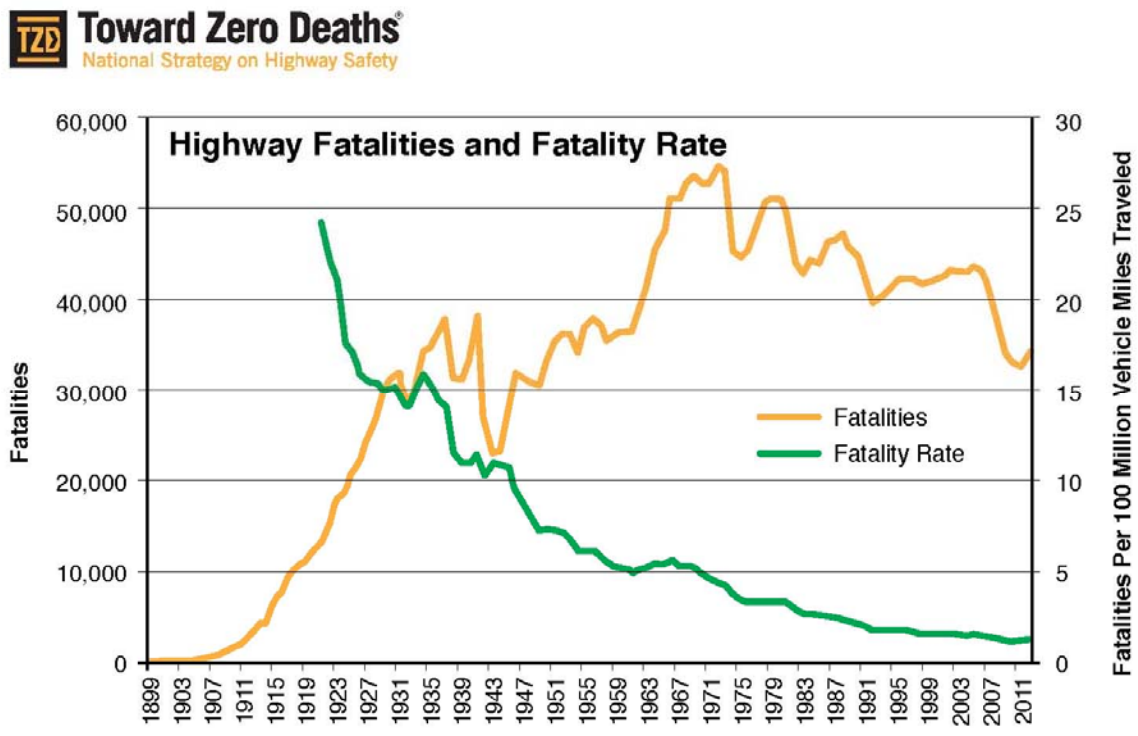


Figure 1. Highway Fatalities and Fatality Rate (per 100 million vehicle miles traveled) in the United States (27, 34)

Figure 1.1
Highway Fatalities and Fatality Rates (TZD)

Led by the TZD Steering Committee, the National Strategy on Highway Safety provides a platform of consistency for state agencies, private industry, national organizations and others to develop safety plans that prioritize traffic safety culture and promote the national TZD vision.

The complete Toward Zero Deaths Strategy can be viewed at:

https://www.towardzerodeaths.org/wp-content/uploads/TZD_Strategy_12_1_2014.pdf

1.2 Indiana Strategic Highway Safety Plan (SHSP)

The Indiana Department of Transportation (INDOT), as required by federal law in order to receive federal Highway Safety Improvement Program (HSIP) funds, maintains a Strategic Highway Safety Plan for the State of Indiana. Indiana's SHSP can be viewed at:

https://www.in.gov/indot/files/shsp.pdf

INDOT, through Indiana's SHSP, adopts the Toward Zero Deaths Strategy for Highway Safety for Indiana. Harrison County's LRSP is supplemental and complementary to Indiana's SHSP, but specific to Harrison County.

INDOT adopted the following Vision, Mission, and Goals statement in their SHSP:

Vision Statement: Reduce the risk of death or serious injury resulting from traffic crashes.

Mission Statement: Reduce travel risk for all users of Indiana's streets, roads, and highways.

Overall Goals: Move toward zero deaths resulting from traffic crashes.

INDOT's SHSP identifies the following emphasis areas for Indiana:

- Bicycle Involved Crashes
- Data and Information Systems for Traffic Safety Decision Making
- High-Speed Multi-Lane Rear-end Collisions
- Highway-Rail Grade Crossing Crashes
- Human Behavior Factors
- Intersection Crashes
- Large Truck Involved Crashes
- Motorcycle/Moped Involved Crashes

- Older Drivers & Pedestrians
- Pedestrian Involved Crashes
- Roadway Departure Crashes
- Work Zone Crashes

The Indiana SHSP identifies actions INDOT will take to impact safety, especially within the above listed emphasis areas.

1.3 What is a Local Road Safety Plan

A Local Road Safety Plan (LRSP) is a FHWA proven countermeasure to improve safety on rural and local roads. The FHWA website reads:

A local road safety plan (LRSP) provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. The LRSP development process and content are tailored to local issues and needs. The process results in a prioritized list of issues, risks, actions, and improvements that can be used to reduce fatalities and serious injuries on the local road network.

While local roads are less traveled than state highways, they have a much higher rate of fatal and serious injury crashes. Developing a LRSP is an effective strategy to improve local road safety for all road users and support the goals of a State's overall strategic highway safety plan.

Although the development process and resulting plan can vary depending on the local agency's needs, available resources, and targeted crash types, aspects common to LRSPs include:

- Stakeholder engagement representing the 4E's – engineering, enforcement, education, and emergency services, as appropriate.
- Collaboration among municipal, county, tribal, state and/or federal entities to leverage expertise and resources.
- Identification of target crash types and crash risk with corresponding recommended proven safety countermeasures.
- Timeline and goals for implementation and evaluation.

Local road agencies should consider developing a LRSP to be used as a tool for reducing roadway fatalities, injuries, and crashes. The plan should be viewed as a living document that can be updated to reflect changing local needs and priorities. FHWA's LRSP Development Process is shown in *Figure 1.2*.

Figure 1.2
FHWA LRSP Development Process

1.4 Creating Harrison County's Local Road Safety Plan

Harrison County was approached by Indiana LTAP about potential interest in participating in a FHWA "Local Road Safety Focus Approach" project. The project was to consist of providing resources and technical assistance to a local agency with a goal of addressing high priority safety challenges. A kick-off teleconference was held on February 15, 2018 that determined Harrison County would use this opportunity to assist with crash data analysis and other technical assistance to support Harrison County in the creation of a local road safety plan.

A list of stake holders was identified to participate in the LRSP process and the first on-site road safety workshop was held in Harrison County on April 17, 2018. This workshop brought together stakeholders who through their varied occupations could impact the four "E"S of local road safety. Various safety concerns were discussed as well as sources and availability of data that could be used during the creation of the LRSP.

A second on-site road safety workshop was held on December 11, 2018. Further analysis of crash data had been used to identify high priority road segments within Harrison County. Dash cam video of these segments was viewed and both existing and potential

countermeasures were discussed. The outline and contents of a LRSP for Harrison County was discussed. A general consensus was obtained concerning Harrison County's Vision, Mission, and Goals statement that would be included in our LRSP. All pertinent material was provided to the Harrison County Highway Department to compose the LRSP document.

1.5 Harrison County LRSP Vision Statement

To ensure that each user of Harrison County's roadway system reaches their destination safely, Harrison County adopts the Toward Zero Deaths Strategy for Roadway Safety.

1.6 Harrison County LRSP Mission Statement

Harrison County's Mission is to use a data-driven interdisciplinary approach to roadway safety to reduce the risk of injury or death to all users of Harrison County's roadway system.

1.7 Harrison County LRSP Goals Statement

Harrison County's Goal is to move toward zero deaths on Harrison County's roadway system. Progress toward this goal will be measured by a reduction in fatalities, injuries, and property damage resulting from traffic crashes on Harrison County's roadway system. To achieve this goal, the Harrison County Highway Department will lead an interdisciplinary team of stakeholders to ensure that our TZD vision is propagated through each of the four "E"'s of Highway Safety: Engineering, Enforcement, Education, and Emergency Services.

1.8 Harrison County Safety Partners and Stakeholders

The active engagement and participation of safety partners and stakeholders is critical to the success of any LRSP. The Highway Department identified the following list of safety partners and stakeholders that will be instrumental in the success of our LRSP:

Harrison County Commissioners
Harrison County Council
Harrison County Highway Department
Harrison County Sherriff's Department
Harrison County Health Department
Harrison County Planning & Zoning
Harrison County Emergency Management
Harrison County Hospital EMS
Harrison County Fire Chief's Association
Harrison County Economic Development Corporation
Harrison County Chamber of Commerce
Harrison County Convention and Visitors Bureau
Harrison County Purdue Extension Office

North Harrison Community School Corporation
South Harrison Community School Corporation
Lanesville Community School Corporation
Blue River Services
Federal Highway Administration
Indiana Department of Transportation
Indiana State Police
Indiana Local Technical Assistance Program (LTAP)

SECTION 2 DATA ACQUISITION AND ANALYSIS

2.1 Data Sources

Data used in the preparation of Harrison County's LRSP came from several sources. Those sources included:

Harrison County Highway Department
The Harrison County Highway Department maintains a robust Geographic Information System (GIS) map that is used to track information related to county roads such as road length, width, traffic volume, functional classification, speed limit, 85th percentile speed, and PASER ratings.

Automated Reporting Information Exchange System (ARIES)
The state of Indiana utilizes a central repository for crash data called the Automated Reporting Information Exchange System (ARIES). Crash data is generated and reported by police crash reports and stored in ARIES. This data typically includes information such as vehicle information, road conditions, crash severity, weather conditions, location, date, and time.

Indiana University Public Policy Institute (IUPPI)
The Indiana University Public Policy Institute (IUPPI) was created in 1992 and is housed in the Indiana University School of Public and Environmental Affairs at Indiana University Purdue University Indianapolis. The IUPPI prepares an annual document that summarizes crash data in a series of two-page fact sheets for each Indiana county concerning various aspects of traffic crashes such as impaired driving, children, motorcycles, dangerous driving, occupant protection, non-motorists, commercial vehicles, and young drivers.

Indiana Criminal Justice Institute (ICJI)
The Indiana Criminal Justice Institute (ICJI) is the State planning agency for criminal justice, juvenile justice, traffic safety and victim services. ICJI is designated as the State Administering Agency for distribution of federal funds, and as the State Statistical Analysis Center for research. ICJI develops an annual report for the National Highway Traffic Safety Administration (NHTSA) to summarize annual behavioral programs and expenditures identified in the Highway Safety Plan (HSP).

2.2 Data Analysis – FHWA Local Road Safety Focus Approach Project

FHWA's Local Road Safety Focus Approach Project made technical assistance available to Harrison County for this project. Harrison County requested the assistance be provided in the form of crash data analysis. FHWA's Local Road Safety Focus Approach Project provided Harrison County with the following high-level review of crash data on county roads:

Crash Data Analysis

The project team obtained crash data for Harrison County from Indiana LTAP housed at Purdue University. The crash data analyzed by the project team included crashes from 2012 to 2016 which represented the most recent five years of data available. The project team examined the crash data to identify trends and proportions in the types of crashes and the conditions in which they occurred. This analysis is based solely on crash data; it does not integrate data from roadway inventory files such as road characteristics or traffic volume. The crashes analyzed in this effort were only those that occurred on county owned roads. The objective of this analysis was to provide a high-level look at crash data to establish a beginning point for Harrison County's LRSP project.

Manner of Collision

As shown in Figure 2.1, the two most prominent crash types were striking an animal or object in the roadway and running off the road (roadway departure). Around 38 percent of all collisions from 2012 to 2016 involved a vehicle running off a road. This ranges from 31 percent in 2012 to 44 percent in 2016.

Figure 2.2 provides a further look at the manner of collision of fatal and injury crashes specifically. When considering these crashes, the proportion of animal crashes is far less, and the run off road crashes are the dominant crash type. Around 60 percent of the 273 crashes resulting in a fatality or an injury involved a vehicle running off a road.

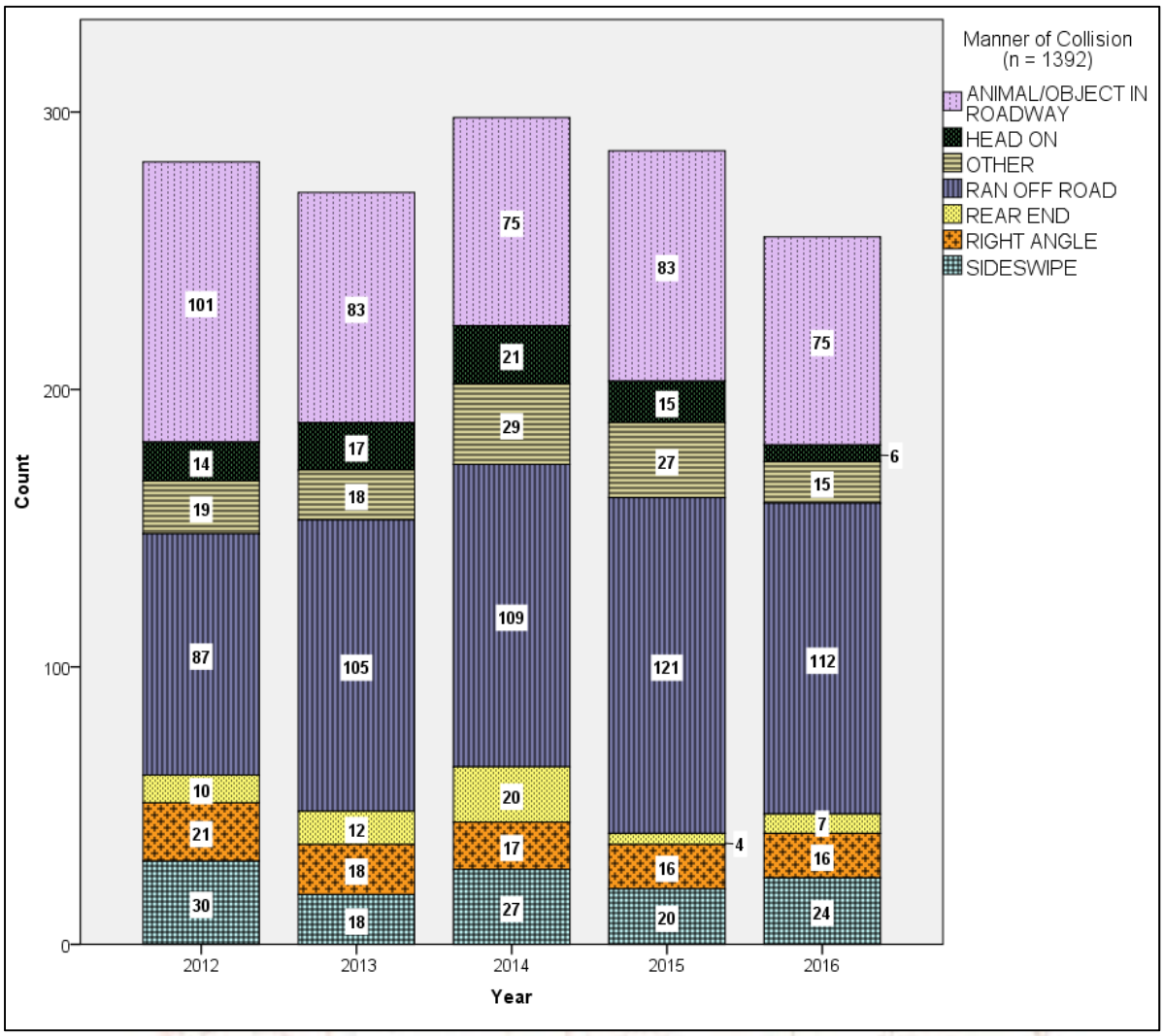


Figure 2.1
Manner of collision for all crashes 2012 – 2016

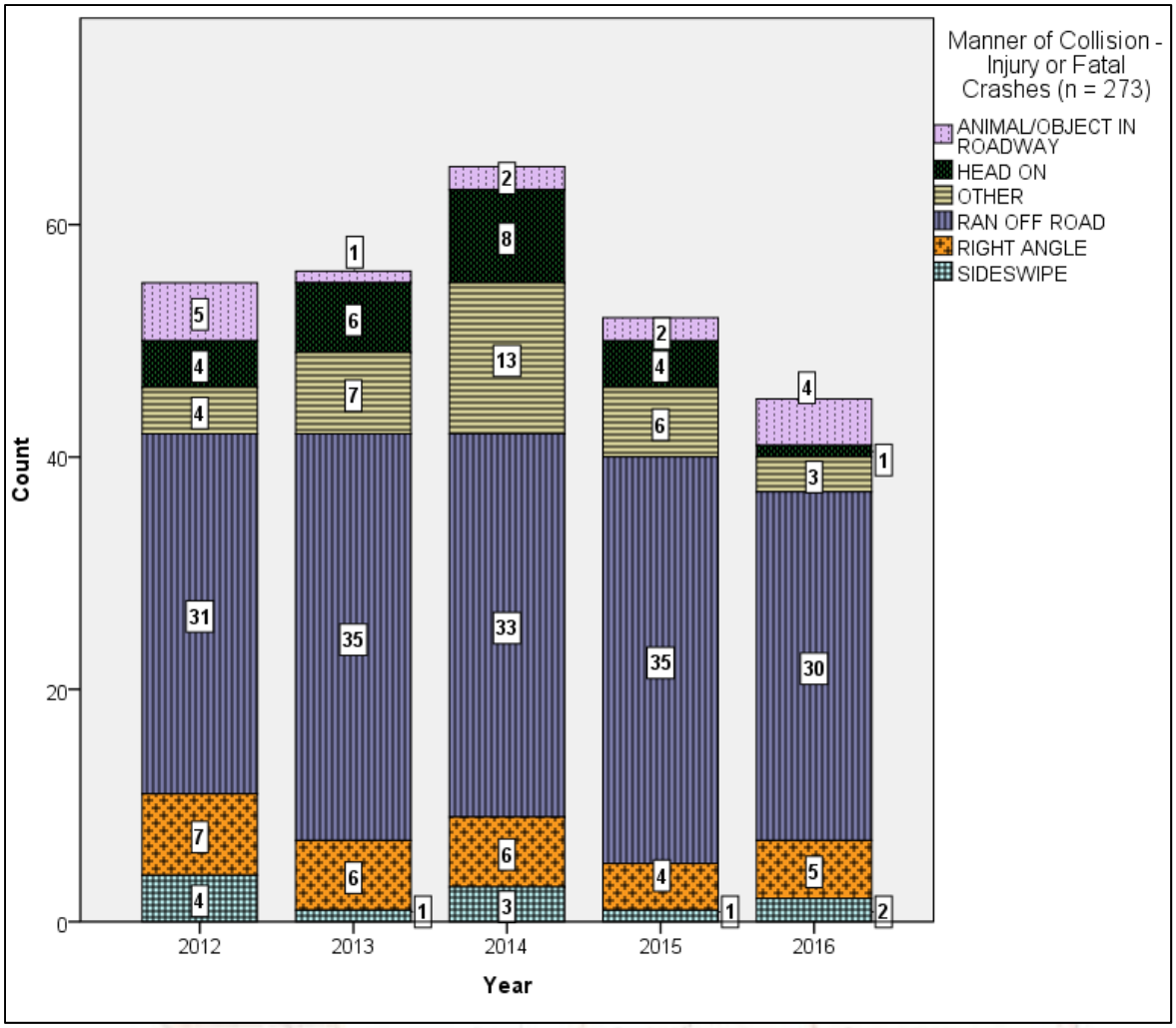


Figure 2.2
Manner of collision for crashes resulting in fatality or injury 2012 – 2016

Light Condition

Figure 2. shows a breakdown of crashes according to the light condition in which they occurred. The majority of crashes (53 percent) occurred in daylight, this ranges from 48 percent in 2013 to 58 percent in 2015. However, a large percentage (38 percent) occurred on dark, unlighted roads ranging from 33 percent in 2015 to 42 percent in 2013. Figure 2. provides an examination of the types (manner of collision) of crashes that occurred during the dark, unlighted condition. The two dominant crash types on dark, unlighted roads are striking an animal or object in the roadway and running off the road.

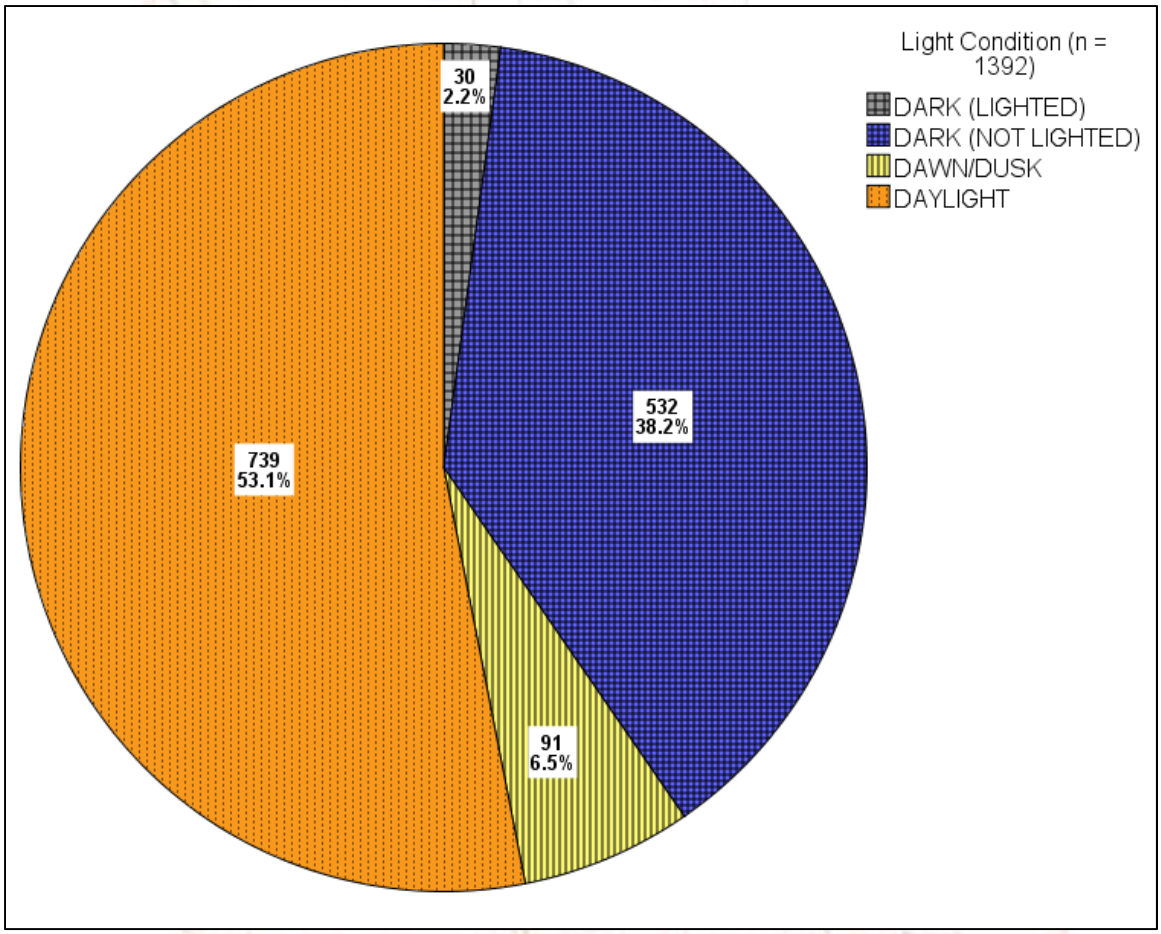


Figure 2.3
Crashes by light conditions 2012 – 2016

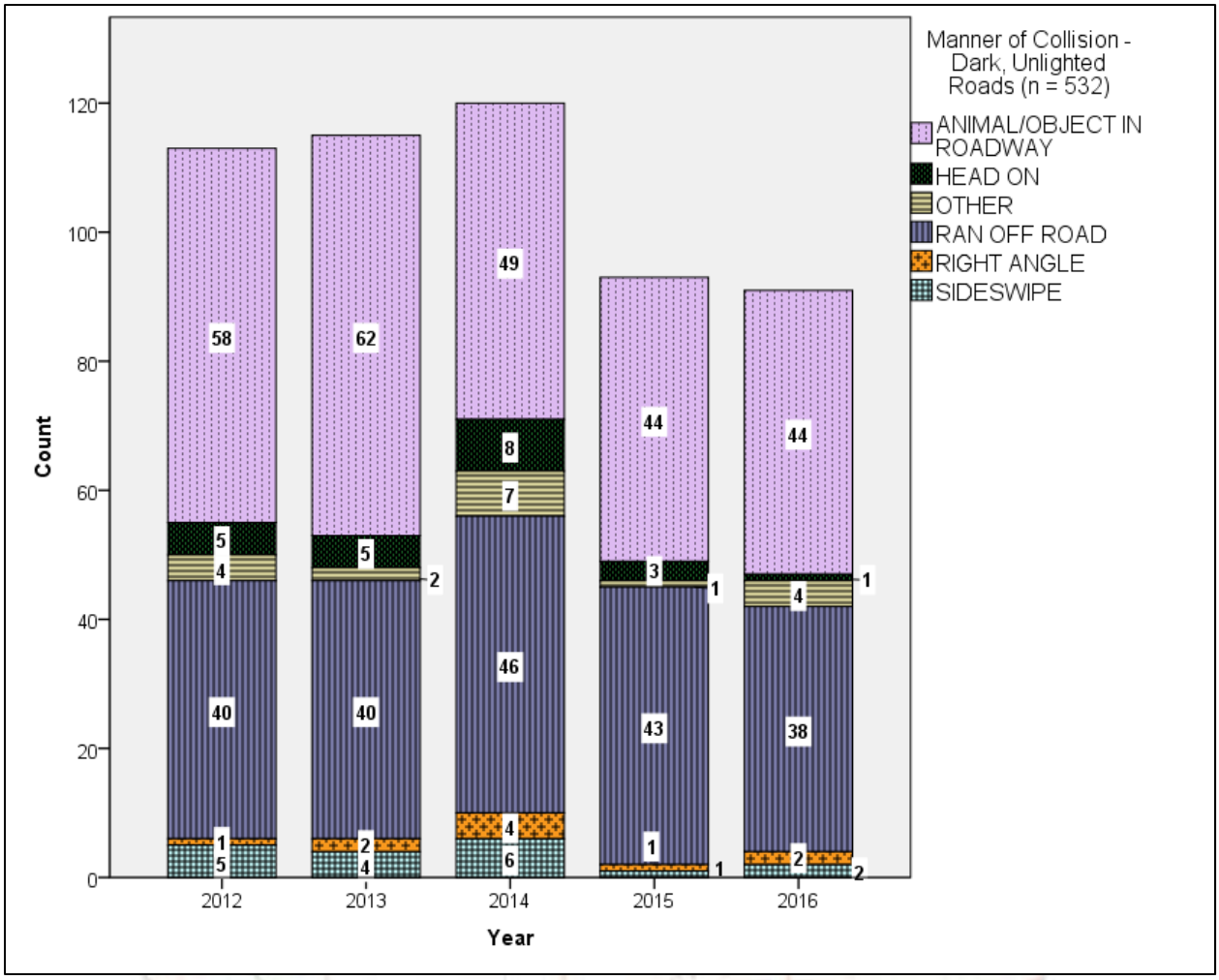


Figure 2.4
Manner of collision for crashes occurring on dark, unlighted roads 2012 – 2016

Weather Condition

Figure 2. shows the results of crashes according to type of weather. Most crashes (65 percent) occurred during clear weather, ranging from 60 percent in 2014 to 71 percent in 2016. Figure 2. provides an examination of the types (manner of collision) of crashes that occurred during the other types of weather (all non-clear weather conditions combined). A vehicle running of the road accounted for 44 percent of the 488 crashes occurring under non-clear weather conditions (cloudy, fog/smoke/smog, rain, sleet/hail/freezing rain, snow, blowing sand/soil/snow).

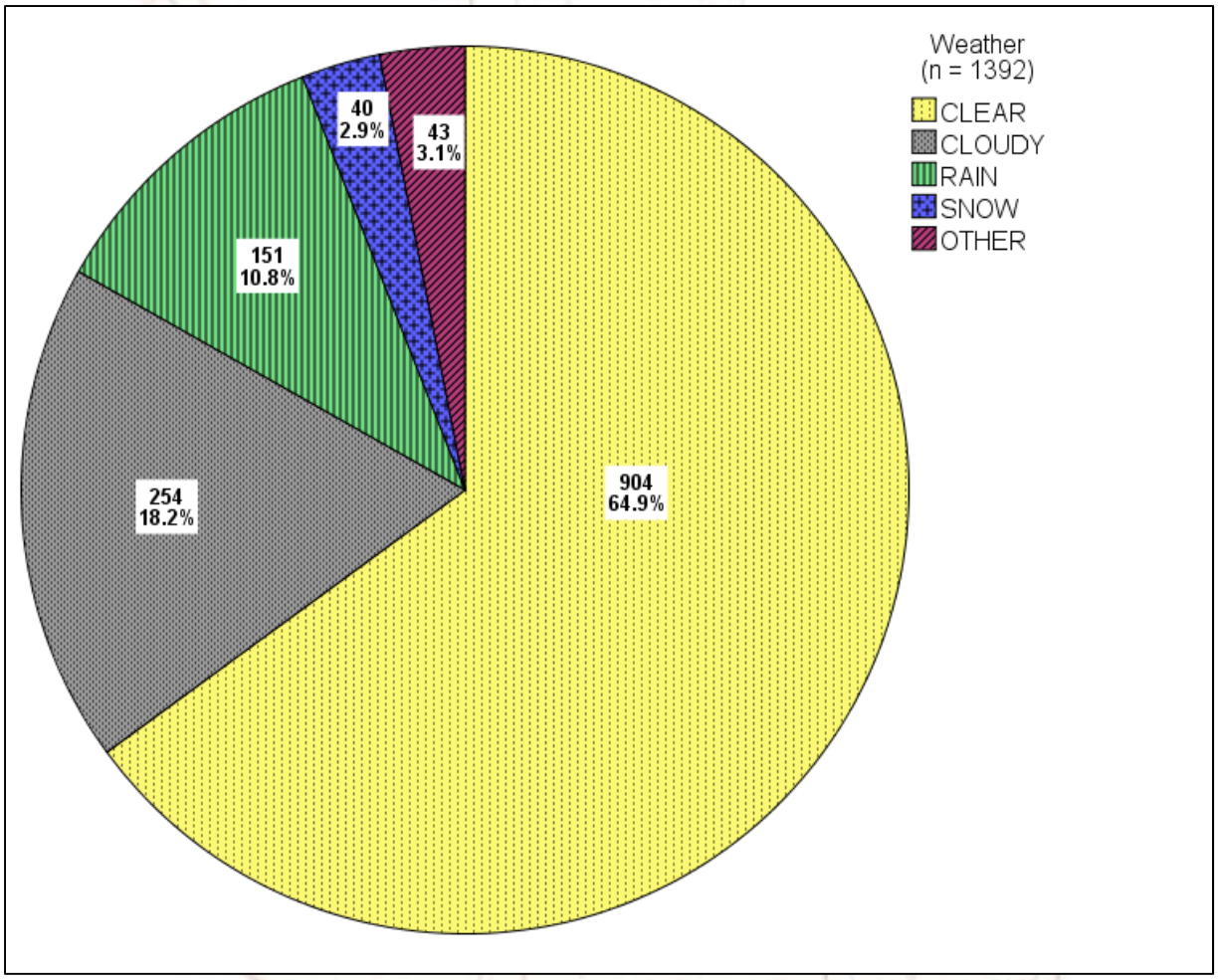


Figure 2.5
Crashes by weather conditions 2012 – 2016

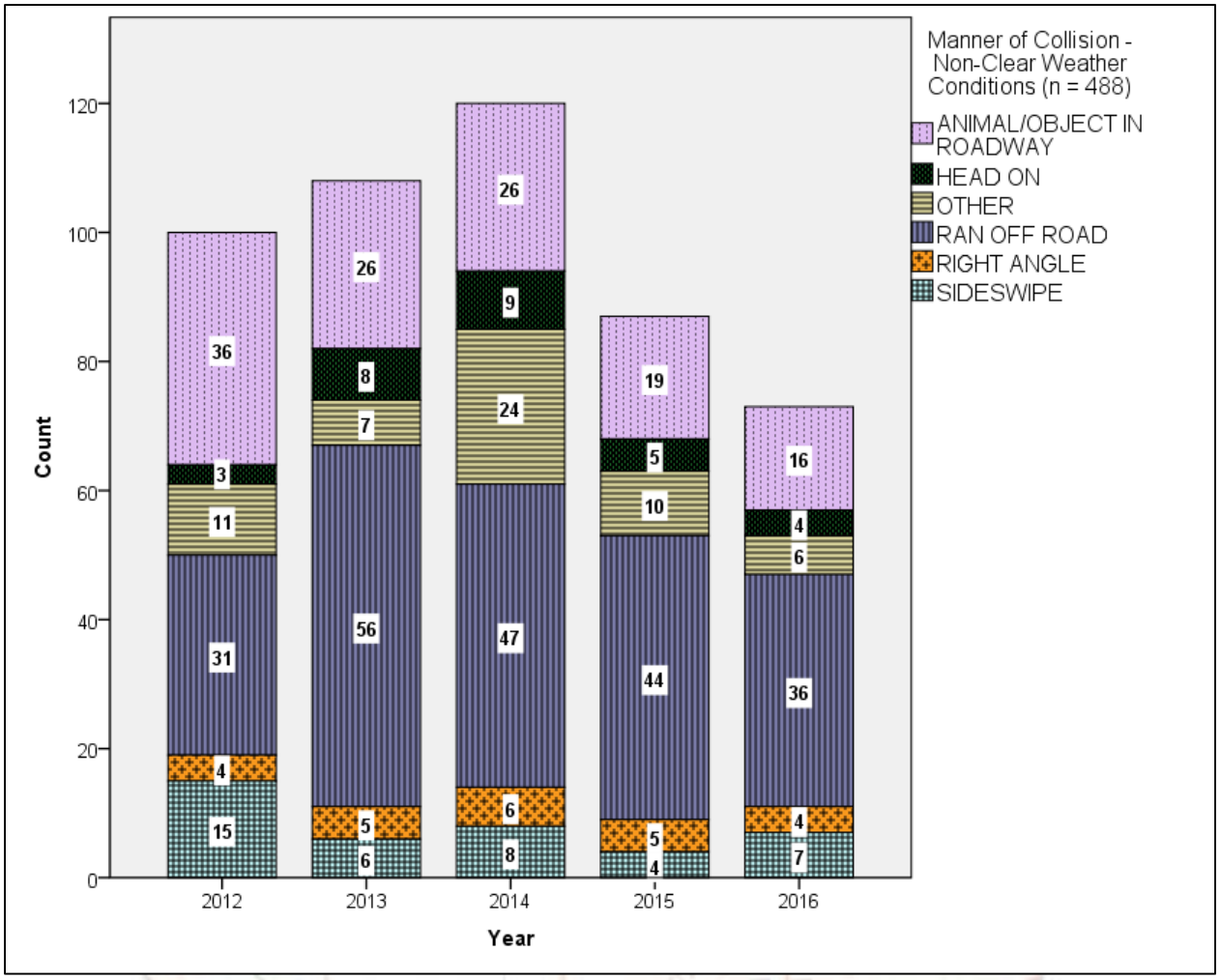


Figure 2.6
Manner of collision for crashes occurring under non-clear weather conditions 2012 – 2016

Road Surface Conditions

Figure 2. shows the results of crashes according to road surface condition. The majority (72 percent) of all crashes occurred on dry roads, ranging from 65 percent in 2014 to 77 percent in 2012. Figure 2. provides an examination of the types (manner of collision) of crashes that occurred during the other types of road surface conditions (all non-dry conditions combined). Run off road was the dominant type of crash in non-dry conditions. A vehicle running of the road accounted for 54 percent of the 387 crashes occurring on non-dry roads (wet, standing or moving water, ice, snow/slush, loose material on road).

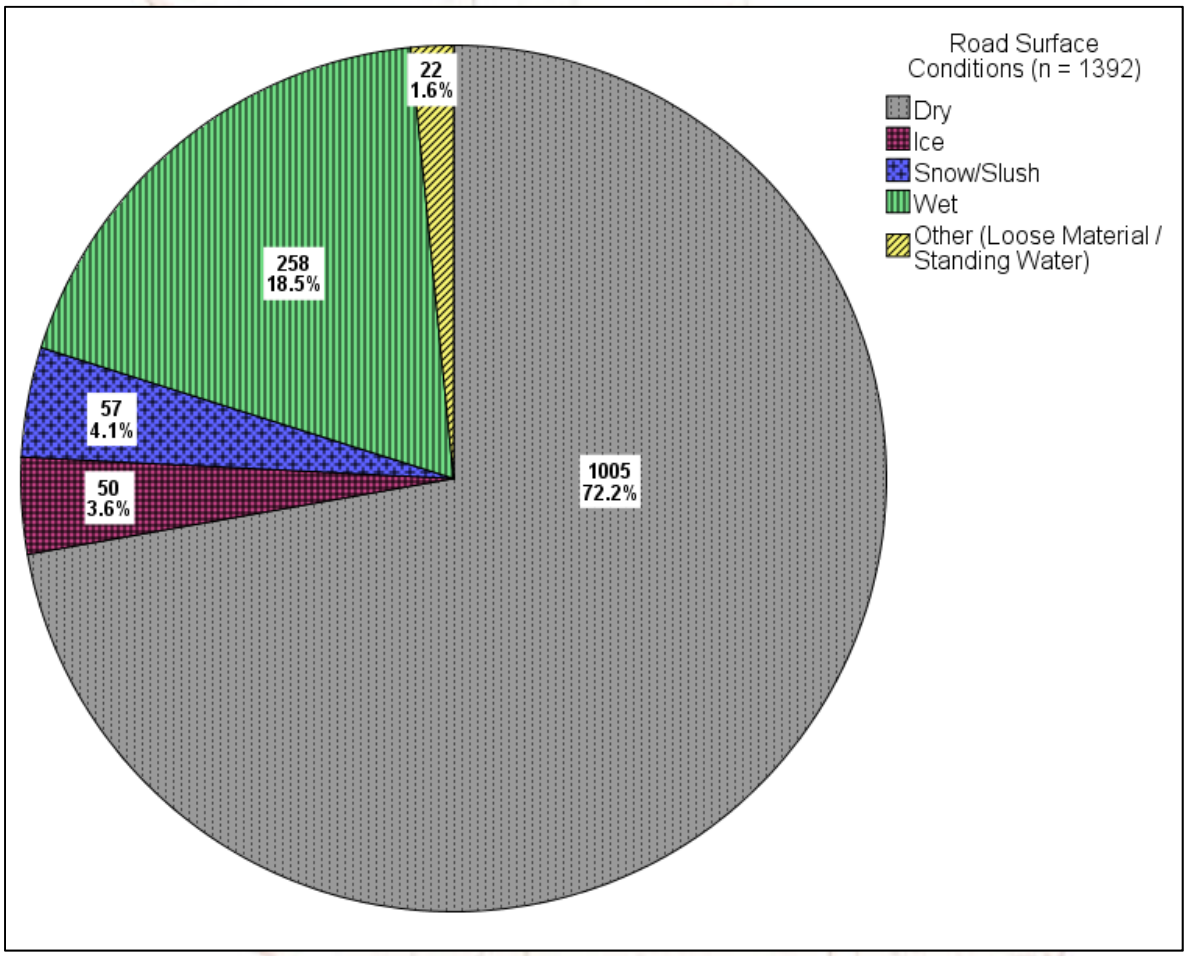


Figure 2.7
Crashes by road surface conditions 2012 – 2016

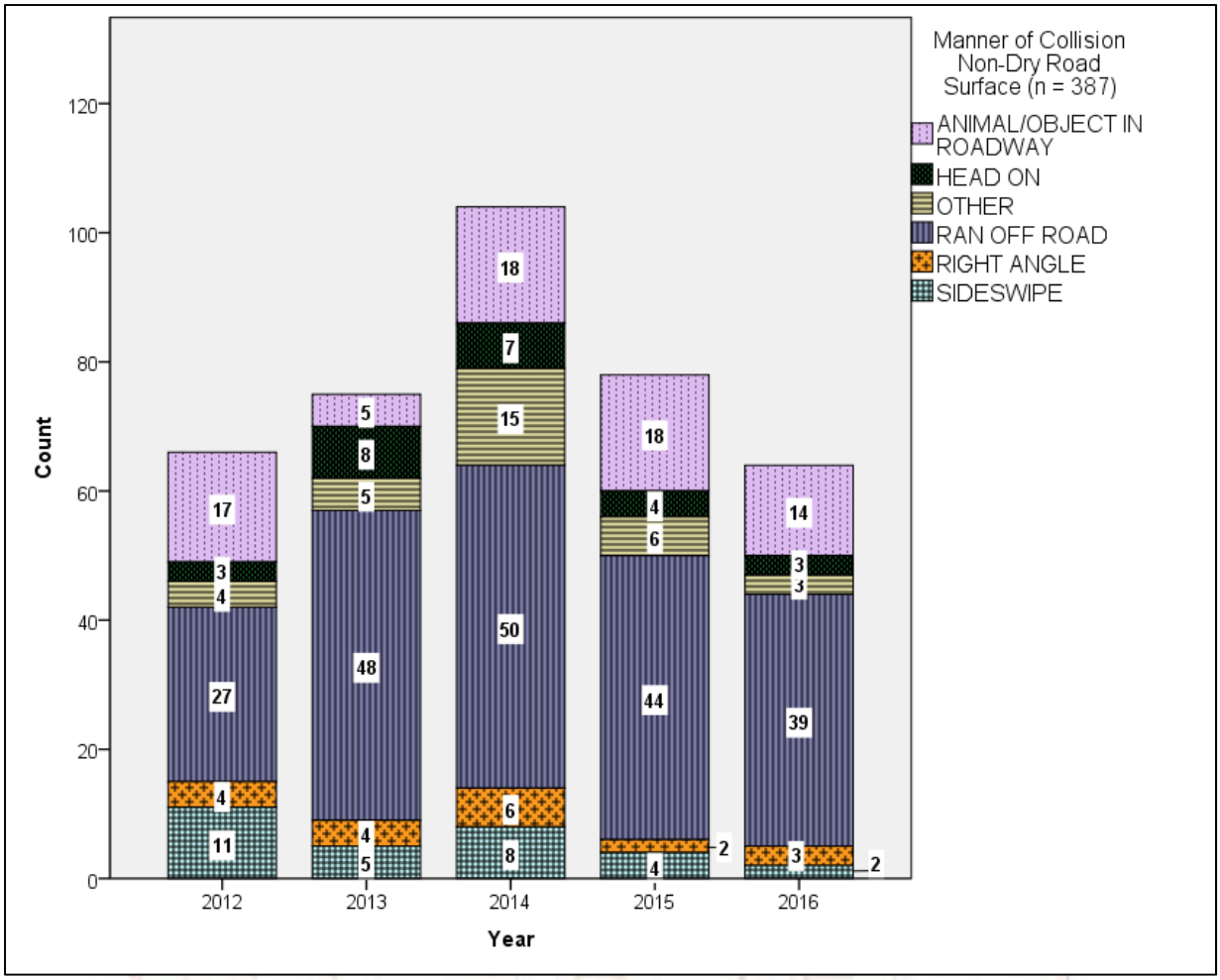


Figure 2.8
Manner of collision for crashes occurring on non-dry roads 2012 – 2016

Relation to Intersection

Figure 2 show the proportion of crashes that were coded as related to an intersection. The majority of crashes (81 percent) occurred at non-intersection locations.

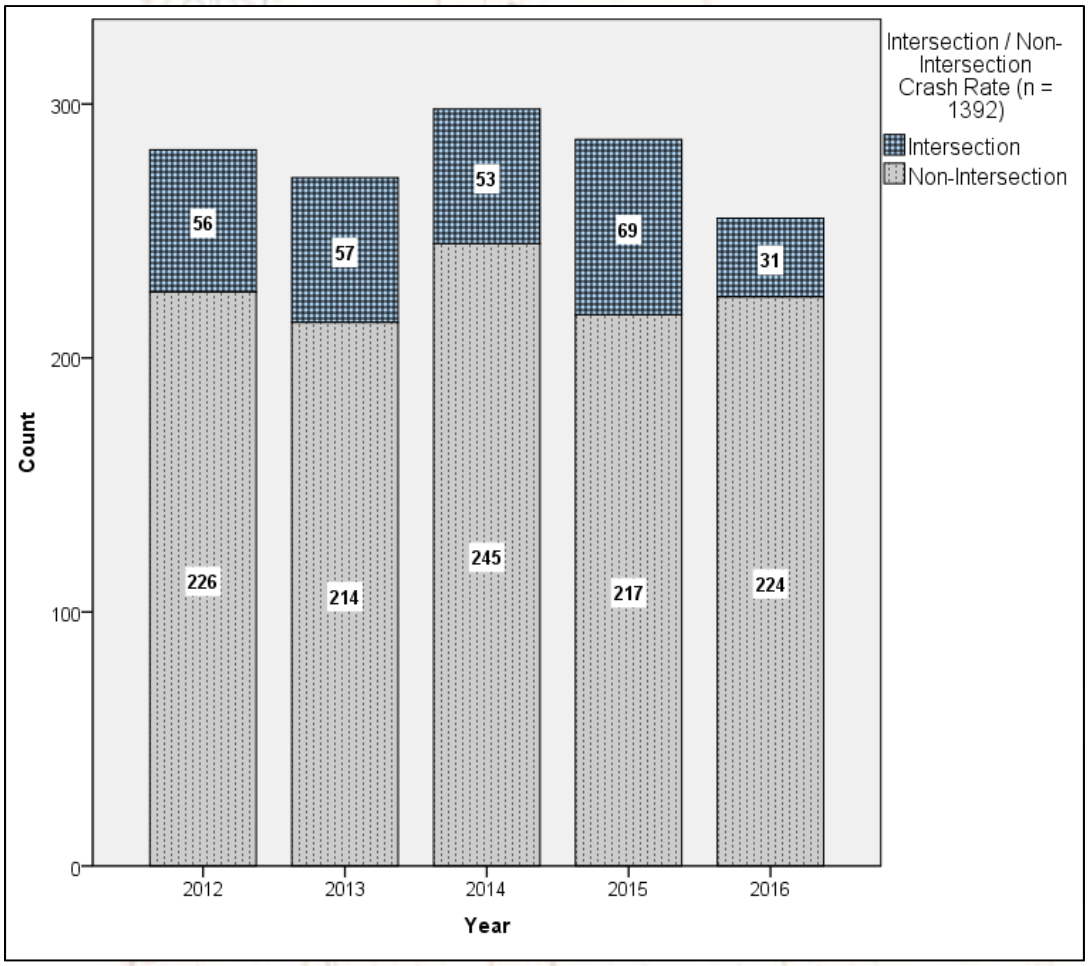


Figure 2.9
Crashes by intersection or non-intersection location 2012 – 2016

Summary of Data Analysis

Based on this analysis, run off road (roadway departure) crashes should be a clear priority. Run off road was the dominant crash type in most of the charts, and it was the overwhelming majority in fatal and injury crashes. Second to that is animal related crashes which was also a prominent crash type in many of the charts. Animal related crashes, though, are typically less severe than roadway departure crashes. The other priorities that were demonstrated in this analysis showed that rural roads and non-intersection locations reflect the majority of crashes occurring on county roads.

2.3 Data Analysis – Other Summary Tables and Reports

Figure 2.11 is a very useful summary of crash data for Harrison County for the years 2007 – 2016 prepared by LTAP. This information prepared by LTAP only shows data for County roads and does not include state roads, intersections with state roads, town roads, or private roads. For the years 2007 through 2016 the total number of crashes on County roads ranged from a high of 395 to a low of 255. The number of fatal crashes (not total fatalities) on County roads ranged from a low of 0 to a high of 5 crashes per year. The number of injury crashes during that same time period has ranged from a low of 44 to a high of 83. *Figure 2.11* also provides useful data concerning number of crashes per month, average crashes by time of day, and crash types. The data for this time period shows a general declining trend for crashes on County roads.

The Indiana Public Policy Institute, through a contract with the Indiana Criminal Justice Institute (ICJI), publishes very thorough and useful information concerning crash data for the State of Indiana as well as summaries for individual counties and comparisons between counties. Excerpts from the *2017 County Profile Book* detailing information solely for Harrison County as well as the *2017 Crash Fact Book* is included in Appendix A. Unlike the data shown in *Figure 2.2* which reports information only on County roads, the information shown in Appendix A takes into account all roads in Harrison County regardless of jurisdiction. An excerpt from Appendix A is shown in *Figure 2.10* detailing the total number of crashes as well as the total number of fatalities for recent years for all of Harrison County.

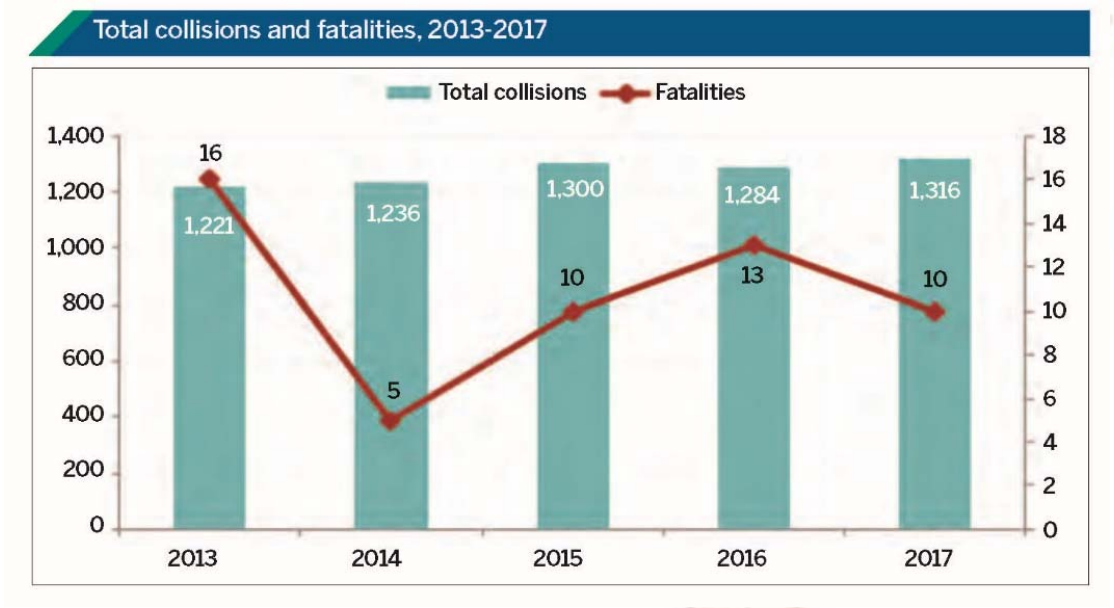


Figure 2.10
Total collisions and fatalities, 2013-2017
(For All Roads in Harrison County)

	Total Crashes	% Crashes	Statewide Rural County Average	Number of Crashes per Year									
				2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total Crashes	2985	-	-	395	325	282	320	271	282	271	298	286	255
Fatal Crashes	20	0.67%	0.75%	1	1	0	2	3	2	2	3	5	1
Injury Crashes	566	19%	20%	83	55	62	57	47	53	54	62	49	44
Roadway Departure Crashes*	1550	52%	54%	219	173	142	172	140	131	140	157	141	135
Animal Crashes	844	28%	31%	92	94	74	84	90	101	83	75	80	71
Angle/Left-Turn Crashes	257	9%	8%	41	19	29	22	20	25	28	24	28	21
Rear-End Crashes	108	4%	3%	11	6	15	14	9	10	12	20	4	7
Dark Roadway Crashes	1423	48%	51%	191	167	112	153	147	137	142	142	119	113
Wet Roadway Crashes	798	27%	34%	93	108	73	90	64	62	72	102	75	59
Horizontal Curve Crashes	1132	38%	22%	150	115	109	136	102	99	106	115	109	90
Intersection Crashes	571	19%	18%	72	43	44	52	37	56	56	53	81	77
Gravel Roadway Crashes	47	2%	7%	8	10	9	3	5	2	5	1	3	1

*Includes Run Off Road, Head-On and Sideswipe Crashes

Figure 2.11
Harrison County Crash Data Summary by Indiana LTAP

The data shown in Appendix A provides a county comparison on certain 2017 crash data. Out of Indiana's 92 counties, Harrison County was ranked on certain variables as follows:

Total Collisions (1,316)	→	36
Fatal Collisions (9)	→	32
Individuals Involved, Total (1,902)	→	38
Individuals Involved, Fatal (10)	→	27

Harrison County rates poorly compared to the rest of the state at 8 fatalities per 100K of population. A composite ranking of six metrics reviewed ranked Harrison County 41st, which falls in the 2nd worst quartile for the state.

2.4 Data Analysis – Graphical Mapping

Another crash data analysis method is to plot crash data on a map and visually review the locations of crashes. The visualization of crash data can be shown through a simple scatterplot, or enhanced by creating what is typically referred to as a "Heat" map. Heat maps use individual crash locations and use color to communicate areas that have higher numbers of crashes. Colors progress from un-colored to green to yellow to red to show increased numbers of crashes in the colored areas. *Figure 2.12* shows a Crash Heat Map for Harrison County for data years 2006 – 2015. *Figure 2.13* shows a Crash Heat Map for only fatal and injury crashes for 2013-2017. *Figure 2.14* shows a scatterplot of crashes for Harrison County for 2013-2017. Individual Crash Heat Maps for years 2006 through 2015 can be found in Appendix B.

2.5 Data Analysis – Identifying High Priority Roads

For a more in-depth analysis of crash data, LTAP overlaid Harrison County's GIS data with crash data obtained from ARIES. This allowed LTAP to align crash data with roadway segment data, and then compare crash data to that same segment data allowing observations to be made concerning areas where crashes are over-represented in the data. For Harrison County, LTAP compared the following variables with crashes:

Speed Limit
Average Daily Traffic (ADT)
85th Percentile Speed
Speed Difference (85th Percentile –vs- Speed Limit)
Roadway Classification
PASER Rating

Not every roadway segment in Harrison County included data on all of these six variables. The analysis for each variable applied only to those roadway segments for which that data was available. For example, if a roadway did not have a speed limit, it was not included in the speed limit analysis. As Harrison County continues to expand

and improve our GIS data, the number of roadway segments analyzed for each variable will continue to increase.

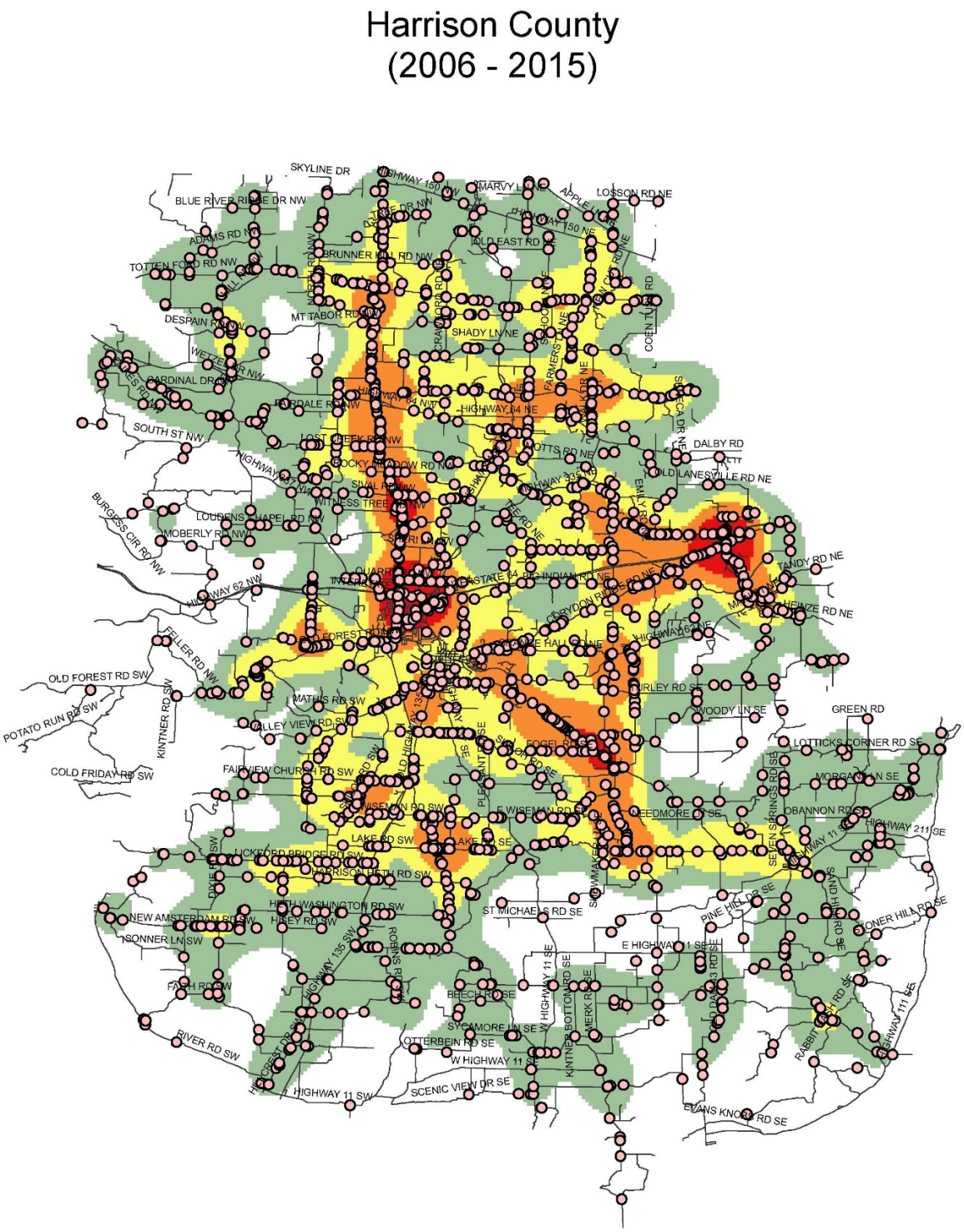


Figure 2.12
Indiana LTAP Crash Heat Map

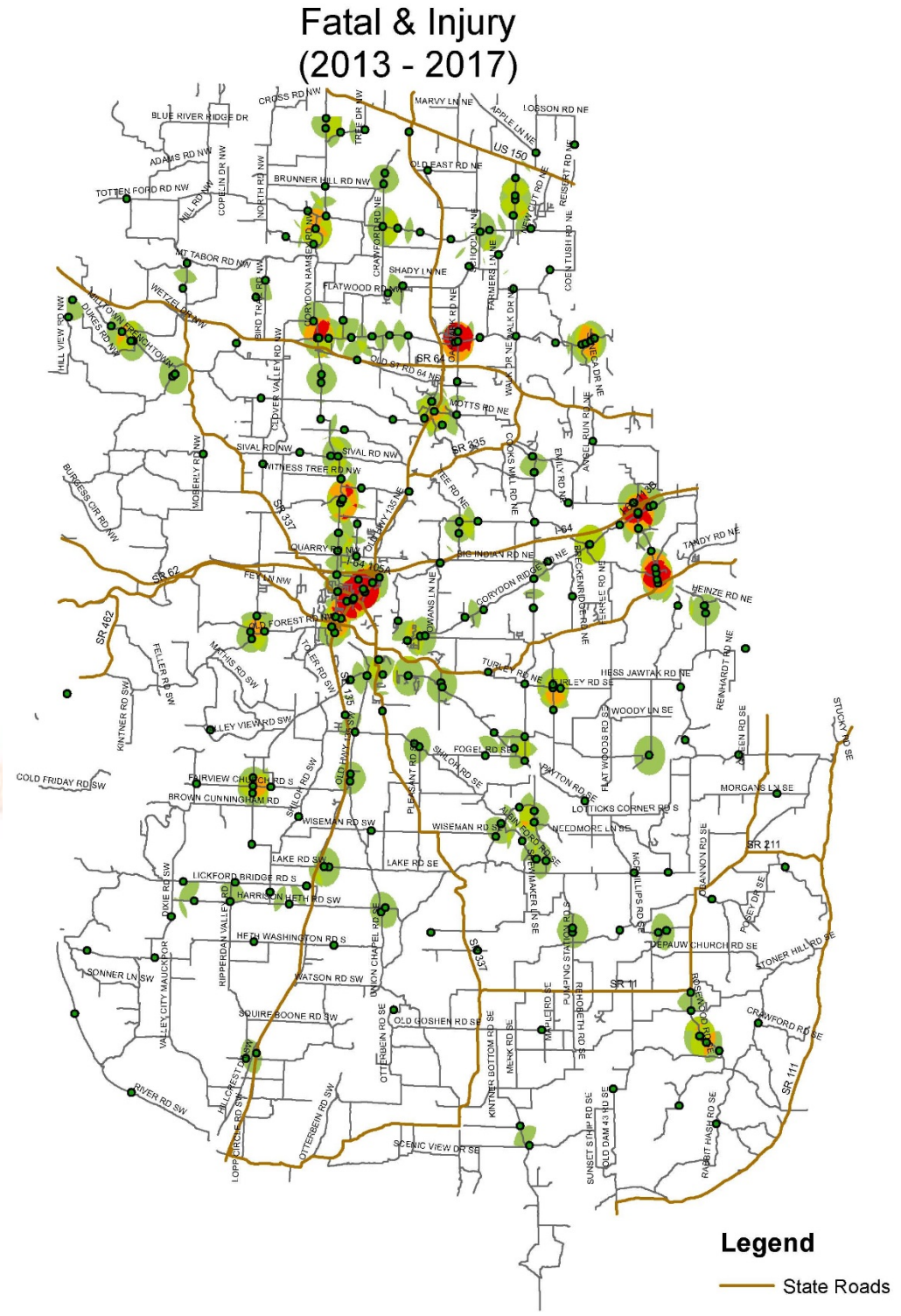


Figure 2.13
Indiana LTAP Fatality & Injury Crash Map

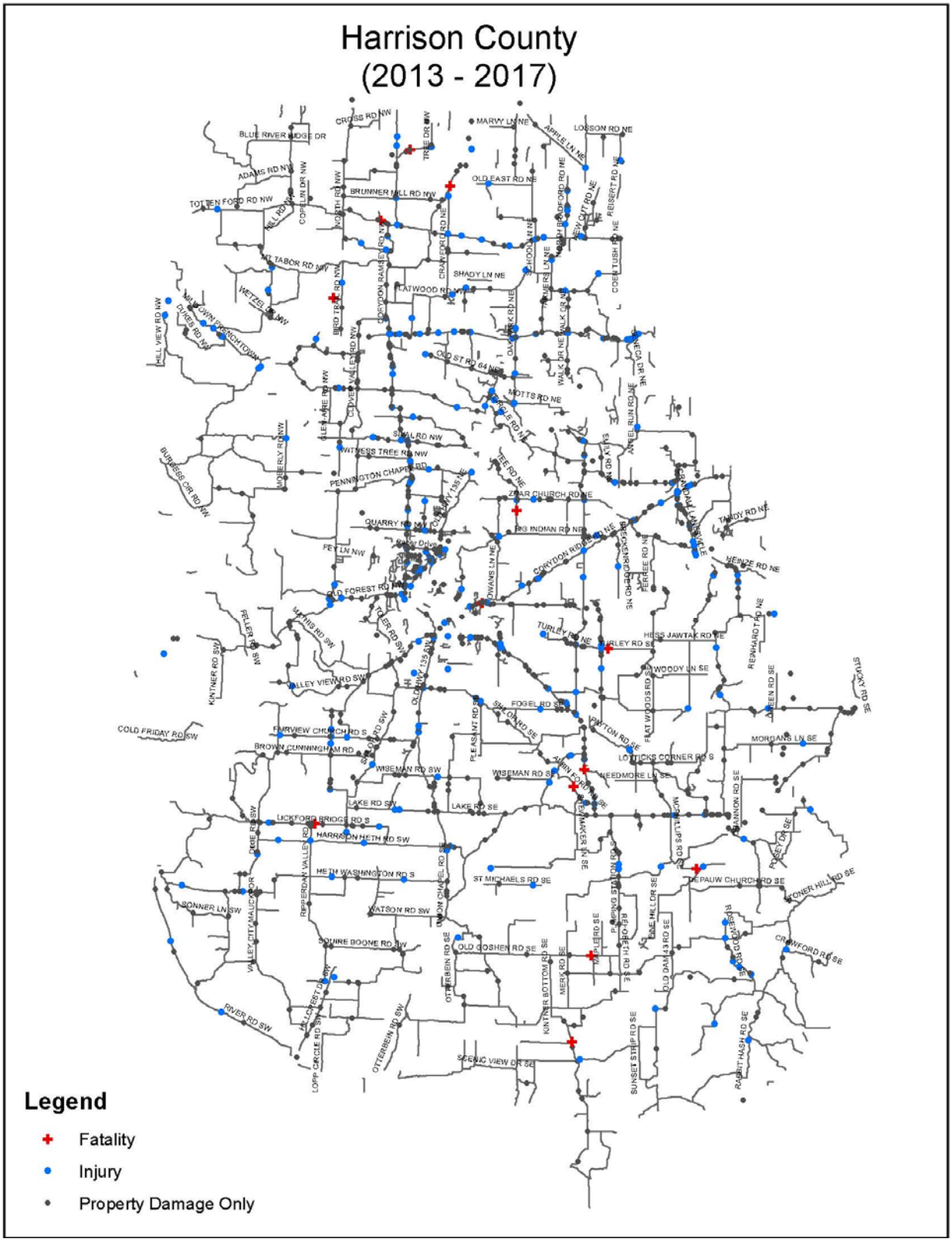


Figure 2.14
Indiana LTAP Fatality, Injury and Property Damage Crash Map

Speed Limit
There were 544 road segments analyzed for the Speed Limit variable. The Speed Limit analysis indicated two speed limit conditions where crash data was over-represented. Road segments with a speed limit of 35-mph comprised 27% of the roadway segments analyzed but accounted for 38% of the crashes. Road segments with a speed limit of 40-mph accounted for only 19% of the roadway segments analyzed but accounted for 36% of the crashes.

The conclusion of the Speed Limit analysis is that Harrison County should focus attention on roads with a 35-mph and 40-mph speed limit.

Table 2.2.1 and *Table 2.2.2* summarize the findings of the Speed Limit variable analysis.

Speed Limit	Segment data		Crash data			
Total segments w/SL listed	544		346	*curve*	*non-curve*	
20mph	181	33%	25	11	14	7%
25mph	39	7%	21	15	6	6%
30mph	53	10%	24	13	11	7%
35mph	146	27%	130	86	44	38%
40mph	102	19%	123	62	61	36%
45mph	13	2%	12	4	8	3%
50mph	9	2%	11	4	7	3%

Table 2.2.1
(Speed Limit Variable)

Table 2.2.2
(Speed Limit Variable)

Average Daily Traffic (ADT)
There were 1,423 road segments analyzed for the ADT variable. The ADT analysis indicated two speed limit conditions where crash data was over-represented. Road

segments with an ADT 500-999 comprised only 7% of the roadway segments analyzed but accounted for 20% of the crashes. Road segments with an ADT of 1,000-1,999 accounted for only 5% of the roadway segments analyzed but accounted for 14% of the crashes. Crashes on road segments with ADT's of 200-499 and 2,000+ were also a bit over-represented, but not as severely as these other two categories.

The conclusion of the ADT analysis is that Harrison County should focus attention on roads with an ADT of 500-599 and 1,000-1,999.

Table 2.2.3 and *Table 2.2.4* summarize the findings of the Speed Limit variable analysis.

ADT	Segment data		Crash data			
Total segments w/ADT listed	1423		692	*curve*	*non-curve*	
1-99	608	43%	99	55	44	14%
100-199	346	24%	165	99	66	24%
200-499	271	19%	163	96	67	24%
500-999	98	7%	137	81	56	20%
1000-1999	69	5%	98	48	50	14%
2000+	31	2%	30	16	14	4%

Table 2.2.3
(Average Daily Traffic Variable)

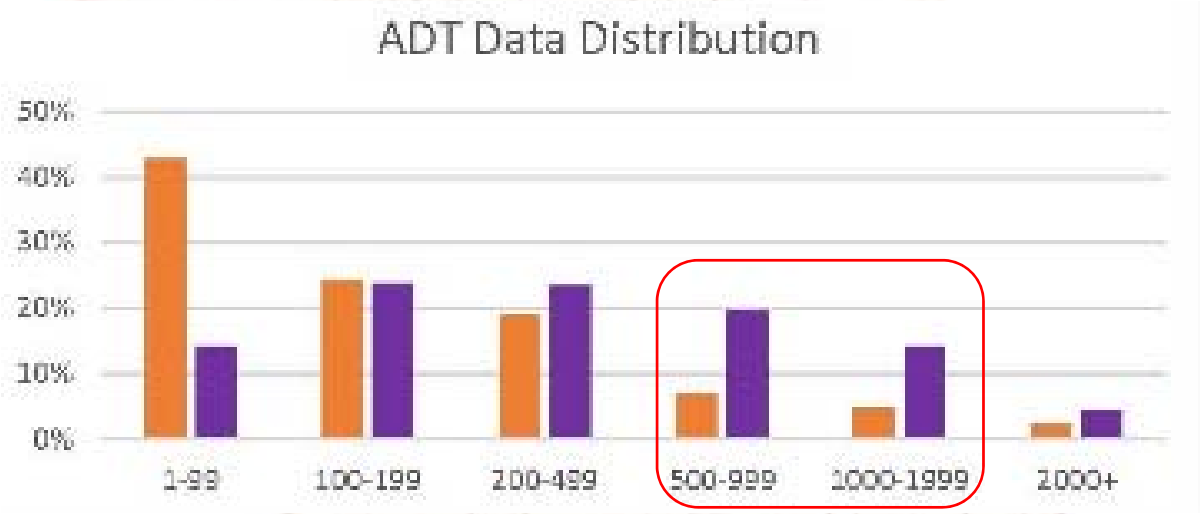


Table 2.2.4
(Average Daily Traffic Variable)

85th Percentile Speed

There were 914 road segments analyzed for the 85th Percentile Speed variable. The 85th Percentile Speed is a statistical measure determined from traffic count data that indicates the speed at which 85% of all traffic is traveling at that speed or slower under free-flowing conditions. It is generally accepted that if 85% of vehicles are traveling at or below the 85th Percentile Speed, then that speed is a reasonable and safe speed for that

road segment. The 85th Percentile Speed analysis indicated two conditions where crash data was over-represented. Road segments with an 85th Percentile Speed of 45-49-mph comprised only 10% of the roadway segments analyzed but accounted for 21% of the crashes. Road segments with an 85th Percentile Speed of 50-54-mph accounted for only 11% of the roadway segments analyzed but accounted for 29% of the crashes. There was some over-representation of crashes in other 8th Percentile Speed categories as well, but it was relatively small compared to these two categories.

The conclusion of the 85th Percentile Speed analysis is that Harrison County should focus attention on roads with an 85th Percentile Speed of 45-49 mph and 50-54-mph.

Table 2.2.5 and *Table 2.2.6* summarize the findings of the 85th Percentile Speed variable analysis.

85th Speed	Segment data		Crash data			
Total segments w/info listed	914		437	*curve*	*non-curve*	
<20	81	9%	2	2	0	0%
20-24mph	77	8%	11	4	7	3%
25-29mph	117	13%	10	4	6	2%
30-34mph	158	17%	26	18	8	6%
35-39mph	146	16%	46	25	21	11%
40-44mph	63	7%	52	36	16	12%
45-49mph	88	10%	92	55	37	21%
50-54mph	100	11%	125	65	60	29%
55-59mph	57	6%	42	20	22	10%
60mph+	27	3%	31	7	24	7%

Table 2.2.5
(85th Percentile Speed Variable)

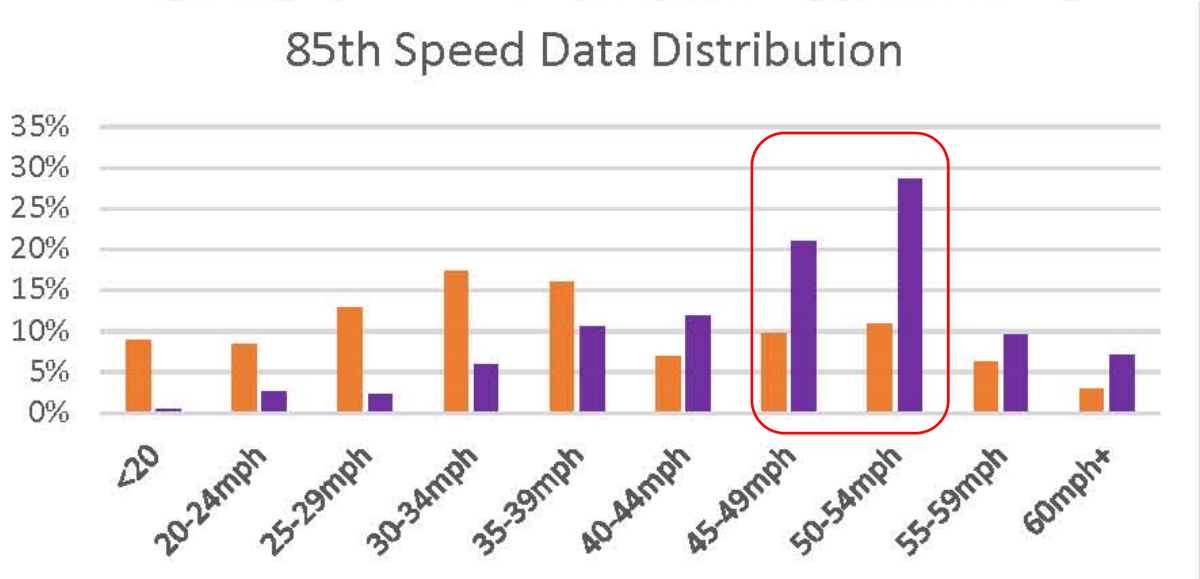


Table 2.2.6
(85th Percentile Speed Variable)

Speed Difference (85th Percentile –vs- Speed Limit)
There were 455 road segments analyzed for the Speed Difference variable. The Speed Difference is the difference between the 85th Percentile Speed and the Posted Speed Limit. The Speed Difference analysis indicated two conditions where crash data was over-represented. Road segments with Speed Difference of 11-15 mph comprised 23% of the roadway segments analyzed but accounted for 29% of the crashes. Road segments with a Speed Difference of 16-20 mph accounted for 19% of the roadway segments analyzed but accounted for 24% of the crashes. There was some over-representation of crashes in the 21-25 mph category as well, but it was not as large as these two categories.

The conclusion of the Speed Difference analysis is that Harrison County should focus attention on roads with Speed Difference of 11-15 mph and 16-20 mph.

Table 2.2.7 and *Table 2.2.8* summarize the findings of the Speed Difference variable analysis.

Speed Diff	Segment data		Crash data			
Total segments w/info listed	455		358	*curve*	*non-curve*	
0-5mph	91	20%	51	34	17	14%
6-10mph	113	25%	72	42	30	20%
11-15mph	106	23%	105	51	54	29%
16-20mph	87	19%	86	44	42	24%
21-25mph	43	9%	42	22	20	12%
26mph+	12	3%	2	1	1	1%

Table 2.2.7
(Speed Difference Variable)

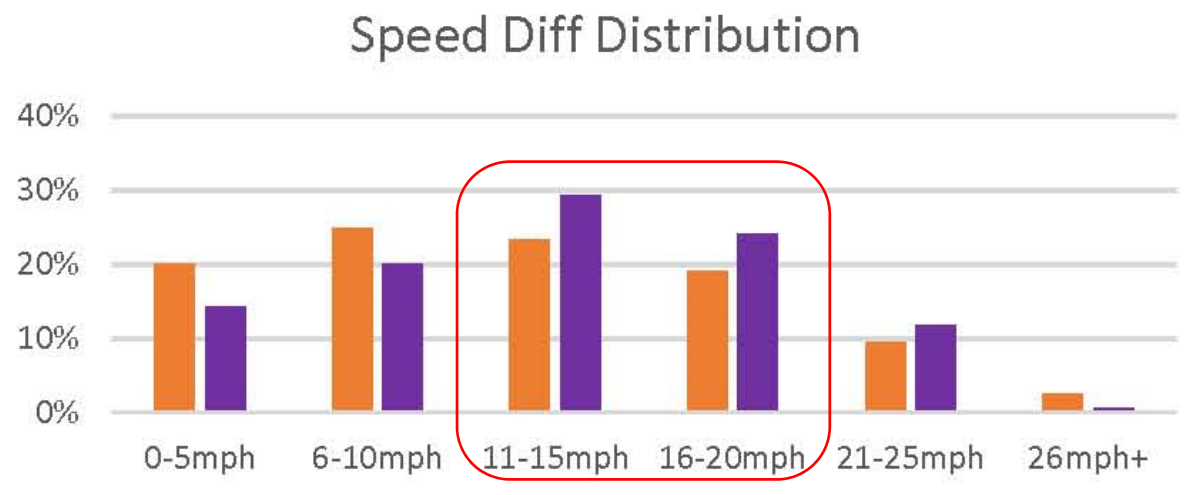


Table 2.2.8
(Speed Difference Variable)

Roadway Classification

There were 1,625 road segments analyzed for the Roadway Classification variable. The Roadway Classification, or Functional Classification, of a road is a categorization of roads based upon how they are used. Interstates, for example, are used for high-speed long-distance travel and have limited access points. Local roads on the other hand are used at lower speeds and for shorter trips and have frequent access points (driveways and intersections). The majority of Harrison County roads are Local Roads. The Roadway Classification analysis indicated two conditions where crash data was over-represented. Road segments with a Roadway Classification of Minor Collector comprised only 9% of the roadway segments analyzed but accounted for 24% of the crashes. Road segments with a Roadway Classification of Major Collector accounted for only 6% of the roadway segments analyzed but accounted for 15% of the crashes.

The conclusion of the Roadway Classification analysis is that Harrison County should focus attention on roads with a Roadway Classification of Rural Minor Collector and Rural Major Collector.

Table 2.2.9 and *Table 2.2.10* summarize the findings of the Roadway Classification variable analysis.

Roadway Classification	Segment data		Crash data			
Total segments w/class listed	1625		705	*curve*	*non-curve*	
Rural Local	1380	85%	430	240	190	61%
Rural Minor Collector	141	9%	172	102	70	24%
Rural Major Collector	103	6%	103	56	47	15%

Table 2.2.9
(Roadway Classification Variable)

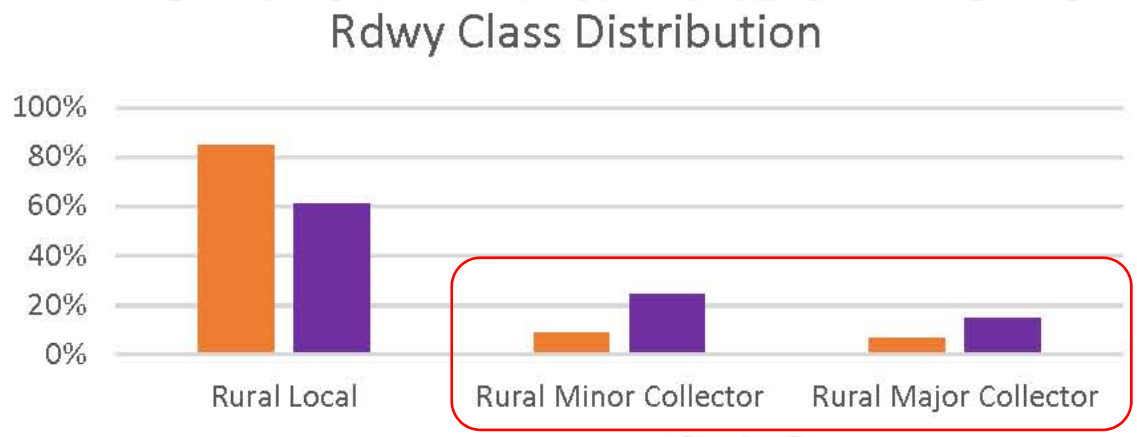


Table 2.2.10
(Roadway Classification Variable)

PASER Rating

There were 1,550 road segments analyzed for the PASER Rating variable. PASER stands for Pavement Surface Evaluation and Rating. PASER is an industry accepted

standard method for evaluating the condition of a paved road. The PASER Rating analysis indicated that road segments with a Fair PASER Rating were over-represented. Road segments with a PASER Rating of Fair comprised 80% of the roadway segments analyzed but accounted for 86% of the crashes.

The conclusion of the PASER Rating analysis is that Harrison County should focus attention on roads with a PASER Rating of Fair.

Table 2.2.11 and *Table 2.2.12* summarize the findings of the PASER Rating variable analysis.

PASER Rating	Segment data		Crash data			
Total segments w/paser listed	1550		699	*curve*	*non-curve*	
Poor	82	5%	14	13	1	2%
Fair	1298	80%	600	335	265	86%
Good	170	10%	85	47	38	12%

Table 2.2.11
(PASER Rating Variable)

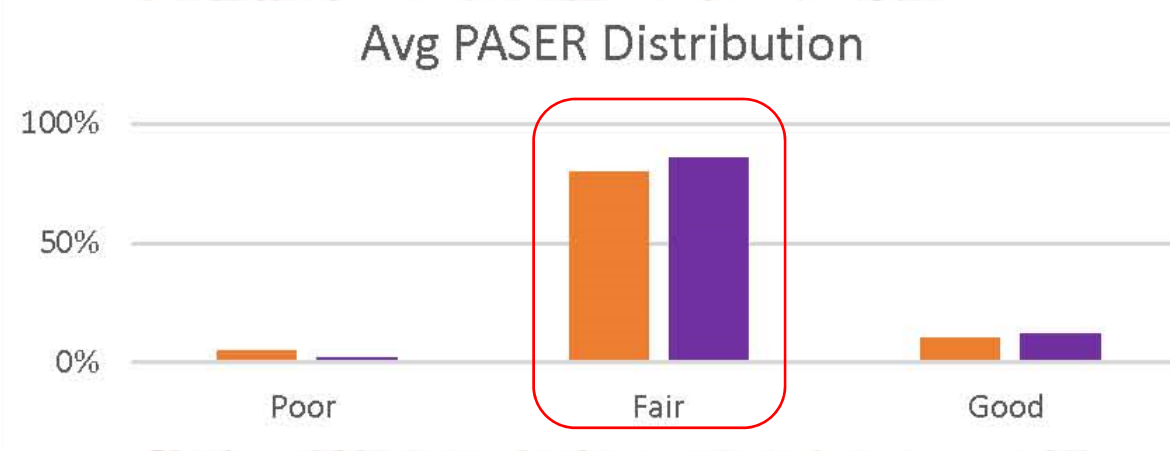


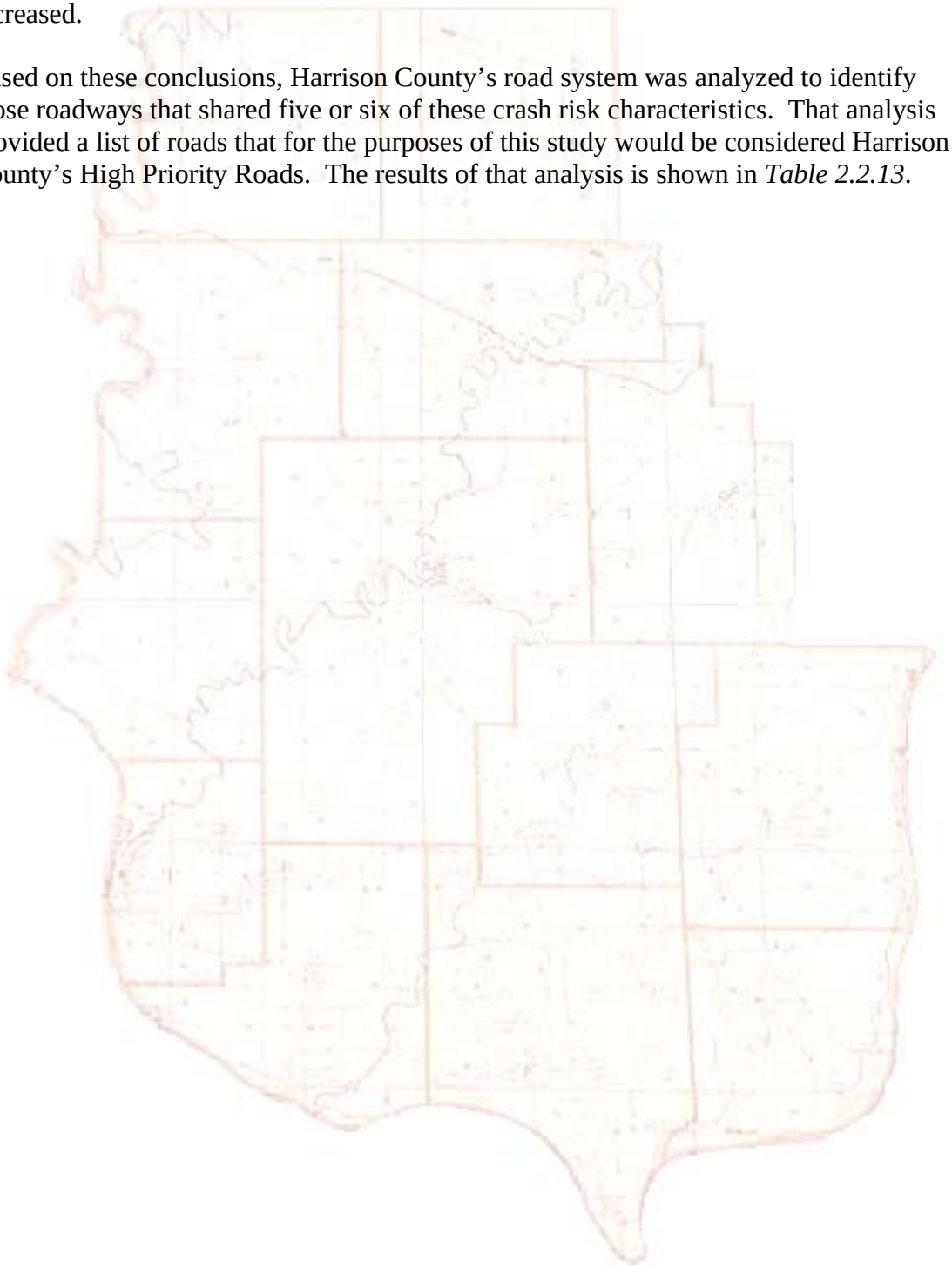
Table 2.2.12
(PASER Rating Variable)

The analysis of this data provided a list of variables that could be used as an indicator of the relative "crash risk" for Harrison County road segments. To summarize the preceding, those variables were:

Speed Limits of 35-mph or 40 mph
ADT of 500 – 1,999
85th Percentile Speed of 45-49 mph or 50-54 mph
Speed Difference of 11-15 mph or 16-20 mph
Roadway Classification of Rural Minor Collector or Rural Major Collector
PASER Rating of Fair

Road segments with these characteristics could be reasonably considered at greater risk for crashes compared with other road segments that did not share these characteristics. It could also be reasonably concluded that the "crash risk" of a particular road segment increased as the number of these individual risk variables a road segment possessed increased.

Based on these conclusions, Harrison County's road system was analyzed to identify those roadways that shared five or six of these crash risk characteristics. That analysis provided a list of roads that for the purposes of this study would be considered Harrison County's High Priority Roads. The results of that analysis is shown in *Table 2.2.13*.



CORYDON RAMSEY RD from OLD FOREST to FLATWOOD RD								
total crashes	106	*length:*	8.8					
injury status	*fatal crashes:*	0	*injury crashes:*	16				
crash types	Roadway Departure	44	Animal	27	Angle/Left-turn	24	Rear End	8
road character	*curve crashes:*	36	*int crashes:*	44				
surface condition	*wet:*	32	*snow/ice:*	2				
daylight condition	*dark:*	46						

CORYDON RIDGE RD from PFRIMMERS CHAPEL RD to FARNSLEY RD								
total crashes	27	*length:*	4.4					
injury status	*fatal crashes:*	0	*injury crashes:*	8				
crash types	Roadway Departure	16	Animal	3	Angle/Left-turn	7		
road character	*curve crashes:*	15	*int crashes:*	14				
surface condition	*wet:*	8	*snow/ice:*	4				
daylight condition	*dark:*	8						

CORYDON NEW MIDDLETOWN from SMITH HILL to NEW MIDDLETOWN ELIZABETH RD								
total crashes	27	*length:*	3.2					
injury status	*fatal crashes:*	0	*injury crashes:*	4				
crash types	Roadway Departure	15	Animal	8	Angle/Left-turn	3		
road character	*curve crashes:*	15	*int crashes:*	11				
surface condition	*wet:*	7	*snow/ice:*	2				
daylight condition	*dark:*	11						

NEW MIDDLETOWN ELIZABETH RD from New Middletown to BUCK CREEK VALLEY RD								
total crashes	20	*length:*	2.6					
injury status	*fatal crashes:*	1	*injury crashes:*	2				
crash types	Roadway Departure	9	Animal	8	Angle/Left-turn	3		
road character	*curve crashes:*	7	*int crashes:*	8				
surface condition	*wet:*	2	*snow/ice:*	2				
daylight condition	*dark:*	11						

SHILOH RD from OLD HWY 135 to PLEASANT RD								
total crashes	12	*length:*	1.8					
injury status	*fatal crashes:*	0	*injury crashes:*	3				
crash types	Roadway Departure	10	Animal	2				
road character	*curve crashes:*	7	*int crashes:*	6				
surface condition	*wet:*	0	*snow/ice:*	3				
daylight condition	*dark:*	4						

CRANDALL LANESVILLE from PFRIMMERS CHAPEL RD to LANESVILLE RD								
total crashes	24	*length:*	2.8					
injury status	*fatal crashes:*	0	*injury crashes:*	3				
crash types	Roadway Departure	10	Animal	9	Angle/Left-turn	3		
road character	*curve crashes:*	8	*int crashes:*	6				
surface condition	*wet:*	6	*snow/ice:*	3				
daylight condition	*dark:*	11						

WEST BRADFORD RD from SR135 to NEW CUT RD								
total crashes	22	*length:*	2.5					
injury status	*fatal crashes:*	0	*injury crashes:*	4				
crash types	Roadway Departure	19						
road character	*curve crashes:*	14	*int crashes:*					
surface condition	*wet:*	6	*snow/ice:*	1				
daylight condition	*dark:*	6						

Table 2.2.13
Harrison County High Priority Roads

The information shown in *Table 2.2.13* is shown graphically in *Figure 2.15* and is further summarized in *Table 2.2.14*.

	HPR	System	
Total Miles:	26.1	825	3%
Total Crashes:	238	1332	18%
Total Fatal Crashes:	1	13	8%
Total Injury Crashes:	40	244	16%

Table 2.2.14
Harrison County High Priority Roads

This summary shows that the High Priority Roads (HPR) identified by LTAP comprise only 3% of Harrison County's roadway system, yet account for 18% of Harrison County's crashes, 8% of fatal crashes, and 16% of injury crashes. This is a good indication that the data analysis is focusing our attention in an effective way.

2.6 Data Analysis – Crash Trees

Harrison County's crash data was also evaluated using "crash trees." Crash trees allow the data to be sorted into varying categories so that trends or over-representations in the data can be recognized. LTAP created Crash Trees for Harrison County for:

Five Year County Road Crashes (1088) → *Figure 2.16*
Five Year County Road Fatal and Injury Crashes (260) → *Figure 2.17*
Roadway Departure Crash Tree (511) → *Figure 2.18*

Crash trees are an effective way to drill down into available data to glean valuable information for different crash types. Harrison County's Fatal and Injury crash tree shows that 75% of fatal and injury crashes occurred at non-intersection locations. Of these crashes, they were split almost evenly between curve and non-curve locations. Roadway departure accounted for the vast majority of all fatal and injury crashes whether at an intersection, non-intersection, curve, or non-curve location.

High Priority Roads

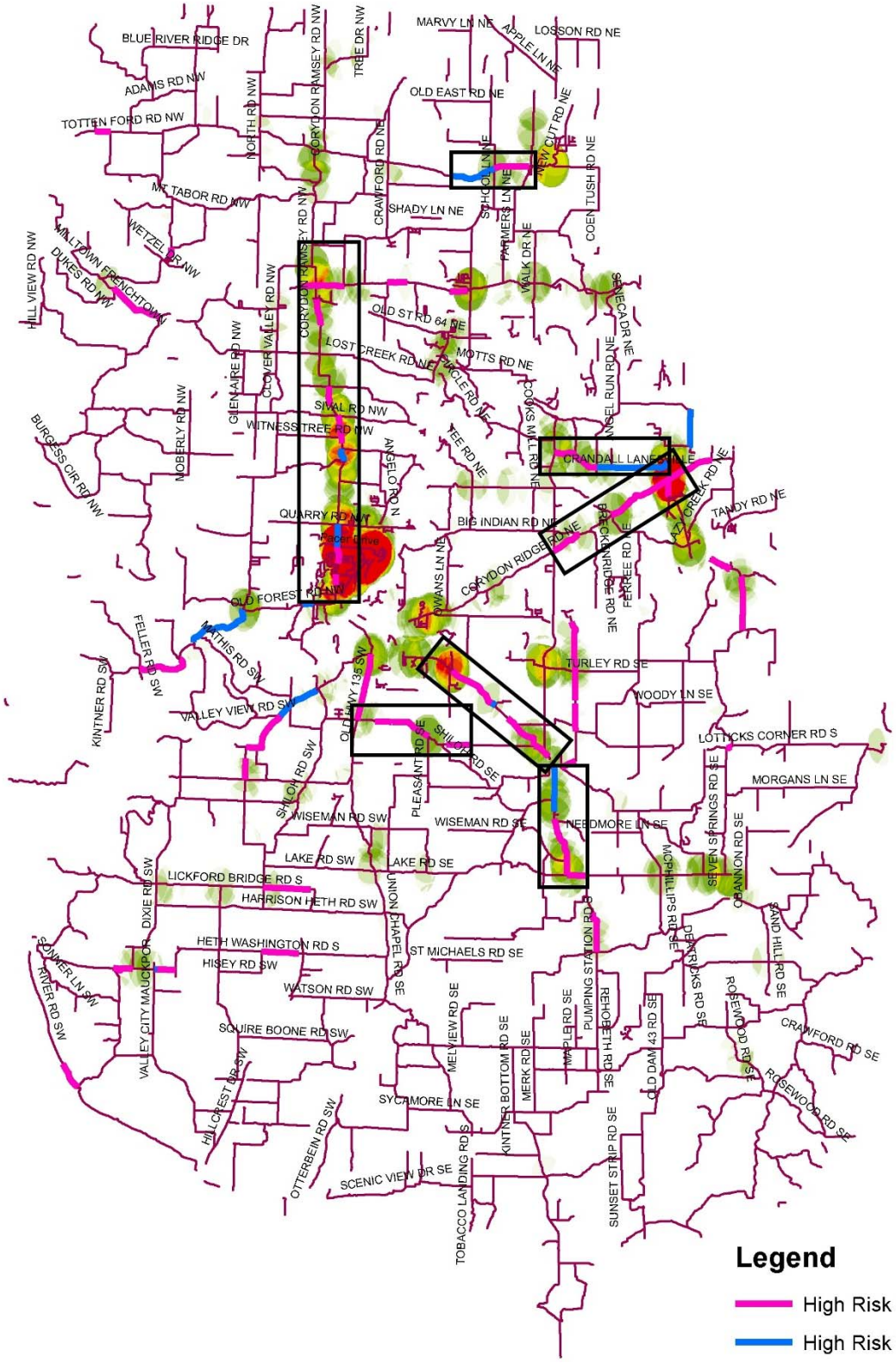


Figure 2.15
High Priority Roads

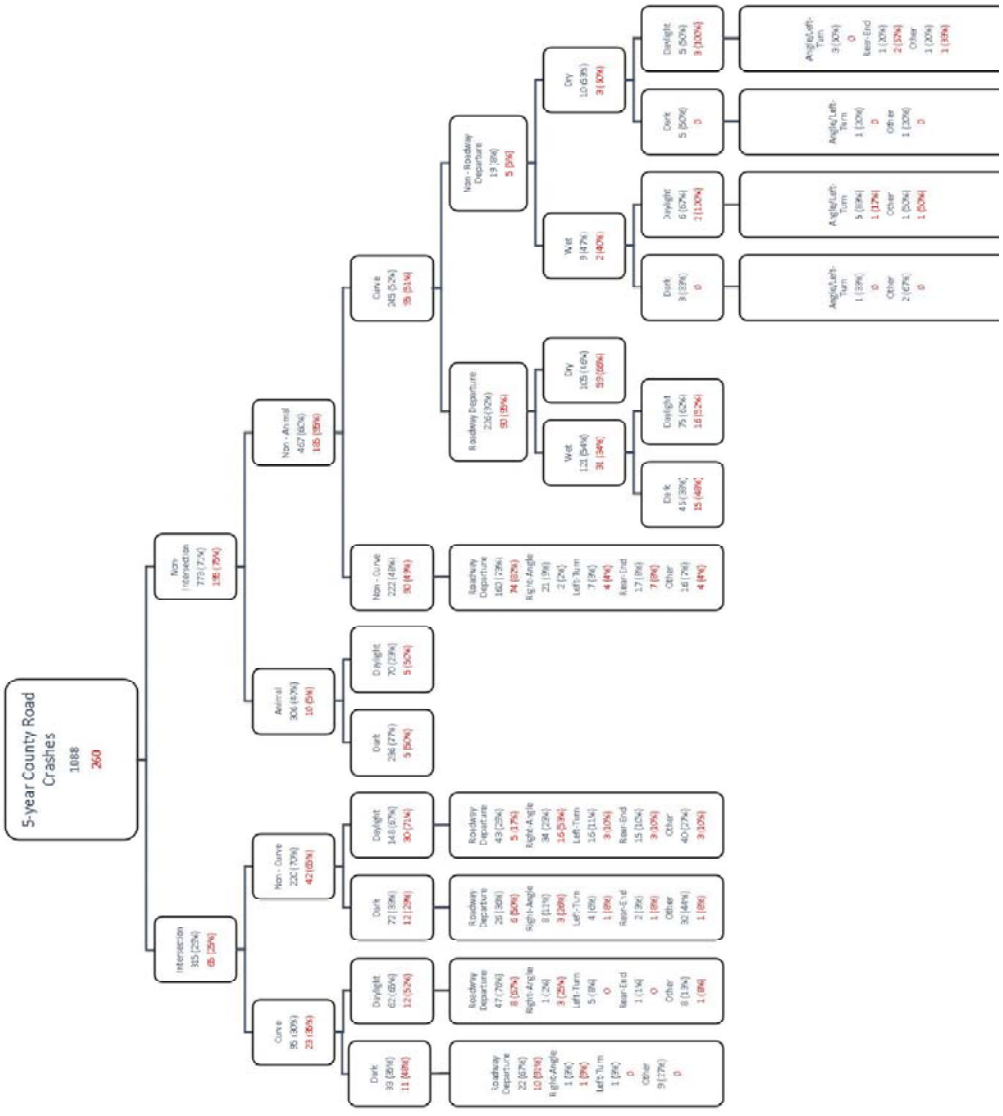


Figure 2.16
5-Year Harrison County Roads Crash Tree

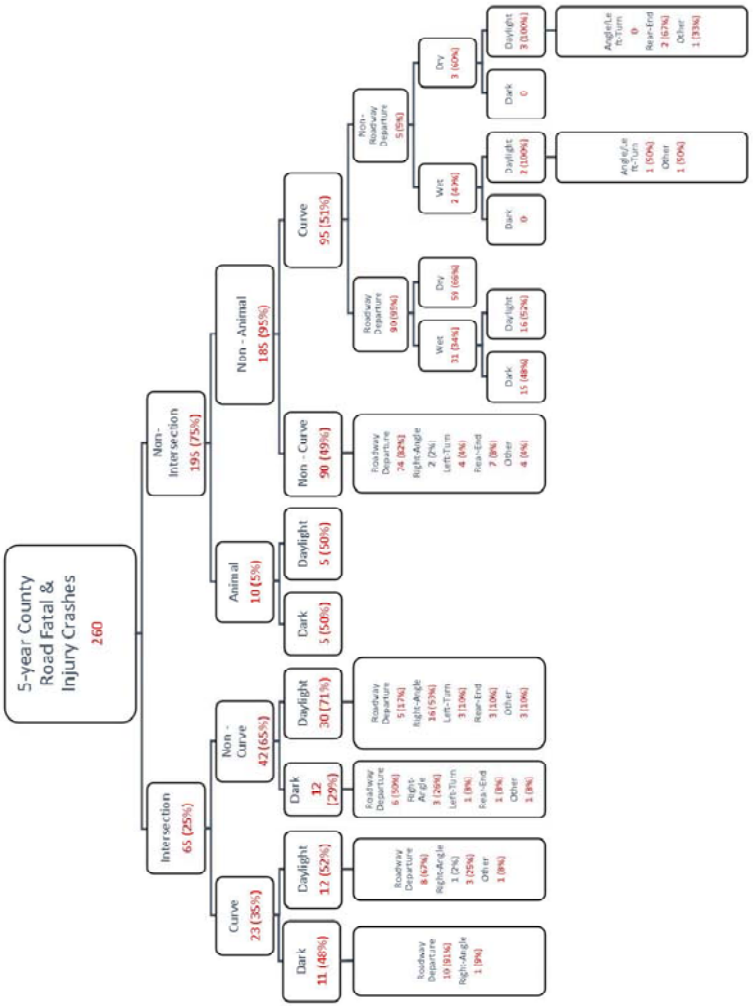


Figure 2.17
5-Year Harrison County Roads Fatal & Injury Crash Tree

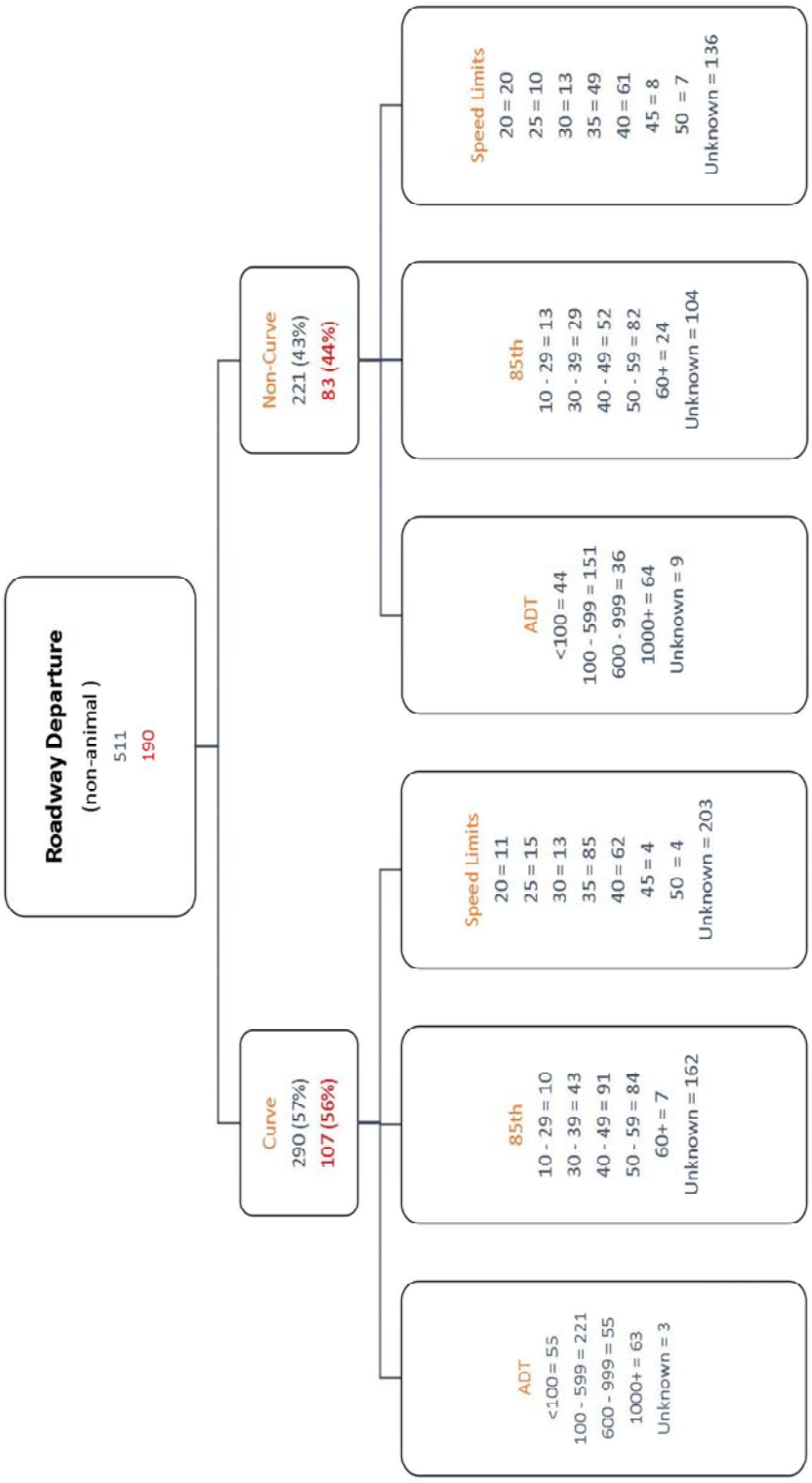


Figure 2.18
Roadway Departure Crash Tree

SECTION 3 EXISTING SAFETY CULTURE

3.1 Workforce Safety

The Harrison County Highway Department prioritizes safety. For our workforce, that is demonstrated in our commitment to training. We emphasize issues like work zone safety, mandatory CPR/AED/First Aid Training, chainsaw safety, and other various equipment and safety training. We purchased three automatic external defibrillators (AED's) and deployed these devices in the trucks our District Foremen drive so at any given time there are three of these life-saving devices around the county with people trained to use them. This is great not only for our workforce, but for the public as well. We require our crews to conduct weekly toolbox talks to keep the topic of safety at the forefront of our operations. We have enlisted the services of an outside safety expert that coordinates with us regularly to ensure we are meeting Indiana Occupational Safety and Health Administration (IOSHA) requirements. We have excellent facilities and strive to ensure that we provide the equipment and/or tools necessary for our people to get the job done safely and efficiently. We have an established and maturing culture of accountability, which is critical to maintain the culture we've created and to correcting any issues that may arise that would undermine it.

3.2 Responsiveness, Planning, and Management

Our workforce is our first line of defense to address hazardous conditions. We provide training on the importance of recognizing issues at all times, no matter what task is currently being completed. Our workforce understands that they must be vigilant for unsafe conditions, and if an unsafe condition is discovered, it must be addressed as soon as is practical. Due to the time spent by our workforce traveling county roads, this vigilance is an effective tool at recognizing and addressing safety related issues.

The Harrison County Highway Department utilizes a computer based work-order tracking system to ensure we provide the best service and responsiveness possible to our customers in Harrison County. This system helps to leverage our entire customer base as eyes and ears to help bring safety related issues to our attention.

The Harrison County Highway Department maintains a Facebook page which has become a valuable tool for communications to and from our customers in Harrison County. Our Facebook followers regularly use our page to pass on concerns and appreciation. Our page has grown into an invaluable tool for educating the customers about our practices and projects.

Harrison County has been at the forefront in Indiana in the adoption and utilization of asset management principles. These practices allow us to maximize the services we provide as we strive to maintain Harrison County's infrastructure in a good, safe condition.

The Highway Department strives to foster an attitude of "Organization Excellence" in which we are constantly reviewing our practices for their effectiveness, actively looking for new or better ways to do things, and adjusting our practices as necessary to generate continued improvement. Our undertaking of this LRSP project is an excellent example of this in action.

3.3 Operational Activities

The Highway Department completes many activities that contribute to road safety. Roadway striping seems to be one the most popular activities with the public. We attempt to stripe roads as they are paved and fog sealed. This works well and is appreciated by the public, but we have room to expand our striping program under the umbrella of roadway safety.

The Highway Department has a two-man sign crew that oversees the installation and maintenance of traffic control devices throughout the county. The sign crew has been trained to use the MUTCD and ensures that our signs and pavement markings are used and maintained correctly. Retroreflectivity and horizontal curve requirements are being managed and addressed. We recently acquired a thermoplastic machine for use in installing pavement markings and have already used it effectively.

The Highway Department has six employees and tractors dedicated during the spring, summer, and fall seasons to mowing the right-of-way on county roads. In addition to these six employees, there are also three other employees that comprise a brush crew who work almost exclusively clearing brush and dead trees from the right-of-way of county roads.

Our demonstrated ability to maintain our roads and bridges in a good condition has a direct positive impact on roadway safety in Harrison County.

SECTION 4 TARGETED EMPHASIS AREAS

4.1 INDOT Strategic Highway Safety Plan

As noted previously in this plan, INDOT has identified 12 emphasis areas for Indiana. Harrison County's LRSP will complement INDOT's SHSP, so it's important to ensure we evaluate each of these areas for potential applicability to Harrison County and include strategies to impact each area if possible.

Bicycle Involved Crashes

There were no records found of bicycle involved crashes in Harrison County. While this emphasis area does not seem to apply to Harrison County, it is important for us to ensure this isn't a developing issue for us as our county continues to grow and develop more of a suburban feel in some areas.

Data and Information Systems for Traffic Safety Decision Making
This emphasis area is being managed by INDOT and does not readily apply to Harrison County. We will continue to partner with INDOT and law enforcement to ensure the availability of complete and accurate data in Harrison County.

High-Speed Multi-Lane Rear-end Collisions
This is an emphasis area that generally does not apply to Harrison County.

Highway-Rail Grade Crossing Crashes
Data concerning Highway-Rail Grade Crossing Crashes was not found for Harrison County, yet we are aware of at least one fatality in Harrison County in recent years due to this type of crash. While we may not have a high number of crossings, these types of crashes are very serious and often fatal if and when they occur. The Highway Department maintains signage and pavement markings at all crossings in accordance with the MUTCD and will continue to do so. We will also regularly monitor each crossing to ensure sight distance is properly maintained.

Human Behavior Factors
The most common variables associated with Human Behavior Factors are speeding, impairment or inattention, and inexperienced/young drivers.

2017 data shows that Harrison County had 79 crashes reported as speed related which constituted 6.0% of all crashes. This ranked Harrison County 71st among Indiana counties. This puts Harrison County just outside the best quartile in Indiana.

2017 data shows that Harrison County had 26 crashes reported as alcohol impaired which constituted 2.0% of all crashes. This placed Harrison County slightly below average among Indiana counties and also in the 2nd best quartile for Indiana counties.

2017 data shows that Harrison County had 266 crashes reported as involving young drivers which constituted 14.6% of all crashes. This put Harrison County in the 2nd worst quartile in Indiana.

Distracted driving is not always easily identified in crash data, but is an increasingly serious problem. Any activities or efforts that can help reduce distracted driving will be helpful to roadway safety.

Intersection Crashes
Between 2007 and 2016 Harrison County experienced 571 intersection crashes which accounted for 19% of all crashes. The state average for rural counties is 18%. Intersection crashes are a significant percentage of Harrison County crashes.

Large Truck Involved Crashes
There was no data concerning large truck crashes found available for review.

Motorcycle/Moped Involved Crashes

2017 data for county roads shows that Harrison County had 28 motorcycle crashes which accounted for 2.1% of all crashes. This was above the state average and just outside the worst quartile for Indiana counties.

Older Drivers & Pedestrians

Harrison County has an increasingly aged population. As that trend continues over the coming years, it will become increasingly important for Harrison County to accommodate older drivers.

Pedestrian Involved Crashes

Harrison County experienced five pedestrian related crashes in 2017 with zero fatalities and four injuries. Pedestrian Involved Crashes are at great risk of being fatality or injury crashes and warrant our attention to recognize where countermeasures can effectively be deployed.

Roadway Departure Crashes

Between 2007 and 2016 Harrison County experienced 1,550 roadway departure crashes. This accounted for 52% of all crashes which was slightly below the state average for rural counties. Roadway departures are a serious issue for Harrison County due to their large share of our total crashes as well as their large share of injury and fatality crashes. 190 of the 260 injury and fatality crashes over the past five years are attributable to roadway departure crashes.

Work Zone Crashes

2017 data for county roads shows that Harrison County had a crash rate of only 1.5 crashes per 1,000 crashes related to work zones. This is near the top of the best quartile for Indiana counties. While Harrison County is performing well in this area, we need to ensure we continue to do so.

4.2 High Priority Roads

The process outlined earlier in this document identified certain county roads as High Priority Roads. Those roads identified were:

Corydon Ramsey Rd (Old Forest Rd – Flatwood Rd) – 8.75 miles

Corydon Ridge Rd (Pfrimmers Chapel Rd – Farnsley Rd) – 4.41 miles

Corydon New Middletown Rd (Smith Hill Rd – New Middletown Eliz. Rd) – 3.24 miles

New Middletown Elizabeth Rd (Town of New Middletown – Buck Creek Valley Rd) – 2.61 miles

Shiloh Rd (Old Hwy 135 – Pleasant Rd) – 1.79 miles

Crandall Lanesville Rd (Pfrimmers Chapel Rd – Lanesville Rd) – 2.85 miles

West Bradford Rd (SR 135 – New Cut Rd) – 2.48 miles

4.3 Roadway Departure Crashes

Roadway Departure Crashes account for the clear majority of Harrison County crashes, including those involving injuries and fatalities. Roadway Departure Crashes accounted for 48% of Harrison County crashes over the last five year period and 74% of all injury and fatality crashes As such, Roadway Departure crashes will be the major focus area of our action items.

4.4 Dark Roadway Crashes

After Roadway Departure Crashes, Dark Roadway Crashes were Harrison County's 2nd most prevalent crash type. While there are no practical solutions to address lighting on all county roads, it is possible to consider targeted lighting for areas that are identified as good candidates for roadway lighting. Intersection lighting is one area where a targeted approach to lighting could have an impact on road safety in Harrison County. The use of appropriate signage to assist with roadway delineation is also effective for this emphasis area.

4.5 Horizontal Curve Crashes

Horizontal curve crashes were the 3rd most prevalent crash type on Harrison County roads and accounted for 31% of Harrison County crashes over the last five year period and 45% of all injury and fatality crashes. This crash type is related to Roadway Departure crashes and will be an area we focus our actions to positively impact roadway safety.

4.6 Intersection Crashes

Intersection Crashes accounted for 29% of Harrison County crashes over the last five year period and 25% of all injury and fatality crashes.

SECTION 5 ACTION PLAN TO IMPACT EMPHASIS AREAS

5.1 Action Items

The following list of action items will guide Harrison County in our efforts toward improving roadway safety during the next four years. Short term action items are those which may be addressed immediately, on a continuing basis, or within the first two years after the adoption of this LRSP. Medium term action items may be addressed within two to four years after the adoption of this LRSP. Long term action items may be addressed four years or more after the adoption of this LRSP.

5.2 Short Term Action Items

1. Adopt the use of safety edges on county paving projects.
2. Include efforts to create clear zones along county roads in conjunction with maintenance and reconstruction projects.
3. Continued use of guardrail with current standard end treatments as appropriate.
4. Continued use of established asset management principles in the maintenance and preservation of roadway infrastructure.
5. Continued and improved snow removal and anti-icing winter operations.
6. Identify three locations to install high friction surface treatments for a pilot project.
7. Study the feasibility of creating a clear zone ordinance prohibiting the construction of fences, non-breakaway mailboxes, and other obstructions with a certain distance from the edge of county roads.
8. Conduct a Road Safety Audit for the intersection of Oak Park Rd and Whiskey Run Rd.
9. Conduct a Road Safety Audit for Crandall Lanesville Rd between SR 62 and Lazy Creek Rd.
10. Conduct a Road Safety Audit for East Whiskey Run Rd near Seneca Dr.
11. Maintain detailed 1-year and 5-year crash statistics, scatterplots, and heat maps.
12. Maintain 10-year crash statistic trends.
13. Perform a systemic review of all county roads to ensure all special areas such as school zones and crosswalks are identified and properly addressed.
14. Develop a regular monitoring schedule to ensure signage, markings, and visibility are adequate at all rail crossings.
15. Consider requiring sidewalks in all new subdivisions.
16. Engage Corydon, Lanesville, Palmyra, and Milltown to encourage them to consider creating a LRSP.
17. Continue to take sight distance into account when issuing driveway permits.
18. Continued community outreach through social media and with schools to build and maintain conduits for the transfer of safety related educational material.
19. Contact each school in Harrison County and offer to do a road safety presentation to students.
20. Contact each school in Harrison County to gauge interest in having students produce safety related media.
21. Continued close adherence to the Manual on Uniform Traffic Control Devices to ensure correct and effective use of traffic control devices.
22. Continued use of radar equipped “Your Speed” signs through LTAP’s equipment loan program.
23. Expanded use of roadway striping including centerline striping but especially edge line striping on county roads. Consider purchasing a striping truck to maximize our impact in this area by performing this work in-house.
24. Expanded use of pavement markings such as stop bars on county roads.
25. Expanded use of delineators, chevrons, and other devices to bring attention to horizontal curves.
26. Expanded use of delineators and/or other markings to improve visibility of guardrail.

27. Continued and expanded use of advisory speed plaques with horizontal curve warning signs.
28. Continued use of transverse rumble strips in appropriate situations such as stop ahead signs, school zones, and crosswalks.
29. Continued maintenance of sign retroreflectivity through our existing sign inventory and management program.
30. Coordinate with Sherriff's Dept to ensure accurate crash reporting.
31. Ensure crack sealing, traffic plates, and other maintenance and construction related activities are completed in ways that take motorcycle safety into account.

5.3 Medium Term Action Items

1. Upgrade end treatments of all guardrail to current safety standards.
2. Consider constructing a turn lane on Old Forest Rd at SR 62.
3. Consider a project to mitigate rock fall on New Middletown Elizabeth Rd.
4. Identify a location for a pilot project for edge line and/or centerline rumble strips.
5. Create a comprehensive traffic control ordinance so that all traffic related ordinances are included in one document for easy reference and review.
6. Study the feasibility of creating a roadway easement ordinance requiring the granting of an easement along county roads for any property division.
7. Perform a systemic review of all intersections to determine intersections which include a visual trap that could result in vehicles unintentionally making left hand turns across oncoming traffic. Develop a mitigation plan for all intersections identified.
8. Expanded use of road name placards on intersection advanced warning signs.
9. Adopt the use of in-lane pavement markings on high priority roads to supplement other warning devices for horizontal curves.
10. Adopt the use of retroreflective strips on sign posts.
11. Coordinate with Sherriff's Dept to increase speed enforcement on roads identified as high priority roads.

5.4 Long Term Action Items

1. Consider a project to improve the intersection of Scout Mountain Rd and SR 62.
2. Consider a project to improve the intersection of German Ridge Rd and SR 335.
3. Identify one location for a roundabout pilot project.
4. Develop a systemic approach for the improvement of intersection sight triangles. Include the acquisition of easements to do so if necessary.
5. Perform a systemic review of all intersections to determine which might be appropriate for consideration of lighting.
6. Perform a systemic review of all intersections to determine those with marginal or insufficient sight distances.
7. Continue efforts to update traffic counts on county roads.
8. Formalize our cumulative efforts through the creation and/or adoption of standard practices related to roadway safety.
9. Consider the use of larger than standard warning signs in high priority locations.

5.5 Targeted Emphasis Areas and Action Item Summary Table

The following table summarizes the targeted emphasis areas identified earlier in this document along with the short term, medium term, and long term action items which can impact these areas.

Targeted Emphasis Area	Specific Action Items
Bicycle Involved Crashes	
Data and Information Systems for Traffic Safety Decision Making	5.2.30
High Speed Multi-Lane Rear-end Collisions	
Highway-Rail Grade Crossing Crashes	5.2.14,
Human Behavior Factors	5.2.18, 5.2.19, 5.2.20
Large Truck Involved Crashes	
Motorcycle / Moped Involved Crashes	5.2.31
Older Drivers and Pedestrians	5.2.15, 5.2.23, 5.2.28
Pedestrian Involved Crashes	5.2.13, 5.2.15, 5.2.22, 5.2.28
Roadway Departure Crashes	5.2.1, 5.2.2, 5.2.3, 5.2.7, 5.2.21, 5.2.23, 5.2.26, 5.2.27, 5.3.1, 5.3.4, 5.3.9
Work Zone Crashes	5.2.21,
High Priority Roads	5.2.1, 5.2.9, 5.2.21, 5.2.22, 5.2.23, 5.3.9, 5.3.10, 5.3.11, 5.4.9
Dark Roadway Crashes	5.2.21, 5.2.23, 5.2.29, 5.3.10, 5.4.5
Horizontal Curve Crashes	5.2.3, 5.2.6, 5.2.21, 5.2.23, 5.2.25, 5.2.27, 5.3.9, 5.3.10
Intersection Crashes	5.2.8, 5.2.10, 5.2.21, 5.2.24, 5.3.2, 5.3.7, 5.3.8, 5.3.10, 5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.4.6

SECTION 6 EVALUATION AND FUTURE UPDATES

6.1 The Path Forward

This plan represents Harrison County's first step in formalizing our Toward Zero Death's vision of improving roadway safety and reducing property damage, injuries, and fatalities related to roadway crashes in Harrison County. The process we've followed to create this plan has confirmed that many of our existing practices are well conceived. These existing practices will be used to build upon as we work to implement the action items outlined in the previous section to further impact roadway safety.

A Local Road Safety Committee led by the Harrison County Highway Department and comprised of local officials who participated in the creation of this plan will be formed.

The Local Road Safety Committee will meet at least once each year in person to discuss progress made on action items included in this plan as well as any other current topics pertinent to local road safety in Harrison County.

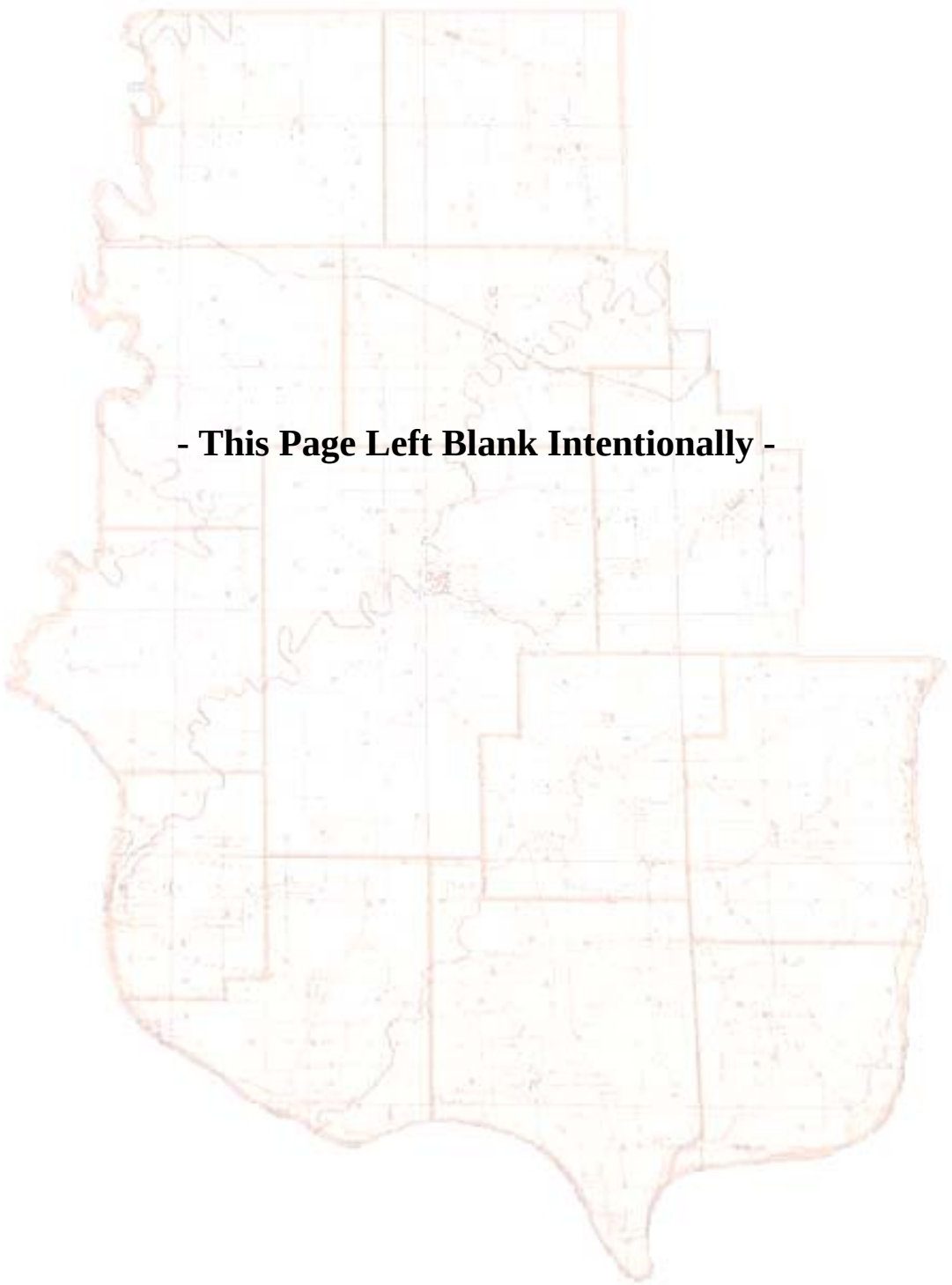
Our intent is for this plan to cover a period of four years. The plan will receive an intermediate update and progress report after two years and will be completely revisited after four years.

Harrison County, through our adoption of this LRSP, now moves Toward Zero Deaths.

Appendix A

Indiana University

Public Policy Institute Data



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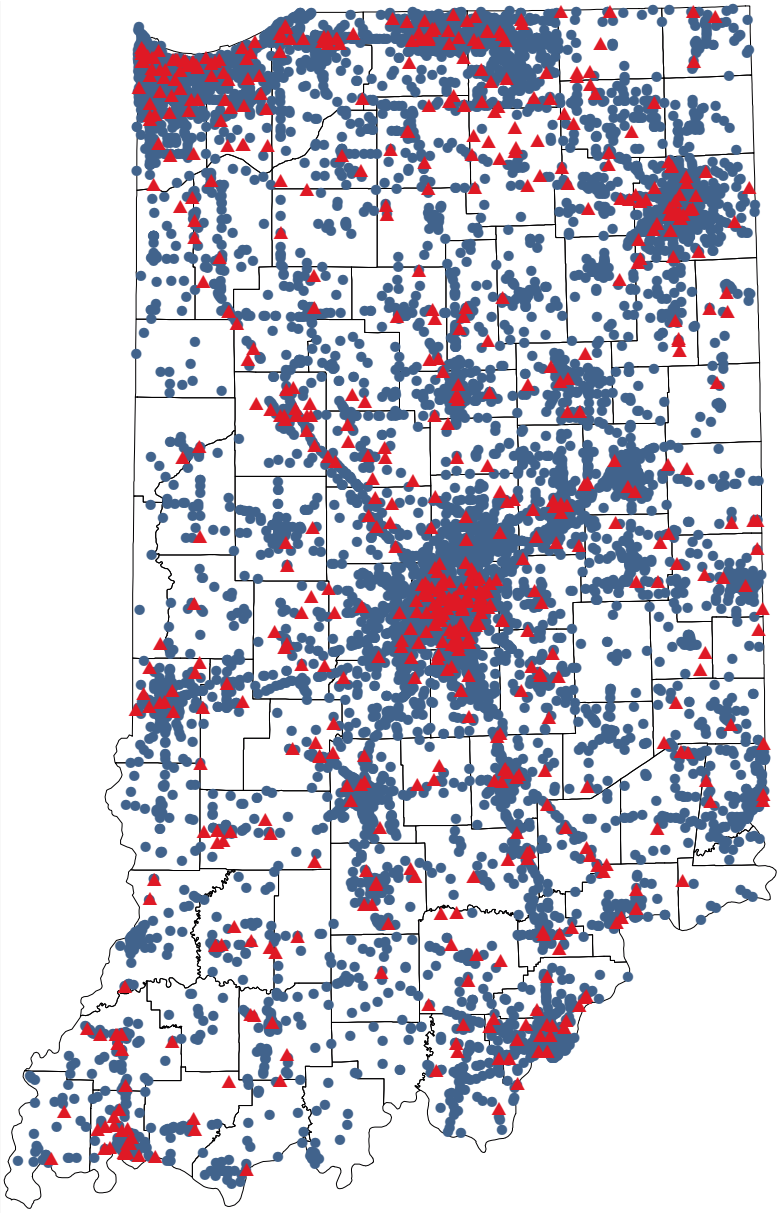
STATE OF INDIANA — 2017



Collisions by most severe injury (mapped/actual)

- ▲ Fatal *(648/834)*
- ● Non-fatal injury *(12,247/15,416)*

Collisions by month, 2017

Month	Collisions				% of total		
	Total	Speed-related	Alcohol-impaired	Motor-cycle	Speed-related	Alcohol-impaired	Motor-cycle
January	17,268	2,478	397	48	14.4%	2.3%	0.3%
February	14,564	1,106	369	114	7.6%	2.5%	0.8%
March	16,962	1,681	415	115	9.9%	2.4%	0.7%
April	17,023	1,127	354	298	6.6%	2.1%	1.8%
May	19,441	1,215	378	364	6.2%	1.9%	1.9%
June	18,993	1,125	367	505	5.9%	1.9%	2.7%
July	17,143	1,020	356	460	5.9%	2.1%	2.7%
August	17,711	1,000	368	420	5.6%	2.1%	2.4%
September	17,938	1,039	345	414	5.8%	1.9%	2.3%
October	19,968	1,368	347	263	6.9%	1.7%	1.3%
November	20,060	1,190	369	82	5.9%	1.8%	0.4%
December	22,041	3,970	385	48	18.0%	1.7%	0.2%
Total	**219,112**	**18,319**	**4,450**	**3,131**	**8.4%**	**2.0%**	**1.4%**

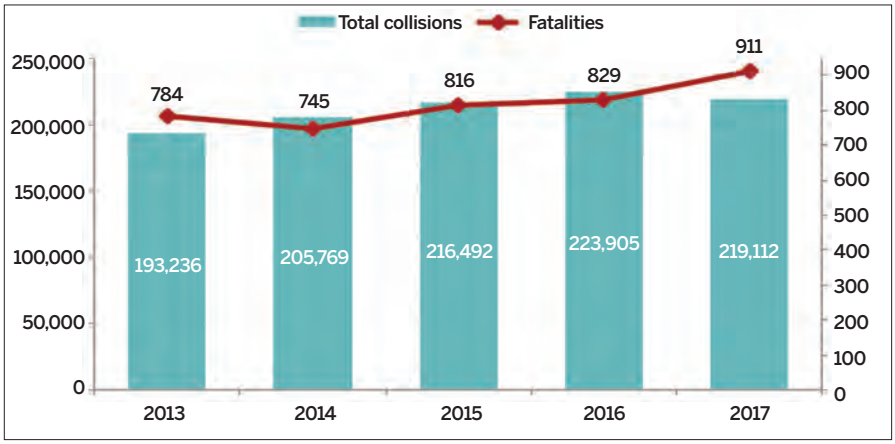
State collisions overview, 2013-2017

	2013	2014	2015	2016	2017
Total collisions	193,236	205,769	216,492	223,905	219,112
Fatalities	784	745	816	829	911
Motorcycle collisions	3,525	3,412	3,268	3,219	3,131
Speed-related collisions	18,598	24,822	22,013	21,221	18,319
Alcohol-impaired collisions	4,738	4,543	4,790	4,844	4,450
Overall restraint use	90.6%	91.4%	91.1%	90.8%	90.8%

Driver statistics, 2017

Age group	Licensed drivers	Drivers in crashes	Per 10K licensed
15 - 20	342,724	44,633	1,302.3
21 - 24	302,633	35,439	1,171.0
25 - 44	1,457,805	126,987	871.1
45 - 64	1,564,534	96,251	615.2
65 +	819,409	38,070	464.6
Total	**4,487,105**	**341,380**	**760.8**

Total collisions and fatalities, 2013-2017



STATE OF INDIANA — 2017

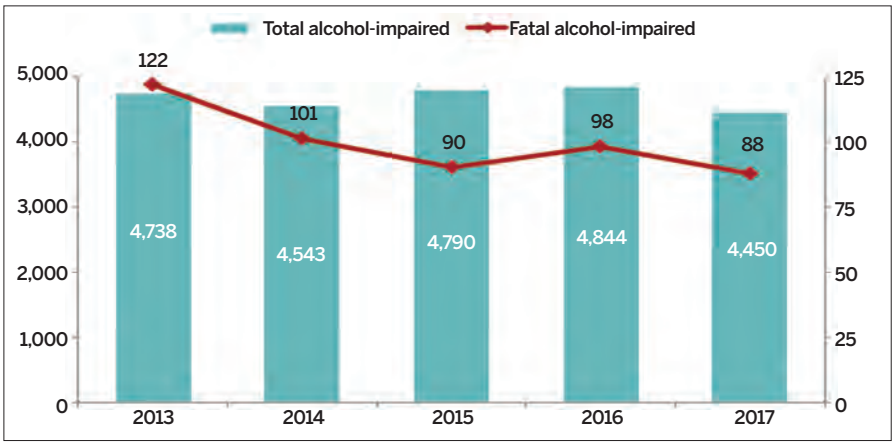
Individuals in collisions, 2017

Person type	Total	Fatal injuries	Non-fatal injuries
Driver	341,920	620	32,990
Injured occupant	13,271	176	12,162
Pedestrian	1,705	104	1,286
Pedalcyclist	820	10	594
Animal-drawn vehicle	127	1	37
Total	**357,843**	**911**	**47,069**

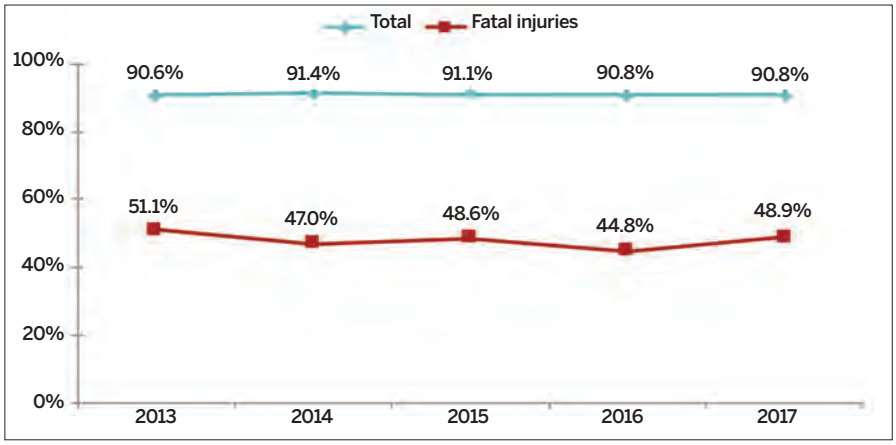
Impaired drivers in collisions, by age, 2017

Age group	Total drivers in collisions	Impaired drivers	% impaired
15 - 20	44,633	255	0.6%
21 - 24	35,439	730	2.1%
25 - 44	126,987	2,179	1.7%
45 - 64	96,251	1,140	1.2%
65 +	38,070	152	0.4%
Total	**341,380**	**4,456**	**1.3%**

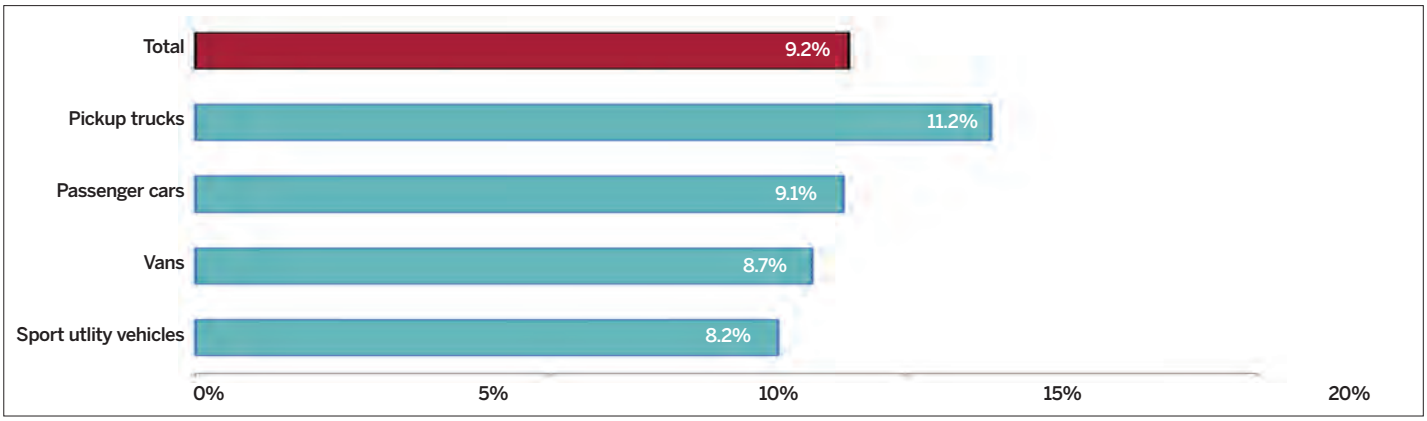
Alcohol-impaired collisions, 2013- 2017



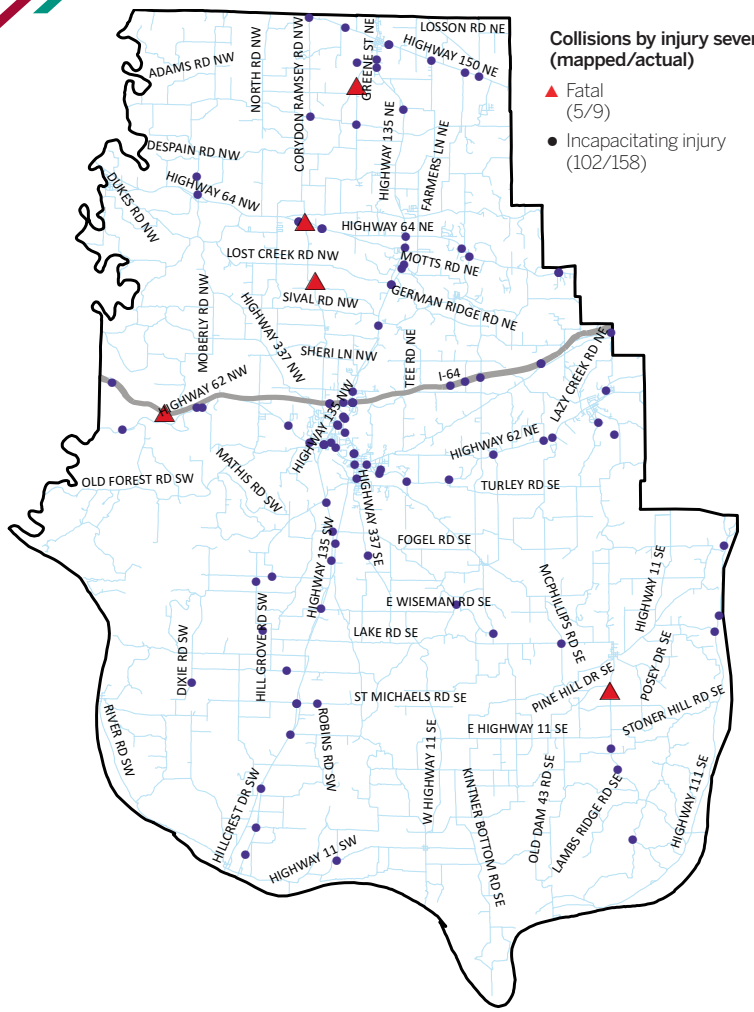
Percent restrained in collisions, 2013- 2017



Percentage of passenger vehicle drivers and passengers involved in collisions who were not wearing a seatbelt, by vehicle type, 2017



HARRISON COUNTY — 2017



Collisions by month, 2017

Month	Collisions				% of total		
	Total	Speed-related	Alcohol-impaired	Motor-cycle	Speed-related	Alcohol-impaired	Motor-cycle
January	94	12	3	0	12.8%	3.2%	0.0%
February	88	4	3	0	4.5%	3.4%	0.0%
March	96	4	2	0	4.2%	2.1%	0.0%
April	86	4	2	0	4.7%	2.3%	0.0%
May	129	12	1	3	9.3%	0.8%	2.3%
June	138	9	3	5	6.5%	2.2%	3.6%
July	118	6	3	6	5.1%	2.5%	5.1%
August	91	5	2	4	5.5%	2.2%	4.4%
September	96	5	3	5	5.2%	3.1%	5.2%
October	125	7	2	4	5.6%	1.6%	3.2%
November	144	7	2	0	4.9%	1.4%	0.0%
December	111	4	0	1	3.6%	0.0%	0.9%
Total	**1,316**	**79**	**26**	**28**	**6.0%**	**2.0%**	**2.1%**

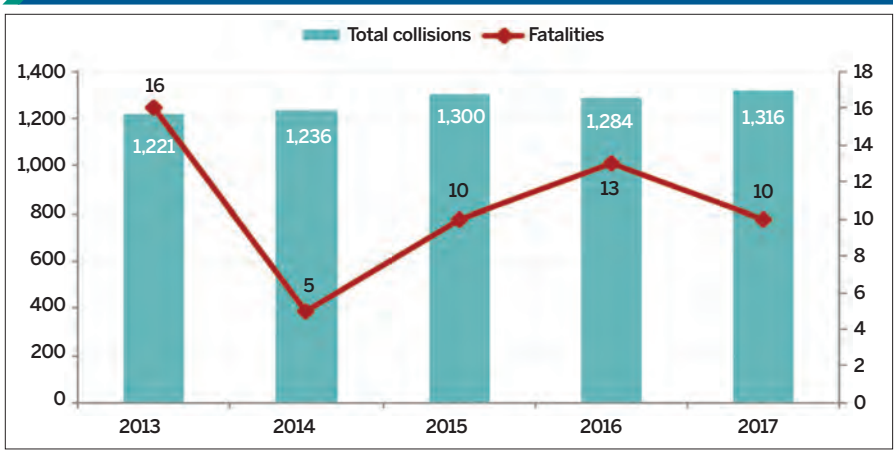
Collisions by municipality, 2017

Municipality	Collisions				% of total		
	Total	Speed-related	Alcohol-impaired	Motor-cycle	Speed-related	Alcohol-impaired	Motor-cycle
Corydon	195	10	3	4	5.1%	1.5%	2.1%
Crandall	0	0	0	0	0.0%	0.0%	0.0%
Elizabeth	4	0	1	0	0.0%	25.0%	0.0%
Laconia	0	0	0	0	0.0%	0.0%	0.0%
Lanesville	8	1	0	0	12.5%	0.0%	0.0%
Mauckport	2	0	0	0	0.0%	0.0%	0.0%
New Amsterdam	0	0	0	0	0.0%	0.0%	0.0%
New Middletown	0	0	0	0	0.0%	0.0%	0.0%
Palmyra	11	1	0	2	9.1%	0.0%	18.2%
Rural	1,094	67	22	22	6.1%	2.0%	2.0%
Unknown	2	0	0	0	0.0%	0.0%	0.0%
Total	**1,316**	**79**	**26**	**28**	**6.0%**	**2.0%**	**2.1%**

County collisions overview, 2013-2017

	2013	2014	2015	2016	2017
Total collisions	1,221	1,236	1,300	1,284	1,316
Fatalities	16	5	10	13	10
Motorcycle collisions	31	30	21	22	28
Speed-related collisions	113	97	79	82	79
Alcohol-impaired collisions	24	32	28	20	26
Overall restraint use	92.1%	88.5%	89.0%	90.1%	89.4%

Total collisions and fatalities, 2013-2017



Driver statistics, 2017

Age group	Licensed drivers	Drivers in crashes	Per 10K licensed
15 - 20	2,231	266	1,192.3
21 - 24	1,710	159	929.8
25 - 44	8,943	611	683.2
45 - 64	10,904	547	501.7
65 +	5,582	237	424.6
Unknown	N/A	N/A	N/A
Total	**29,370**	**1,820**	**619.7**

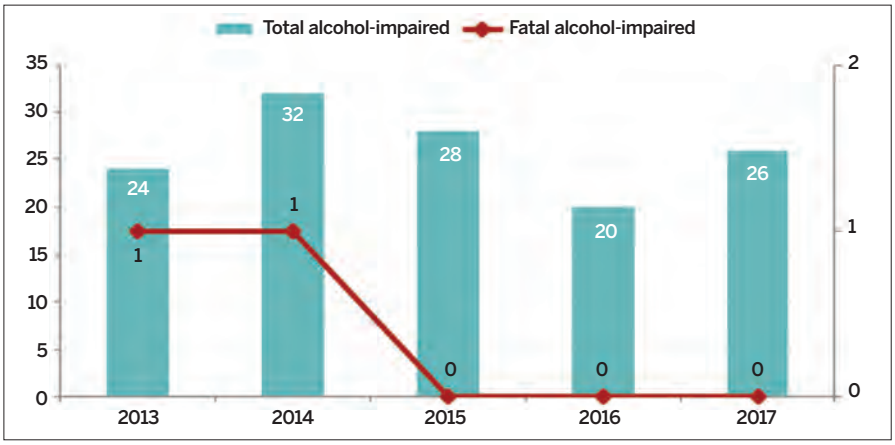
Individuals in collisions, 2017

Person type	Total	Fatal injuries	Non-fatal injuries
Driver	1,822	9	221
Injured occupant	75	1	72
Pedestrian	5	0	4
Total	**1,902**	**10**	**297**

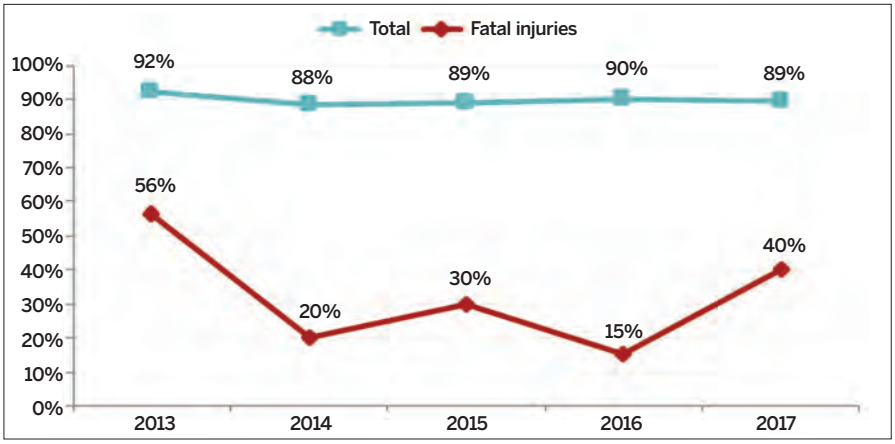
Impaired drivers in collisions, by age, 2017

Age group	Total drivers in collisions	Impaired drivers	% impaired
15 - 20	266	N/A	N/A
21 - 24	159	5	3.1%
25 - 44	611	12	2.0%
45 - 64	547	8	1.5%
65 +	237	1	0.4%
Unknown	N/A	N/A	N/A
Total	**1,820**	**26**	**1.4%**

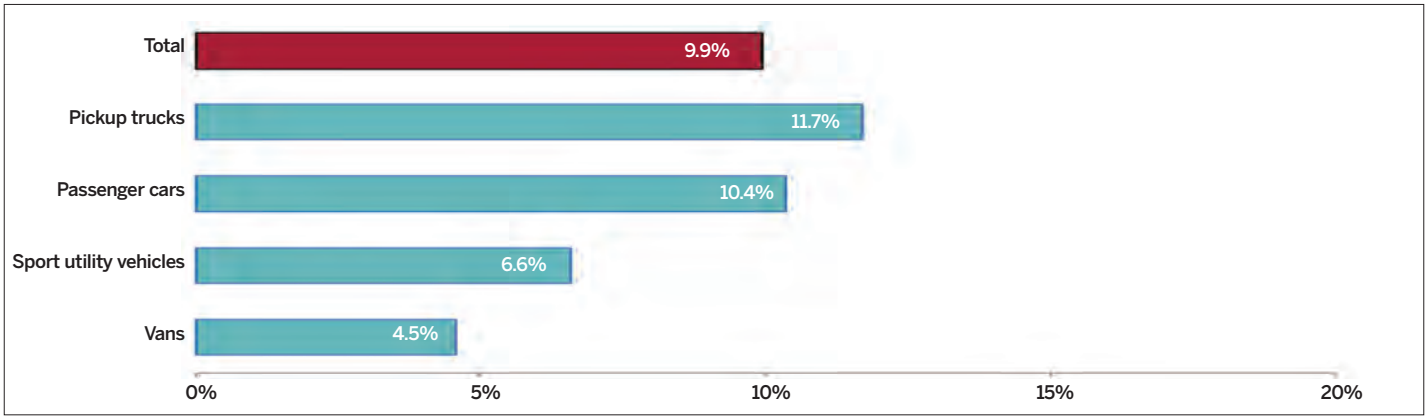
Alcohol-impaired collisions, 2013-2017



Percent restrained in collisions, 2013-2017



Percentage of passenger vehicle drivers and passengers involved in collisions who were not wearing a seatbelt, by vehicle type, 2017



INDIANA TRAFFIC SAFETY FACTS

COUNTY COMPARISONS

COUNTY COMPARISONS, 2017

Understanding the spatial distribution of traffic collisions and injuries can assist officials in developing policies and targeting resources to address the many variables that may impact the geography of crashes. A variety of factors may influence the number and nature of traffic collisions that occur in a given area, including the size and makeup of the population, the number of registered vehicles and licensed drivers, the number of vehicle miles traveled (VMT), and, perhaps most importantly, human behaviors and social norms that may contribute to the likelihood of particular types of crashes occurring in regions throughout the state. The following tables and *choropleth* maps show various collision and injury rates in Indiana counties in 2017.

Note: Choropleth maps use differences in shading, coloring, or symbols within predefined areas to depict a measure of a property or quantity in those areas. Maps in this section show counties grouped by quartiles above and below the median.

Collision severity and injuries

In 2017, 219,105 collisions occurred in Indiana, 834 of which were fatal. The mean number of collisions per county was 2,382, and the mean number of fatal collisions per county was 9 (Table 2.1). Marion County ranked highest in the total number of collisions (36,963), and Union County ranked highest in the percentage of all collisions that were fatal (2.3 percent). The mean county rate of collisions per 100 million (100M) VMT was 234.1, and the median rate was 228.8 (Map 2.1). Brown (443.1), Tippecanoe (435.3), and Monroe (400.6) counties had the highest rates of collisions per 100M VMT.

The total number of individuals involved in 2017 Indiana collisions was 357,837, and the mean number of individuals involved in collisions per county was 3,890 (Table 2.2). Marion County had the largest number of individuals involved (65,317) and the largest number of traffic fatalities (102). The median county traffic fatality rate per 100,000 population was 15.6 (Map 2.2), with Gibson County having the highest rate per 100,000 (56.6) and Rush County having the lowest (0.0).

Speed-related collisions

Speed-related collisions accounted for 8.4 percent of all Indiana collisions in 2017, and 22 percent of all fatal collisions (Table 2.3). The mean number of speed-related collisions per county was 199. Union (2.3 percent) and Vanderburgh (2.9 percent) counties had the lowest percentages of speed-related collisions, and Martin (18.5 percent) and Tipton (17.2 percent) had the highest percentages of collisions that were speed-related. The median county percent of speed-related collision was 7.9, and many counties with the highest percentages of speed-related collisions were clustered in the northern third of the state (Map 2.3).

Alcohol collisions

Note: Please note that these numbers were current as of the April 6, 2018 Indiana State Police Automated Reporting Information Exchange System (ARIES) data extract and are likely to change as pending BAC test results are finalized and reported into the ARIES crash database. For example, in 2017, about 61 percent of drivers involved in Indiana fatal collisions were reported in ARIES to have been tested, while only 404 of the 1,288 drivers involved in fatal collisions (31 percent) had BAC results reported in ARIES as of April 6, 2018.

Indiana collisions that involved an alcohol-impaired driver accounted for 2 percent of all Indiana collisions in 2017, and 10.6 percent of all fatal collisions (Table 2.4). The mean number of alcohol-impaired collisions per county was 48, and the mean number of fatal alcohol-impaired collisions per county was 1. The mean rate of alcohol-impaired drivers in county collisions per 10,000 licensed drivers was 9.7, and median rate was 9.4. LaGrange (18.7 per 10,000) and LaPorte (18.3 per 10,000) counties had the highest rates of alcohol-impaired drivers in collisions, and Martin (2.7 per 10,000), Switzerland (2.9 per 10,000), and Pulaski (3.2 per 10,000) counties had the lowest rates of alcohol-impaired drivers in collisions (Map 2.4).

Deer collisions

Nearly 16,000 Indiana collisions in 2017 involved deer. Counties with the highest percentages of deer-involved collisions were clustered in areas outside of central Indiana in predominantly rural areas (Map 2.5). The mean percentage of deer-related collisions was 15.4 percent. Pulaski County (47.5 percent) and Warren County (37.8 percent) had the highest percentages of deer-involved collisions, while the urban counties of Marion (0.4 percent) and Lake (1.4 percent) had the lowest percentages of collisions that involved deer.

Work zone collisions

There were 7,056 work zone collisions in Indiana in 2017 (Map 2.6). The mean county rate of work zone collisions per 1,000 total collisions was 19.9, and the median rate was 13.1. Given that work zone locations are constantly changing throughout the state, counties with the highest work zone collision rates tend to vary from year to year. In 2017, Lake (94.7) and Porter (77.8) counties, located in northwestern Indiana, and Clark County (77.4), located in southeastern Indiana, had the highest rates of work zone collisions per 1,000 collisions.

Restraint use

Fifty-one percent of all passenger vehicle (passenger cars, pickup trucks, sport utility vehicles, and vans) occupants killed in Indiana collisions were unrestrained in 2017, while only 8.3 percent of individuals suffering non-incapacitating injuries were unrestrained (Table 2.5). The median county percent of unrestrained passenger vehicle occupants injured in collisions was 16.0 (Map 2.7). Warren (47.1), Vermillion (35.8), and Sullivan (35.1) counties, located in the western portion of Indiana, had the highest rates of unrestrained passenger vehicle occupants injured in collisions. More generally, urban and suburban counties in central and northern Indiana had lower percentages of unrestrained injuries.

Young drivers

In 2017, 44,633 young drivers (ages 15 to 20) were involved in collisions (13 percent of all drivers involved). Forty-seven young drivers were killed in 2017 collisions (Table 2.6). Pike (18.9 percent), Franklin (18.4 percent), and Ripley (18.1 percent) counties had the highest percentages of young drivers in collisions. The mean county rate of young driver involvement in collisions was 109.9 per 1,000 licensed young drivers, and the median county rate was 108.5. Counties that are home to large universities (Delaware, Tippecanoe, Vanderburgh, Monroe, Marion, and Vigo) were among the highest rates of young driver involvement in collisions (Map 2.8), continuing a pattern observed year to year over the past decade.

Motorcycle collisions

Of the 219,105 collisions occurring in Indiana in 2017, 3,131 (1.4 percent) involved motorcycles, 144 of which were fatal, representing 13.8 percent of all fatal collisions (Table 2.7). On average, 2 percent of collisions in Indiana counties involved a motorcycle. The highest percentages of collisions involving motorcycles occurred in the southern Indiana counties of Switzerland (5.6 percent), Brown (5.2 percent) and Union (4.7 percent) (Map 2.9).

Hit-and-run collisions

Drivers involved in collisions resulting in injury or death are expected to remain or immediately return to the scene to provide proper identification (IC 9-26-1-1); otherwise, the crash is considered a hit-and-run. Hit-and-run collisions accounted for 13 percent or 28,485 of the 219,105 collisions in Indiana in 2017. The mean county percent of hit-and-run collisions was 8.1 percent, and the median county percent was 7.3 percent (Map 2.10). Vigo (19.8 percent), St. Joseph (19.6 percent), Monroe (19.5 percent), Allen (19.3 percent), Marion (19.1 percent), and Lake (18.5 percent) counties had the highest hit-and-run collision rates in the state in 2017.

County ranks

Table 2.8 shows Indiana counties ranked by six collision metrics: fatalities per 100K population, percentage of speed-related collisions, percentage of alcohol-impaired collisions, percentage of motorcycle collisions, percentage of unrestrained passenger vehicle injuries in collisions, and percentage of young drivers in collisions. A composite index consisting of the average of the six ranks was also calculated to provide an indication of a county's overall traffic safety environment. However, a number of factors not accounted for here—such as different population compositions, road types, driving conditions, crash reporting practices, etc.—may influence collision rankings, so readers should be mindful of these differences when viewing county ranks.

Based on the composite index (Map 2.11), many counties with relatively dangerous traffic safety environments were clustered in the western and southern areas of Indiana in 2017. By this index, Newton County (1), Franklin County (2), LaGrange County (3), and Vermillion County (4) were the most dangerous counties in 2017, while Hamilton (92), Clark (91), Vanderburgh (90), and Marion (89) counties were the safest. Most of the top ten counties with the most dangerous traffic safety environments in 2017 (Newton, Franklin, LaGrange, Vermillion, Brown, Martin, Warren, Carroll, Switzerland, and Knox) were primarily rural counties.

Table 2.1. Indiana collisions, by severity and county, 2017

	Total collisions		Fatal			Non-fatal injury		Property damage only	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total
All counties	**219,105**	**N/A**	**834**	**0.4**	**N/A**	**34,219**	**15.6**	**184,052**	**84.0**
Mean	2,382	N/A	9	0.6	N/A	372	15.1	2,001	84.3
Median	1,036	N/A	7	0.5	N/A	146	14	883	85
Minimum	86	N/A	0	0.0	N/A	15	8.6	69	72.3
Maximum	36,963	N/A	98	2.3	N/A	6,307	26.9	30,558	91.1
Adams	741	58	8	1.1	14	98	13.2	635	85.7
Allen	14,123	3	40	0.3	77	2,452	17.4	11,631	82.4
Bartholomew	2,054	24	15	0.7	29	553	26.9	1,486	72.3
Benton	159	88	1	0.6	34	19	11.9	139	87.4
Blackford	296	85	1	0.3	66	31	10.5	264	89.2
Boone	2,058	23	7	0.3	65	258	12.5	1,793	87.1
Brown	597	66	7	1.2	13	87	14.6	503	84.3
Carroll	527	70	2	0.4	59	75	14.2	450	85.4
Cass	1,293	38	7	0.5	42	180	13.9	1,106	85.5
Clark	4,496	11	14	0.3	73	662	14.7	3,820	85.0
Clay	696	59	4	0.6	37	125	18.0	567	81.5
Clinton	1,164	41	11	0.9	18	145	12.5	1,008	86.6
Crawford	373	81	2	0.5	43	44	11.8	327	87.7
Daviess	320	84	6	1.9	2	82	25.6	232	72.5
Dearborn	1,824	27	7	0.4	58	221	12.1	1,596	87.5
Decatur	874	53	1	0.1	90	120	13.7	753	86.2
DeKalb	1,385	35	4	0.3	76	202	14.6	1,179	85.1
Delaware	4,102	14	8	0.2	86	629	15.3	3,465	84.5
Dubois	1,553	31	5	0.3	70	211	13.6	1,337	86.1
Elkhart	7,509	6	24	0.3	71	976	13.0	6,509	86.7
Fayette	506	73	4	0.8	23	65	12.8	437	86.4
Floyd	2,839	18	10	0.4	62	360	12.7	2,469	87.0
Fountain	443	78	1	0.2	83	58	13.1	384	86.7
Franklin	513	72	4	0.8	24	79	15.4	430	83.8
Fulton	631	61	3	0.5	53	64	10.1	564	89.4
Gibson	1,084	43	16	1.5	8	179	16.5	889	82.0
Grant	2,331	21	8	0.3	63	294	12.6	2,029	87.0
Greene	925	51	11	1.2	12	128	13.8	786	85.0
Hamilton	8,812	5	10	0.1	91	1,105	12.5	7,697	87.3
Hancock	1,850	26	15	0.8	21	328	17.7	1,507	81.5
Harrison	1,316	36	9	0.7	32	220	16.7	1,087	82.6
Hendricks	4,573	10	8	0.2	88	593	13.0	3,972	86.9
Henry	1,037	46	4	0.4	57	222	21.4	811	78.2
Howard	2,654	20	11	0.4	56	427	16.1	2,216	83.5
Huntington	1,190	40	4	0.3	67	177	14.9	1,009	84.8
Jackson	1,715	28	10	0.6	36	214	12.5	1,491	86.9
Jasper	1,221	39	7	0.6	38	178	14.6	1,036	84.8
Jay	577	68	3	0.5	46	86	14.9	488	84.6
Jefferson	1,049	45	8	0.8	27	155	14.8	886	84.5
Jennings	774	56	10	1.3	10	103	13.3	661	85.4
Johnson	3,650	17	12	0.3	68	584	16.0	3,054	83.7
Knox	930	50	7	0.8	28	173	18.6	750	80.6
Kosciusko	2,750	19	14	0.5	48	416	15.1	2,320	84.4
LaGrange	1,027	48	9	0.9	20	133	13.0	885	86.2
Lake	17,419	2	49	0.3	78	2,858	16.4	14,512	83.3
LaPorte	3,814	15	21	0.6	40	625	16.4	3,168	83.1
Lawrence	1,553	31	12	0.8	26	250	16.1	1,291	83.1
Madison	4,189	13	13	0.3	74	600	14.3	3,576	85.4

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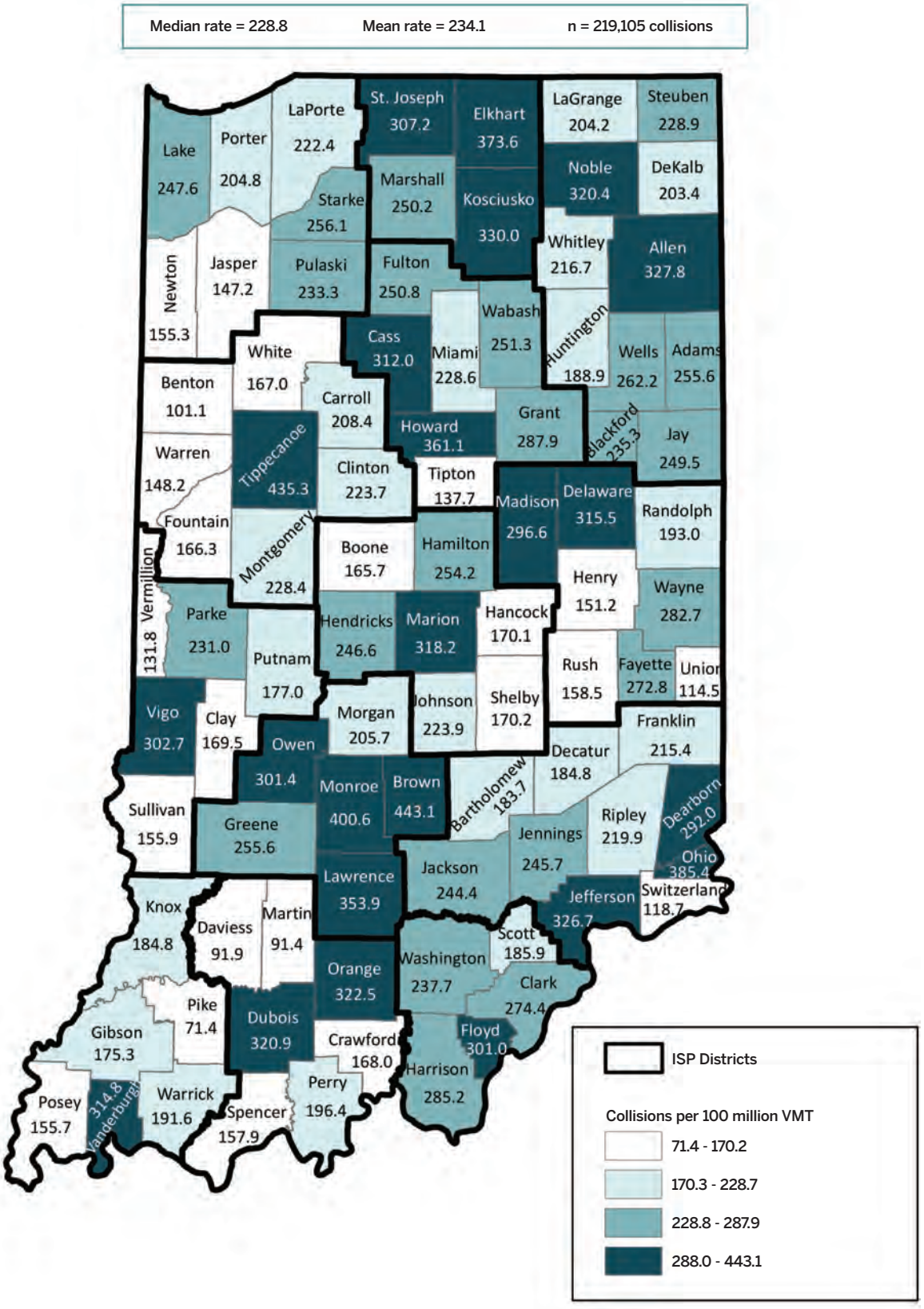
Table 2.1. *(continued)*

	Total collisions		Fatal			Non-fatal injury		Property damage only	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total
Marion	36,963	1	98	0.3	81	6,307	17.1	30,558	82.7
Marshall	1,588	29	6	0.4	60	204	12.8	1,378	86.8
Martin	119	91	2	1.7	3	28	23.5	89	74.8
Miami	1,076	44	7	0.7	33	142	13.2	927	86.2
Monroe	4,297	12	8	0.2	87	749	17.4	3,540	82.4
Montgomery	1,123	42	4	0.4	61	166	14.8	953	84.9
Morgan	1,943	25	4	0.2	84	305	15.7	1,634	84.1
Newton	383	79	6	1.6	6	71	18.5	306	79.9
Noble	1,393	34	7	0.5	49	196	14.1	1,190	85.4
Ohio	183	87	1	0.5	41	29	15.8	153	83.6
Orange	610	64	3	0.5	50	86	14.1	521	85.4
Owen	603	65	6	1.0	17	84	13.9	513	85.1
Parke	461	75	2	0.4	55	58	12.6	401	87.0
Perry	500	74	1	0.2	85	70	14.0	429	85.8
Pike	137	89	1	0.7	30	34	24.8	102	74.5
Porter	5,143	9	25	0.5	51	928	18.0	4,190	81.5
Posey	585	67	3	0.5	47	61	10.4	521	89.1
Pulaski	446	77	4	0.9	19	52	11.7	390	87.4
Putnam	1,035	47	8	0.8	25	146	14.1	881	85.1
Randolph	520	71	7	1.3	9	75	14.4	438	84.2
Ripley	822	55	5	0.6	35	105	12.8	712	86.6
Rush	347	82	0	0.0	92	54	15.6	293	84.4
St. Joseph	9,041	4	24	0.3	80	1,447	16.0	7,570	83.7
Scott	628	62	5	0.8	22	130	20.7	493	78.5
Shelby	1,307	37	7	0.5	44	248	19.0	1,052	80.5
Spencer	565	69	6	1.1	15	102	18.1	457	80.9
Starke	622	63	3	0.5	52	81	13.0	538	86.5
Steuben	1,526	33	5	0.3	69	131	8.6	1,390	91.1
Sullivan	451	76	2	0.4	54	70	15.5	379	84.0
Switzerland	124	90	2	1.6	5	19	15.3	103	83.1
Tippecanoe	7,275	7	19	0.3	82	1,032	14.2	6,224	85.6
Tipton	383	79	4	1.0	16	86	22.5	293	76.5
Union	86	92	2	2.3	1	15	17.4	69	80.2
Vanderburgh	6,834	8	19	0.3	79	1,320	19.3	5,495	80.4
Vermillion	336	83	5	1.5	7	35	10.4	296	88.1
Vigo	3,799	16	13	0.3	64	575	15.1	3,211	84.5
Wabash	871	54	1	0.1	89	123	14.1	747	85.8
Warren	233	86	3	1.3	11	25	10.7	205	88.0
Warrick	1,575	30	5	0.3	72	214	13.6	1,356	86.1
Washington	671	60	11	1.6	4	102	15.2	558	83.2
Wayne	2,314	22	7	0.3	75	286	12.4	2,021	87.3
Wells	752	57	4	0.5	45	105	14.0	643	85.5
White	900	52	5	0.6	39	133	14.8	762	84.7
Whitley	1,019	49	7	0.7	31	146	14.3	866	85.0
Unknown	7	N/A	0	N/A	N/A	0	N/A	7	N/A

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Note: *Non-fatal* injury collisions include collisions with *incapacitating*, *non-incapacitating* and *possible* injuries.

Map 2.1. Traffic collisions per 100M vehicle miles traveled, by county, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.2. Individuals involved in Indiana collisions, by injury status and county, 2017

	Total individuals involved		Fatal			Incapacitating		Non-incapacitating		Other/no injury	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total	Count	As % county total
All counties	**357,837**	**N/A**	**911**	**0.3**	**N/A**	**20,244**	**5.7**	**26,825**	**7.5**	**309,857**	**86.6**
Mean	3,890	N/A	10	0.5	N/A	220	8.0	292	6.0	3,368	85.6
Median	1,535	N/A	7	0.4	N/A	117	8.0	82	5.5	1,312	86.4
Minimum	139	N/A	0	0.0	N/A	15	0.9	7	2.1	112	75.8
Maximum	65,317	N/A	102	1.8	N/A	2,089	17.0	7,098	13.4	56,583	90.2
Adams	1,070	59	8	0.7	15	61	5.7	80	7.5	921	86.1
Allen	23,171	3	43	0.2	77	1,207	5.2	2,157	9.3	19,764	85.3
Bartholomew	3,612	21	16	0.4	41	361	10.0	426	11.8	2,809	77.8
Benton	200	88	1	0.5	31	19	9.5	12	6.0	168	84.0
Blackford	406	85	1	0.2	65	33	8.1	12	3.0	360	88.7
Boone	3,156	26	7	0.2	70	214	6.8	137	4.3	2,798	88.7
Brown	795	69	7	0.9	12	67	8.4	56	7.0	665	83.6
Carroll	686	73	2	0.3	57	69	10.1	26	3.8	589	85.9
Cass	1,934	37	8	0.4	44	116	6.0	123	6.4	1,687	87.2
Clark	7,504	11	15	0.2	74	452	6.0	467	6.2	6,570	87.6
Clay	1,089	58	5	0.5	37	133	12.2	43	3.9	908	83.4
Clinton	1,702	42	12	0.7	16	146	8.6	69	4.1	1,475	86.7
Crawford	452	84	2	0.4	42	27	6.0	25	5.5	398	88.1
Daviess	500	82	7	1.4	4	75	15.0	39	7.8	379	75.8
Dearborn	2,760	27	7	0.3	63	248	9.0	78	2.8	2,427	87.9
Decatur	1,288	52	1	0.1	90	85	6.6	62	4.8	1,140	88.5
DeKalb	2,096	33	4	0.2	76	135	6.4	115	5.5	1,842	87.9
Delaware	6,635	14	8	0.1	87	464	7.0	463	7.0	5,700	85.9
Dubois	2,295	31	6	0.3	60	117	5.1	151	6.6	2,021	88.1
Elkhart	12,561	7	26	0.2	71	807	6.4	601	4.8	11,127	88.6
Fayette	824	65	4	0.5	34	47	5.7	61	7.4	712	86.4
Floyd	4,825	18	11	0.2	69	244	5.1	242	5.0	4,328	89.7
Fountain	606	76	1	0.2	82	52	8.6	29	4.8	524	86.5
Franklin	685	74	4	0.6	24	85	12.4	22	3.2	574	83.8
Fulton	845	64	3	0.4	50	66	7.8	26	3.1	750	88.8
Gibson	1,712	41	19	1.1	8	157	9.2	95	5.5	1,441	84.2
Grant	3,462	22	9	0.3	62	209	6.0	173	5.0	3,071	88.7
Greene	1,261	54	11	0.9	13	113	9.0	64	5.1	1,073	85.1
Hamilton	15,731	4	10	0.1	91	706	4.5	823	5.2	14,192	90.2
Hancock	3,241	24	16	0.5	33	330	10.2	164	5.1	2,731	84.3
Harrison	1,902	38	10	0.5	27	203	10.7	94	4.9	1,595	83.9
Hendricks	7,717	10	8	0.1	88	449	5.8	350	4.5	6,910	89.5
Henry	1,617	45	4	0.2	64	190	11.8	118	7.3	1,305	80.7
Howard	4,613	19	12	0.3	61	348	7.5	272	5.9	3,981	86.3
Huntington	1,716	40	4	0.2	68	114	6.6	121	7.1	1,477	86.1
Jackson	2,501	28	11	0.4	43	171	6.8	136	5.4	2,183	87.3
Jasper	1,739	39	7	0.4	45	159	9.1	86	4.9	1,487	85.5
Jay	813	67	3	0.4	48	41	5.0	84	10.3	685	84.3
Jefferson	1,668	44	9	0.5	26	134	8.0	85	5.1	1,440	86.3
Jennings	1,171	56	11	0.9	11	85	7.3	57	4.9	1,018	86.9
Johnson	6,555	15	12	0.2	79	479	7.3	321	4.9	5,743	87.6
Knox	1,431	50	9	0.6	21	151	10.6	90	6.3	1,181	82.5
Kosciusko	4,269	20	15	0.4	53	49	1.1	510	11.9	3,695	86.6
LaGrange	1,472	48	10	0.7	19	38	2.6	147	10.0	1,277	86.8
Lake	29,768	2	51	0.2	80	2,089	7.0	1,835	6.2	25,793	86.6
LaPorte	5,794	17	27	0.5	36	428	7.4	417	7.2	4,922	84.9
Lawrence	2,318	30	13	0.6	25	205	8.8	140	6.0	1,960	84.6
Madison	6,733	13	16	0.2	67	559	8.3	262	3.9	5,896	87.6

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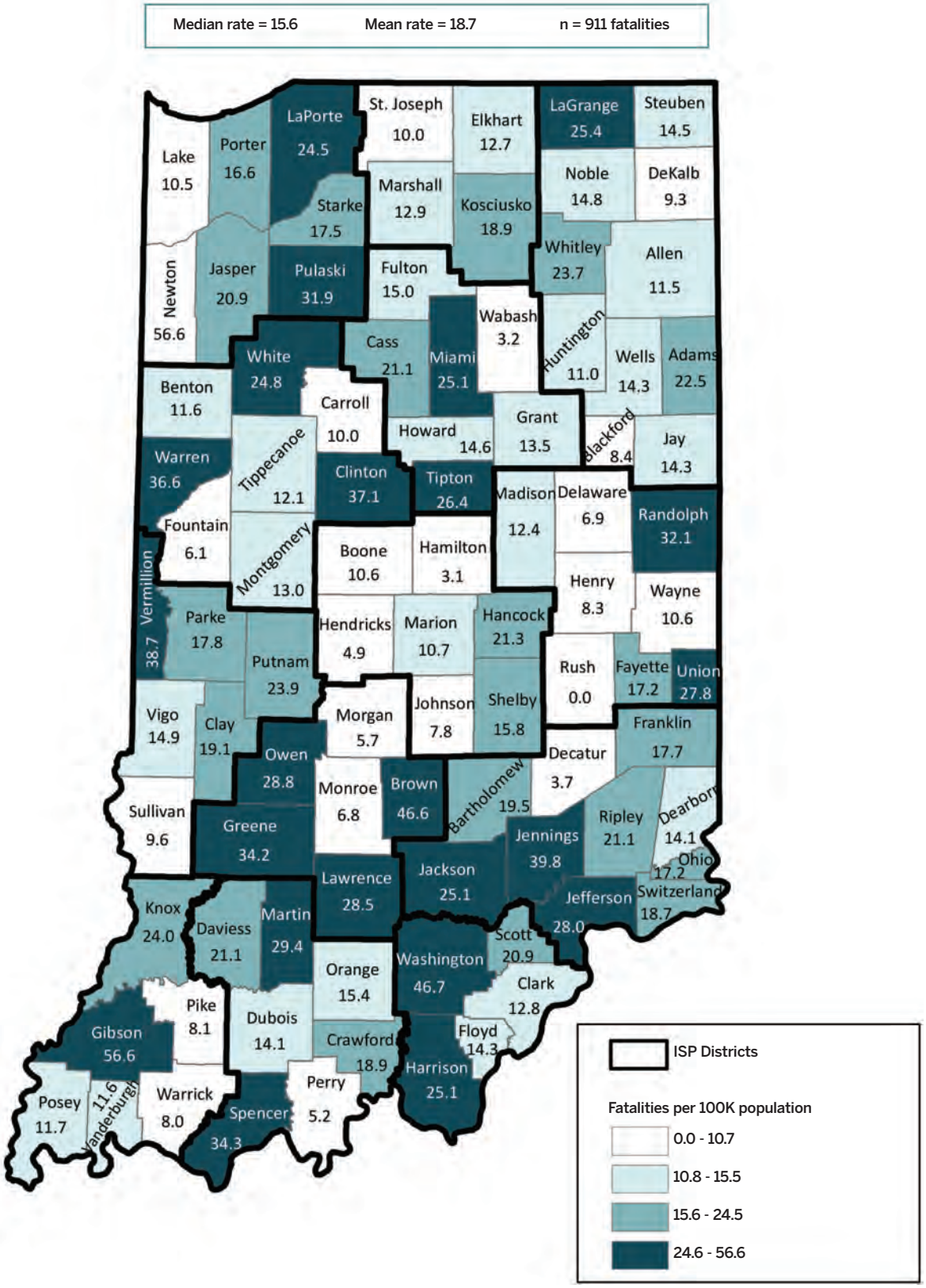
Table 2.2. *(continued)*

	Total individuals involved		Fatal			Incapacitating		Non-incapacitating		Other/no injury	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total	Count	As % county total
Marion	65,317	1	102	0.2	83	1,534	2.3	7,098	10.9	56,583	86.6
Marshall	2,280	32	6	0.3	59	124	5.4	160	7.0	1,990	87.3
Martin	165	91	3	1.8	1	22	13.3	13	7.9	127	77.0
Miami	1,539	46	9	0.6	23	145	9.4	67	4.4	1,318	85.6
Monroe	6,767	12	10	0.1	84	472	7.0	524	7.7	5,761	85.1
Montgomery	1,681	43	5	0.3	56	132	7.9	89	5.3	1,455	86.6
Morgan	3,201	25	4	0.1	86	260	8.1	159	5.0	2,778	86.8
Newton	522	80	8	1.5	2	74	14.2	25	4.8	415	79.5
Noble	1,989	35	7	0.4	52	140	7.0	146	7.3	1,696	85.3
Ohio	223	87	1	0.4	39	17	7.6	18	8.1	187	83.9
Orange	808	68	3	0.4	47	61	7.5	48	5.9	696	86.1
Owen	888	63	6	0.7	20	66	7.4	65	7.3	751	84.6
Parke	583	77	3	0.5	29	60	10.3	18	3.1	502	86.1
Perry	727	72	1	0.1	85	58	8.0	40	5.5	628	86.4
Pike	200	88	1	0.5	31	34	17.0	11	5.5	154	77.0
Porter	8,669	9	28	0.3	54	596	6.9	680	7.8	7,365	85.0
Posey	794	70	3	0.4	46	48	6.0	30	3.8	713	89.8
Pulaski	572	79	4	0.7	17	50	8.7	19	3.3	499	87.2
Putnam	1,463	49	9	0.6	22	129	8.8	61	4.2	1,264	86.4
Randolph	733	71	8	1.1	9	62	8.5	43	5.9	620	84.6
Ripley	1,183	55	6	0.5	30	102	8.6	46	3.9	1,029	87.0
Rush	507	81	0	0.0	92	38	7.5	29	5.7	440	86.8
St. Joseph	14,640	5	27	0.2	78	904	6.2	1,047	7.2	12,662	86.5
Scott	1,070	59	5	0.5	35	121	11.3	80	7.5	864	80.7
Shelby	1,965	36	7	0.4	49	177	9.0	134	6.8	1,647	83.8
Spencer	823	66	7	0.9	14	94	11.4	53	6.4	669	81.3
Starke	900	62	4	0.4	40	125	13.9	19	2.1	752	83.6
Steuben	2,040	34	5	0.2	66	106	5.2	89	4.4	1,840	90.2
Sullivan	640	75	2	0.3	55	60	9.4	33	5.2	545	85.2
Switzerland	167	90	2	1.2	7	21	12.6	7	4.2	137	82.0
Tippecanoe	11,577	8	23	0.2	75	144	1.2	1,259	10.9	10,151	87.7
Tipton	574	78	4	0.7	18	70	12.2	49	8.5	451	78.6
Union	139	92	2	1.4	3	15	10.8	10	7.2	112	80.6
Vanderburgh	12,565	6	21	0.2	81	111	0.9	1,683	13.4	10,750	85.6
Vermillion	465	83	6	1.3	6	39	8.4	16	3.4	404	86.9
Vigo	6,069	16	16	0.3	58	495	8.2	264	4.3	5,294	87.2
Wabash	1,279	53	1	0.1	89	107	8.4	70	5.5	1,101	86.1
Warren	283	86	3	1.1	10	25	8.8	7	2.5	248	87.6
Warrick	2,500	29	5	0.2	73	49	2.0	245	9.8	2,201	88.0
Washington	990	61	13	1.3	5	95	9.6	47	4.7	835	84.3
Wayne	3,446	23	7	0.2	72	199	5.8	173	5.0	3,067	89.0
Wells	1,130	57	4	0.4	51	79	7.0	65	5.8	982	86.9
White	1,332	51	6	0.5	38	113	8.5	57	4.3	1,156	86.8
Whitley	1,531	47	8	0.5	28	134	8.8	63	4.1	1,326	86.6
Unknown	6	N/A	0	N/A	N/A	0	N/A	0	N/A	6	N/A

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) *Non-incapacitating* injuries include those reported as *non-incapacitating* and *possible* injuries.
2) *Other/no injury* counts include injury type values identified as *not reported, refused, unknown,* invalid and missing codes.

Map 2.2. Traffic fatalities per 100k population, by county, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.3. Indiana speed-related collisions, by severity and county, 2017

	All collisions			Fatal		Non-fatal injury		Property damage only	
	Speed-related collisions	Speed-related as % of total collisions	County rank (on %)	Count	Speed-related as % of total fatal collisions	Count	Speed-related as % of total non-fatal injury collisions	Count	Speed-related as % of total property damage collisions
All counties	**18,318**	**8.4**	**N/A**	**184**	**22.1**	**4,239**	**12.4**	**13,895**	**7.5**
Mean	199	8.2	N/A	2	22.2	46	13.5	151	7.2
Median	90	7.9	N/A	1	17.4	22	13	66	6.7
Minimum	2	2.3	N/A	0	0.0	0	0.0	1	1.4
Maximum	2,762	18.5	N/A	18	100.0	689	32.8	2,055	19.1
Adams	51	6.9	57	1	12.5	6	6.1	44	6.9
Allen	1,256	8.9	36	13	32.5	266	10.8	977	8.4
Bartholomew	138	6.7	60	1	6.7	48	8.7	89	6.0
Benton	7	4.4	85	0	0.0	1	5.3	6	4.3
Blackford	22	7.4	54	0	0.0	1	3.2	21	8.0
Boone	132	6.4	62	2	28.6	23	8.9	107	6.0
Brown	56	9.4	32	1	14.3	18	20.7	37	7.4
Carroll	66	12.5	8	0	0.0	14	18.7	52	11.6
Cass	84	6.5	61	1	14.3	15	8.3	68	6.1
Clark	207	4.6	84	5	35.7	75	11.3	127	3.3
Clay	55	7.9	46	2	50.0	19	15.2	34	6.0
Clinton	120	10.3	23	2	18.2	25	17.2	93	9.2
Crawford	22	5.9	73	0	0.0	5	11.4	17	5.2
Daviess	32	10.0	26	1	16.7	10	12.2	21	9.1
Dearborn	147	8.1	43	1	14.3	39	17.6	107	6.7
Decatur	116	13.3	5	0	0.0	25	20.8	91	12.1
DeKalb	161	11.6	12	2	50.0	31	15.3	128	10.9
Delaware	322	7.8	47	3	37.5	85	13.5	234	6.8
Dubois	98	6.3	63	1	20.0	31	14.7	66	4.9
Elkhart	880	11.7	11	8	33.3	154	15.8	718	11.0
Fayette	17	3.4	90	0	0.0	3	4.6	14	3.2
Floyd	139	4.9	81	2	20.0	45	12.5	92	3.7
Fountain	44	9.9	28	0	0.0	14	24.1	30	7.8
Franklin	59	11.5	13	0	0.0	8	10.1	51	11.9
Fulton	49	7.8	49	0	0.0	12	18.8	37	6.6
Gibson	97	8.9	35	4	25.0	41	22.9	52	5.8
Grant	266	11.4	15	1	12.5	41	13.9	224	11.0
Greene	70	7.6	51	3	27.3	17	13.3	50	6.4
Hamilton	406	4.6	83	2	20.0	78	7.1	326	4.2
Hancock	115	6.2	66	3	20.0	30	9.1	82	5.4
Harrison	79	6.0	71	1	11.1	28	12.7	50	4.6
Hendricks	308	6.7	59	0	0.0	59	9.9	249	6.3
Henry	89	8.6	39	2	50.0	35	15.8	52	6.4
Howard	114	4.3	86	0	0.0	21	4.9	93	4.2
Huntington	136	11.4	14	3	75.0	27	15.3	106	10.5
Jackson	126	7.3	55	4	40.0	24	11.2	98	6.6
Jasper	104	8.5	40	1	14.3	28	15.7	75	7.2
Jay	21	3.6	88	0	0.0	7	8.1	14	2.9
Jefferson	56	5.3	76	3	37.5	14	9.0	39	4.4
Jennings	58	7.5	52	3	30.0	17	16.5	38	5.7
Johnson	211	5.8	74	1	8.3	53	9.1	157	5.1
Knox	75	8.1	42	2	28.6	25	14.5	48	6.4
Kosciusko	167	6.1	69	1	7.1	36	8.7	130	5.6
LaGrange	123	12.0	10	3	33.3	20	15.0	100	11.3
Lake	2,276	13.1	7	15	30.6	557	19.5	1,704	11.7
LaPorte	457	12.0	9	4	19.0	98	15.7	355	11.2
Lawrence	97	6.2	65	1	8.3	30	12.0	66	5.1
Madison	222	5.3	77	3	23.1	41	6.8	178	5.0

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Table 2.3. *(continued)*

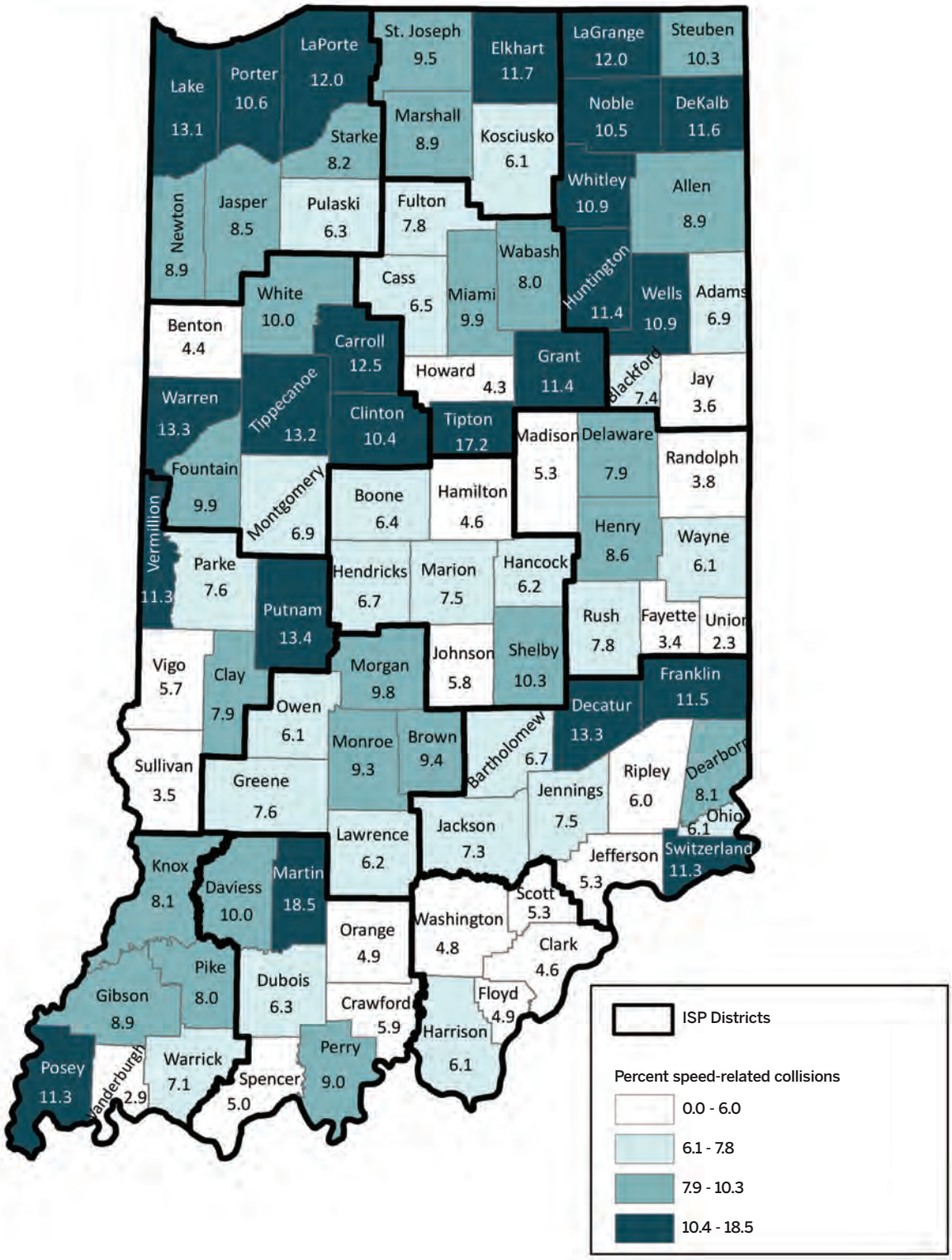
	All collisions			Fatal		Non-fatal injury		Property damage only	
	Speed-related collisions	Speed-related as % of total collisions	County rank (on %)	Count	Speed-related as % of total fatal collisions	Count	Speed-related as % of total non-fatal injury collisions	Count	Speed-related as % of total property damage collisions
Marion	2,762	7.5	53	18	18.4	689	10.9	2,055	6.7
Marshall	141	8.9	37	0	0.0	30	14.7	111	8.1
Martin	22	18.5	1	0	0.0	5	17.9	17	19.1
Miami	106	9.9	29	0	0.0	20	14.1	86	9.3
Monroe	399	9.3	33	1	12.5	107	14.3	291	8.2
Montgomery	77	6.9	58	1	25.0	15	9.0	61	6.4
Morgan	191	9.8	30	2	50.0	50	16.4	139	8.5
Newton	34	8.9	38	2	33.3	7	9.9	25	8.2
Noble	146	10.5	22	0	0.0	25	12.8	121	10.2
Ohio	11	6.0	70	1	100.0	4	13.8	6	3.9
Orange	30	4.9	80	0	0.0	8	9.3	22	4.2
Owen	37	6.1	67	0	0.0	11	13.1	26	5.1
Parke	35	7.6	50	1	50.0	6	10.3	28	7.0
Perry	45	9.0	34	0	0.0	15	21.4	30	7.0
Pike	11	8.0	45	1	100.0	4	11.8	6	5.9
Porter	546	10.6	21	2	8.0	123	13.3	421	10.0
Posey	66	11.3	18	0	0.0	20	32.8	46	8.8
Pulaski	28	6.3	64	0	0.0	10	19.2	18	4.6
Putnam	139	13.4	3	4	50.0	38	26.0	97	11.0
Randolph	20	3.8	87	1	14.3	7	9.3	12	2.7
Ripley	49	6.0	72	1	20.0	16	15.2	32	4.5
Rush	27	7.8	48	0	0.0	7	13.0	20	6.8
St. Joseph	862	9.5	31	11	45.8	154	10.6	697	9.2
Scott	33	5.3	78	0	0.0	12	9.2	21	4.3
Shelby	134	10.3	25	1	14.3	39	15.7	94	8.9
Spencer	28	5.0	79	1	16.7	5	4.9	22	4.8
Starke	51	8.2	41	1	33.3	12	14.8	38	7.1
Steuben	157	10.3	24	2	40.0	23	17.6	132	9.5
Sullivan	16	3.5	89	2	100.0	3	4.3	11	2.9
Switzerland	14	11.3	17	0	0.0	3	15.8	11	10.7
Tippecanoe	961	13.2	6	5	26.3	191	18.5	765	12.3
Tipton	66	17.2	2	2	50.0	25	29.1	39	13.3
Union	2	2.3	92	1	50.0	0	0.0	1	1.4
Vanderburgh	195	2.9	91	3	15.8	53	4.0	139	2.5
Vermillion	38	11.3	16	2	40.0	9	25.7	27	9.1
Vigo	217	5.7	75	1	7.7	42	7.3	174	5.4
Wabash	70	8.0	44	0	0.0	18	14.6	52	7.0
Warren	31	13.3	4	1	33.3	7	28.0	23	11.2
Warrick	112	7.1	56	3	60.0	22	10.3	87	6.4
Washington	32	4.8	82	2	18.2	10	9.8	20	3.6
Wayne	141	6.1	68	2	28.6	23	8.0	116	5.7
Wells	82	10.9	19	0	0.0	17	16.2	65	10.1
White	90	10.0	26	2	40.0	21	15.8	67	8.8
Whitley	111	10.9	20	1	14.3	33	22.6	77	8.9
Unknown	1	N/A	N/A	0	N/A	0	N/A	1	N/A

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) Percent calculations represent the percent of total county collisions (presented in Table 2.1) in each injury category that are *speed-related*.
2) *Non-fatal* injury collisions include collisions with *incapacitating, non-incapacitating,* and *possible* injuries.
3) A collision is identified as speed-related if any one of the following conditions is met: (1) *unsafe speed* or *speed too fast for weather conditions* is listed as the primary or contributing factor of the collision; (2) a vehicle driver is issued a speeding citation.

Map 2.3. Percentage of Indiana county collisions that involved a speeding driver, 2017

Median percent = 7.9 Mean percent = 8.2 n = 18,318 speed-related collisions



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.4. Indiana collisions involving an alcohol-impaired driver, by severity and county, 2017

County	Total		Fatal		Non-fatal injury		Property damage	
	Count	Alcohol-impaired as % of total collisions	Count	Alcohol-impaired as % of total fatal collisions	Count	Alcohol-impaired as % of total non-fatal injury collisions	Count	Alcohol-impaired as % of total property damage collisions
All counties	**4,449**	**2.0**	**88**	**10.6**	**1,231**	**3.6**	**3,130**	**1.7**
Mean	48	2.5	1	10.8	13	4.3	34	2.1
Median	25	2.2	0	0.0	7	3.8	18	1.9
Minimum	2	0.7	0	0.0	0	0.0	1	0.3
Maximum	513	9.5	11	100.0	152	14.7	355	7.8
Adams	18	2.4	1	12.5	0	0.0	17	2.7
Allen	391	2.8	11	27.5	118	4.8	262	2.3
Bartholomew	41	2.0	1	6.7	12	2.2	28	1.9
Benton	5	3.1	0	0.0	0	0.0	5	3.6
Blackford	7	2.4	0	0.0	0	0.0	7	2.7
Boone	42	2.0	0	0.0	8	3.1	34	1.9
Brown	18	3.0	0	0.0	3	3.4	15	3.0
Carroll	16	3.0	0	0.0	4	5.3	12	2.7
Cass	25	1.9	0	0.0	3	1.7	22	2.0
Clark	71	1.6	0	0.0	15	2.3	56	1.5
Clay	20	2.9	0	0.0	7	5.6	13	2.3
Clinton	27	2.3	1	9.1	6	4.1	20	2.0
Crawford	6	1.6	1	50.0	0	0.0	5	1.5
Daviess	14	4.4	2	33.3	5	6.1	7	3.0
Dearborn	33	1.8	1	14.3	6	2.7	26	1.6
Decatur	24	2.7	0	0.0	6	5.0	18	2.4
DeKalb	39	2.8	1	25.0	12	5.9	26	2.2
Delaware	77	1.9	0	0.0	19	3.0	58	1.7
Dubois	44	2.8	0	0.0	12	5.7	32	2.4
Elkhart	133	1.8	3	12.5	23	2.4	107	1.6
Fayette	9	1.8	0	0.0	2	3.1	7	1.6
Floyd	60	2.1	4	40.0	11	3.1	45	1.8
Fountain	13	2.9	0	0.0	0	0.0	13	3.4
Franklin	17	3.3	1	25.0	2	2.5	14	3.3
Fulton	11	1.7	1	33.3	0	0.0	10	1.8
Gibson	27	2.5	1	6.3	8	4.5	18	2.0
Grant	41	1.8	1	12.5	13	4.4	27	1.3
Greene	14	1.5	1	9.1	4	3.1	9	1.1
Hamilton	160	1.8	3	30.0	44	4.0	113	1.5
Hancock	32	1.7	3	20.0	11	3.4	18	1.2
Harrison	26	2.0	0	0.0	4	1.8	22	2.0
Hendricks	88	1.9	0	0.0	20	3.4	68	1.7
Henry	31	3.0	0	0.0	9	4.1	22	2.7
Howard	51	1.9	3	27.3	18	4.2	30	1.4
Huntington	23	1.9	1	25.0	10	5.6	12	1.2
Jackson	32	1.9	1	10.0	7	3.3	24	1.6
Jasper	34	2.8	0	0.0	11	6.2	23	2.2
Jay	13	2.3	0	0.0	4	4.7	9	1.8
Jefferson	14	1.3	1	12.5	2	1.3	11	1.2
Jennings	14	1.8	0	0.0	3	2.9	11	1.7
Johnson	68	1.9	0	0.0	21	3.6	47	1.5
Knox	25	2.7	2	28.6	10	5.8	13	1.7
Kosciusko	53	1.9	0	0.0	18	4.3	35	1.5
LaGrange	34	3.3	0	0.0	10	7.5	24	2.7
Lake	360	2.1	8	16.3	113	4.0	239	1.6
LaPorte	140	3.7	3	14.3	52	8.3	85	2.7
Lawrence	19	1.2	0	0.0	2	0.8	17	1.3
Madison	96	2.3	3	23.1	23	3.8	70	2.0

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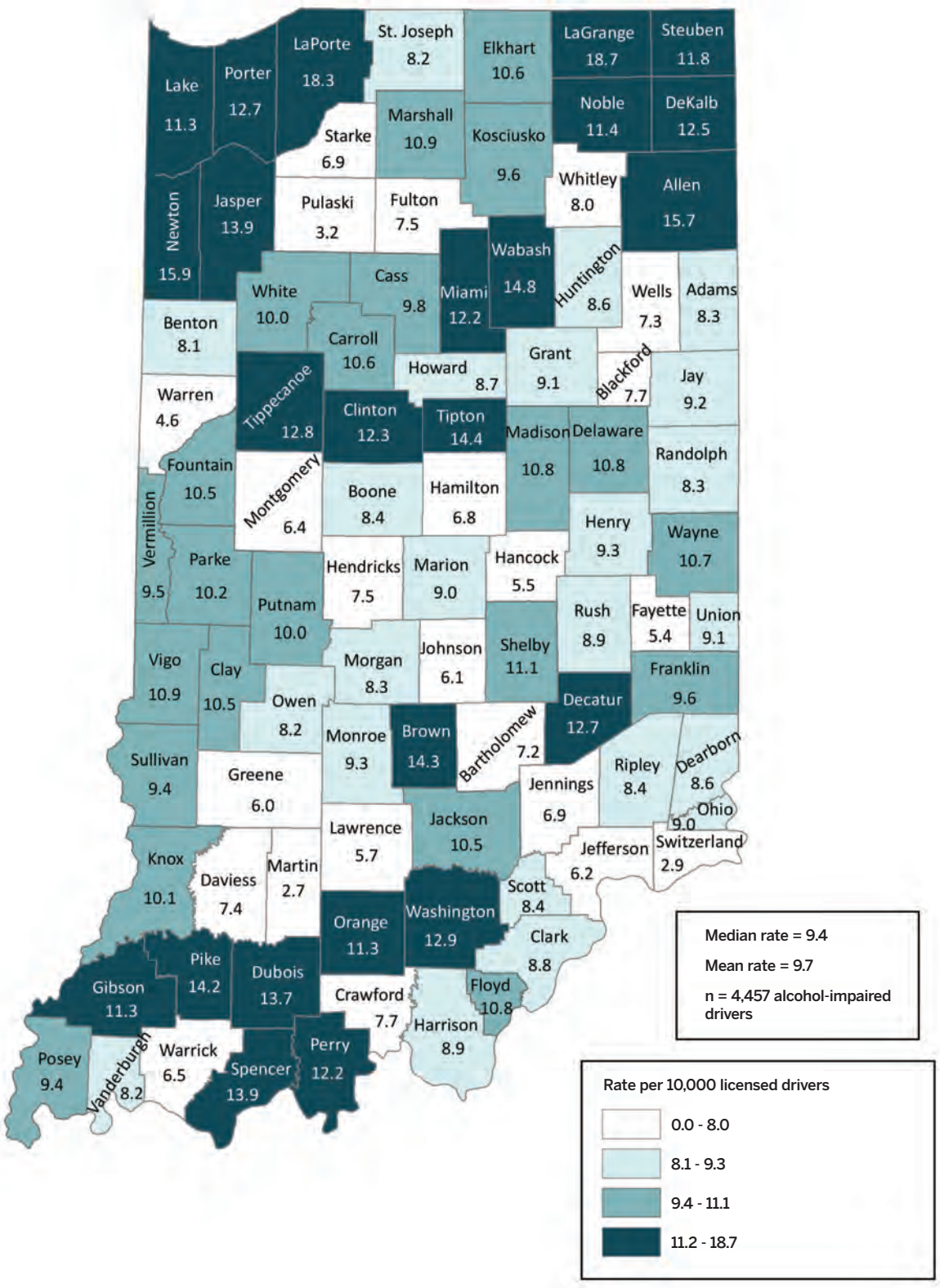
Table 2.4.*(continued)*

County	Total		Fatal		Non-fatal injury		Property damage	
	Count	Alcohol-impaired as % of total collisions	Count	Alcohol-impaired as % of total fatal collisions	Count	Alcohol-impaired as % of total non-fatal injury collisions	Count	Alcohol-impaired as % of total property damage collisions
Marion	513	1.4	6	6.1	152	2.4	355	1.2
Marshall	35	2.2	0	0.0	11	5.4	24	1.7
Martin	2	1.7	0	0.0	1	3.6	1	1.1
Miami	29	2.7	0	0.0	8	5.6	21	2.3
Monroe	75	1.7	0	0.0	20	2.7	55	1.6
Montgomery	17	1.5	0	0.0	7	4.2	10	1.0
Morgan	44	2.3	0	0.0	19	6.2	25	1.5
Newton	17	4.4	2	33.3	6	8.5	9	2.9
Noble	37	2.7	0	0.0	13	6.6	24	2.0
Ohio	4	2.2	1	100.0	1	3.4	2	1.3
Orange	16	2.6	0	0.0	7	8.1	9	1.7
Owen	13	2.2	0	0.0	3	3.6	10	1.9
Parke	11	2.4	1	50.0	3	5.2	7	1.7
Perry	16	3.2	0	0.0	2	2.9	14	3.3
Pike	13	9.5	0	0.0	5	14.7	8	7.8
Porter	159	3.1	0	0.0	54	5.8	105	2.5
Posey	18	3.1	0	0.0	3	4.9	15	2.9
Pulaski	3	0.7	0	0.0	2	3.8	1	0.3
Putnam	25	2.4	1	12.5	10	6.8	14	1.6
Randolph	15	2.9	0	0.0	6	8.0	9	2.1
Ripley	18	2.2	0	0.0	3	2.9	15	2.1
Rush	11	3.2	0	0.0	0	0.0	11	3.8
St. Joseph	141	1.6	3	12.5	24	1.7	114	1.5
Scott	14	2.2	1	20.0	3	2.3	10	2.0
Shelby	36	2.8	0	0.0	7	2.8	29	2.8
Spencer	21	3.7	1	16.7	9	8.8	11	2.4
Starke	12	1.9	0	0.0	5	6.2	7	1.3
Steuben	29	1.9	0	0.0	6	4.6	23	1.7
Sullivan	13	2.9	2	100.0	2	2.9	9	2.4
Switzerland	2	1.6	0	0.0	1	5.3	1	1.0
Tippecanoe	136	1.9	3	15.8	31	3.0	102	1.6
Tipton	17	4.4	2	50.0	5	5.8	10	3.4
Union	5	5.8	0	0.0	2	13.3	3	4.3
Vanderburgh	98	1.4	1	5.3	30	2.3	67	1.2
Vermillion	11	3.3	0	0.0	3	8.6	8	2.7
Vigo	73	1.9	3	23.1	20	3.5	50	1.6
Wabash	34	3.9	0	0.0	14	11.4	20	2.7
Warren	3	1.3	0	0.0	0	0.0	3	1.5
Warrick	30	1.9	0	0.0	11	5.1	19	1.4
Washington	26	3.9	1	9.1	7	6.9	18	3.2
Wayne	48	2.1	0	0.0	10	3.5	38	1.9
Wells	15	2.0	0	0.0	7	6.7	8	1.2
White	18	2.0	0	0.0	2	1.5	16	2.1
Whitley	20	2.0	1	14.3	5	3.4	14	1.6
Unknown	1	N/A	0	N/A	0	N/A	1	N/A

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

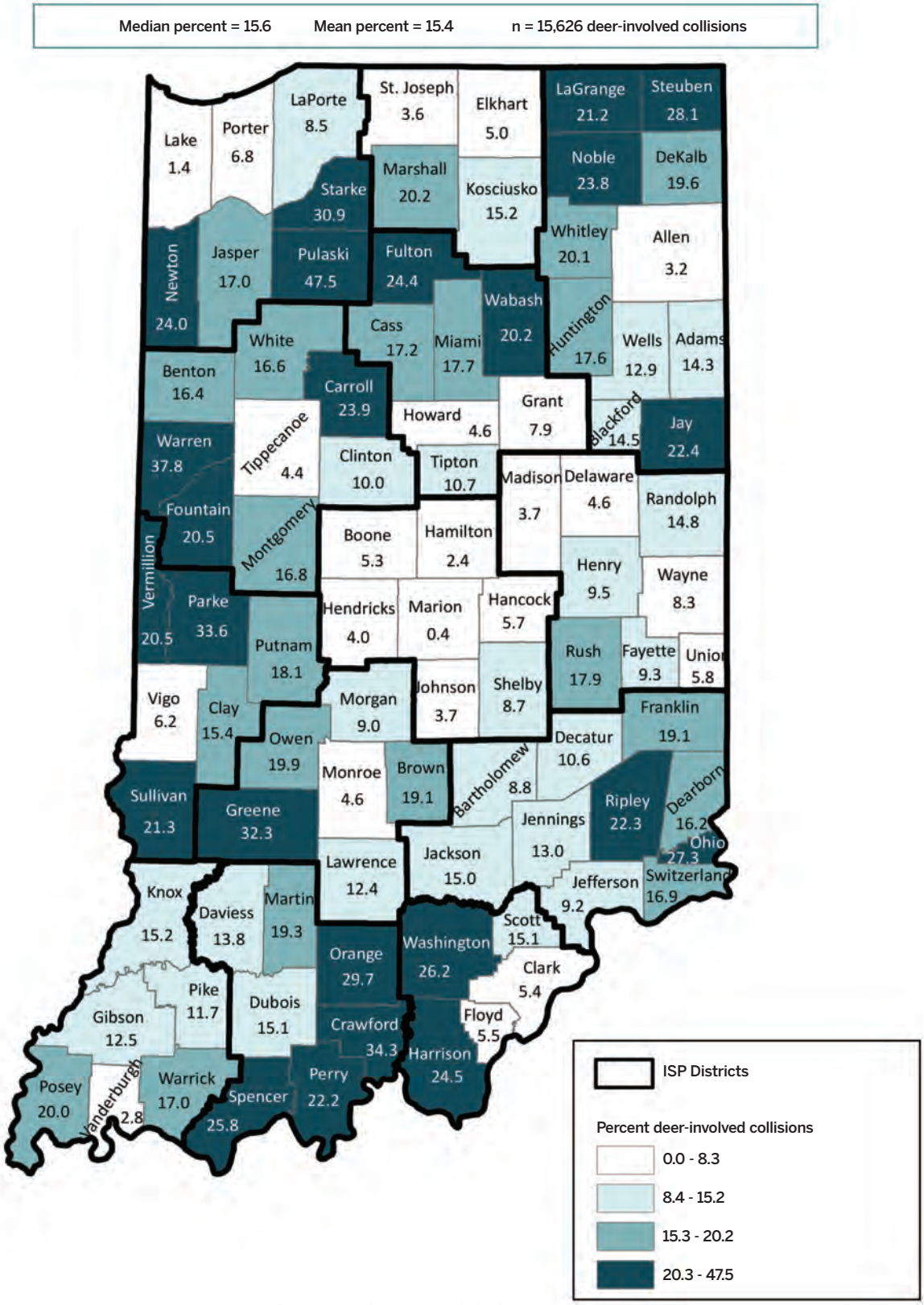
Notes:
1) Percent calculations represent the percent of total county collisions (presented in Table 2.1) in each injury category that are *alcohol-impaired*.
2) Includes collisions where at least one alcohol-impaired driver was involved.
3) *Non-fatal* injury includes *incapacitating, non-incapacitating,* and *possible* injury collisions.
4) A collision is considered *alcohol-impaired* when any vehicle driver involved has a BAC test result at or above 0.08 g/dL.

Map 2.4. Alcohol-impaired drivers in Indiana collisions per 10,000 licensed drivers, by county, 2017



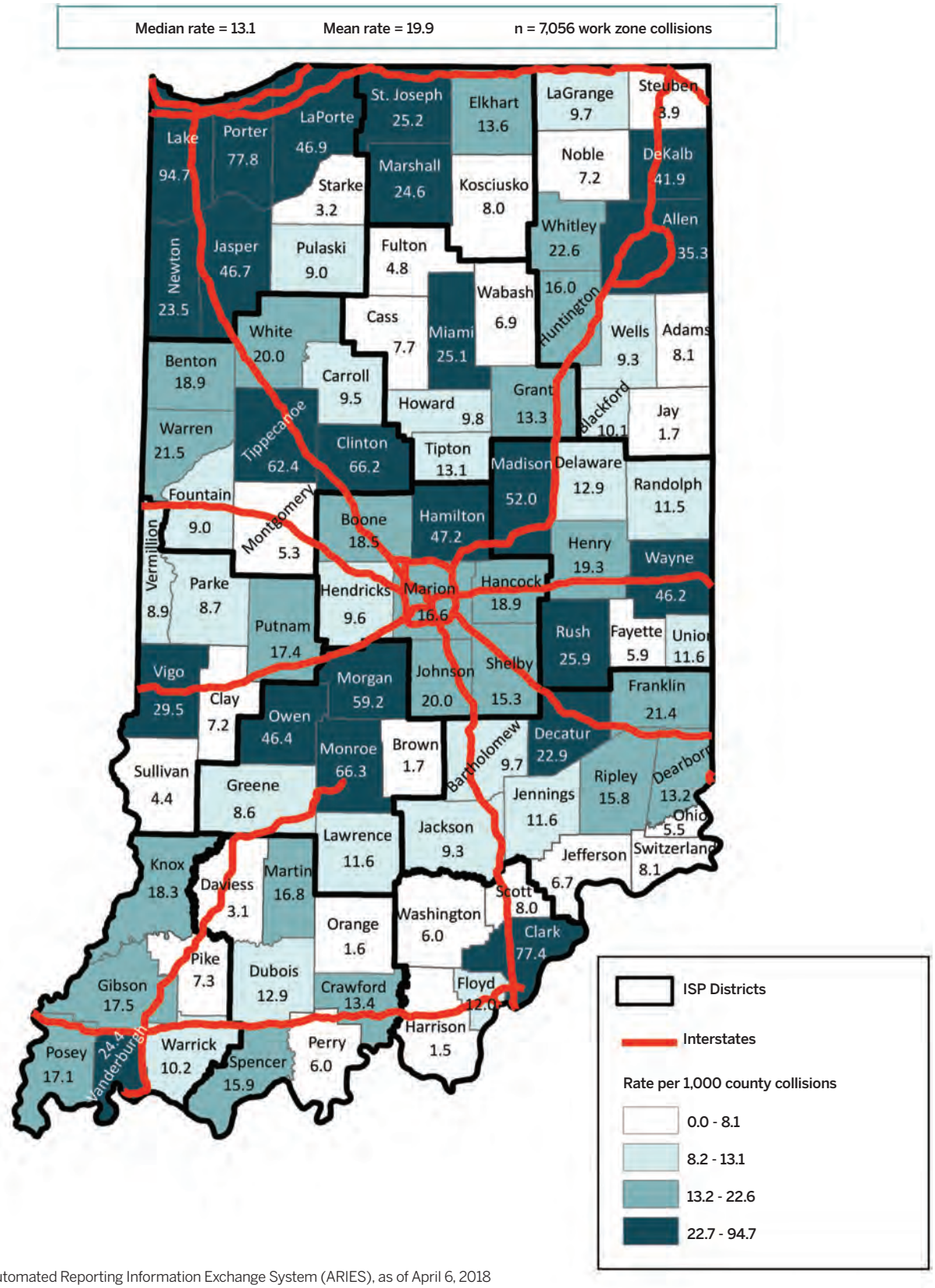
Sources: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018; Indiana Bureau of Motor Vehicles, as of April 23, 2018.

Map 2.5. Percentage of county collisions that involved deer, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Map 2.6. Work zone collisions per 1,000 total county collisions, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.5. Passenger vehicle occupants injured in Indiana collisions, by injury status, restraint use, and county, 2017

	Fatal			Incapacitating			Non-incapacitating		
	Total	Unrestrained	% Unrestrained	Total	Unrestrained	% Unrestrained	Total	Unrestrained	% Unrestrained
All counties	**607**	**310**	**51.1**	**17,250**	**2,564**	**14.9**	**24,340**	**2,018**	**8.3**
Mean	7	3	46.6	188	28	19.6	265	22	13.4
Median	5	2	50.0	102	19	18	76	8	10
Minimum	0	0	0.0	11	0	0.0	6	0	0.0
Maximum	59	39	100.0	1,841	247	60.9	6,495	665	83.3
Adams	4	2	50.0	40	6	15.0	72	7	9.7
Allen	21	13	61.9	986	131	13.3	1,991	171	8.6
Bartholomew	10	7	70.0	308	36	11.7	390	40	10.3
Benton	1	1	100.0	19	3	15.8	12	3	25.0
Blackford	0	0	0.0	30	9	30.0	10	2	20.0
Boone	5	2	40.0	190	30	15.8	120	12	10.0
Brown	4	0	0.0	42	13	31.0	49	4	8.2
Carroll	2	1	50.0	57	13	22.8	26	6	23.1
Cass	8	4	50.0	92	10	10.9	104	20	19.2
Clark	14	9	64.3	401	47	11.7	439	29	6.6
Clay	3	1	33.3	114	35	30.7	38	6	15.8
Clinton	10	6	60.0	120	20	16.7	64	5	7.8
Crawford	1	1	100.0	22	9	40.9	21	3	14.3
Daviess	5	1	20.0	56	18	32.1	31	11	35.5
Dearborn	6	6	100.0	221	46	20.8	73	7	9.6
Decatur	0	0	0.0	74	27	36.5	57	7	12.3
DeKalb	3	2	66.7	113	16	14.2	98	5	5.1
Delaware	4	3	75.0	404	36	8.9	425	21	4.9
Dubois	2	1	50.0	102	19	18.6	142	9	6.3
Elkhart	16	7	43.8	665	56	8.4	509	15	2.9
Fayette	4	3	75.0	39	8	20.5	39	1	2.6
Floyd	9	6	66.7	212	18	8.5	218	8	3.7
Fountain	0	0	0.0	41	16	39.0	26	3	11.5
Franklin	3	0	0.0	64	13	20.3	17	3	17.6
Fulton	2	1	50.0	53	10	18.9	24	4	16.7
Gibson	14	6	42.9	140	25	17.9	83	12	14.5
Grant	5	2	40.0	167	48	28.7	157	28	17.8
Greene	9	5	55.6	97	24	24.7	56	15	26.8
Hamilton	7	1	14.3	614	47	7.7	774	18	2.3
Hancock	13	5	38.5	289	30	10.4	155	13	8.4
Harrison	6	2	33.3	180	31	17.2	82	6	7.3
Hendricks	5	2	40.0	408	70	17.2	320	40	12.5
Henry	3	2	66.7	172	24	14.0	107	3	2.8
Howard	7	3	42.9	298	46	15.4	244	21	8.6
Huntington	2	2	100.0	101	13	12.9	107	9	8.4
Jackson	8	3	37.5	143	33	23.1	122	24	19.7
Jasper	6	3	50.0	133	29	21.8	80	5	6.3
Jay	2	1	50.0	34	13	38.2	79	7	8.9
Jefferson	8	6	75.0	115	28	24.3	80	23	28.8
Jennings	8	4	50.0	72	17	23.6	49	8	16.3
Johnson	10	3	30.0	442	51	11.5	305	13	4.3
Knox	7	6	85.7	121	18	14.9	84	9	10.7
Kosciusko	13	7	53.8	35	6	17.1	460	29	6.3
LaGrange	5	3	60.0	23	14	60.9	114	18	15.8
Lake	35	22	62.9	1,841	189	10.3	1,685	82	4.9
LaPorte	22	9	40.9	372	41	11.0	375	21	5.6
Lawrence	8	2	25.0	174	35	20.1	131	11	8.4
Madison	10	2	20.0	485	50	10.3	243	12	4.9

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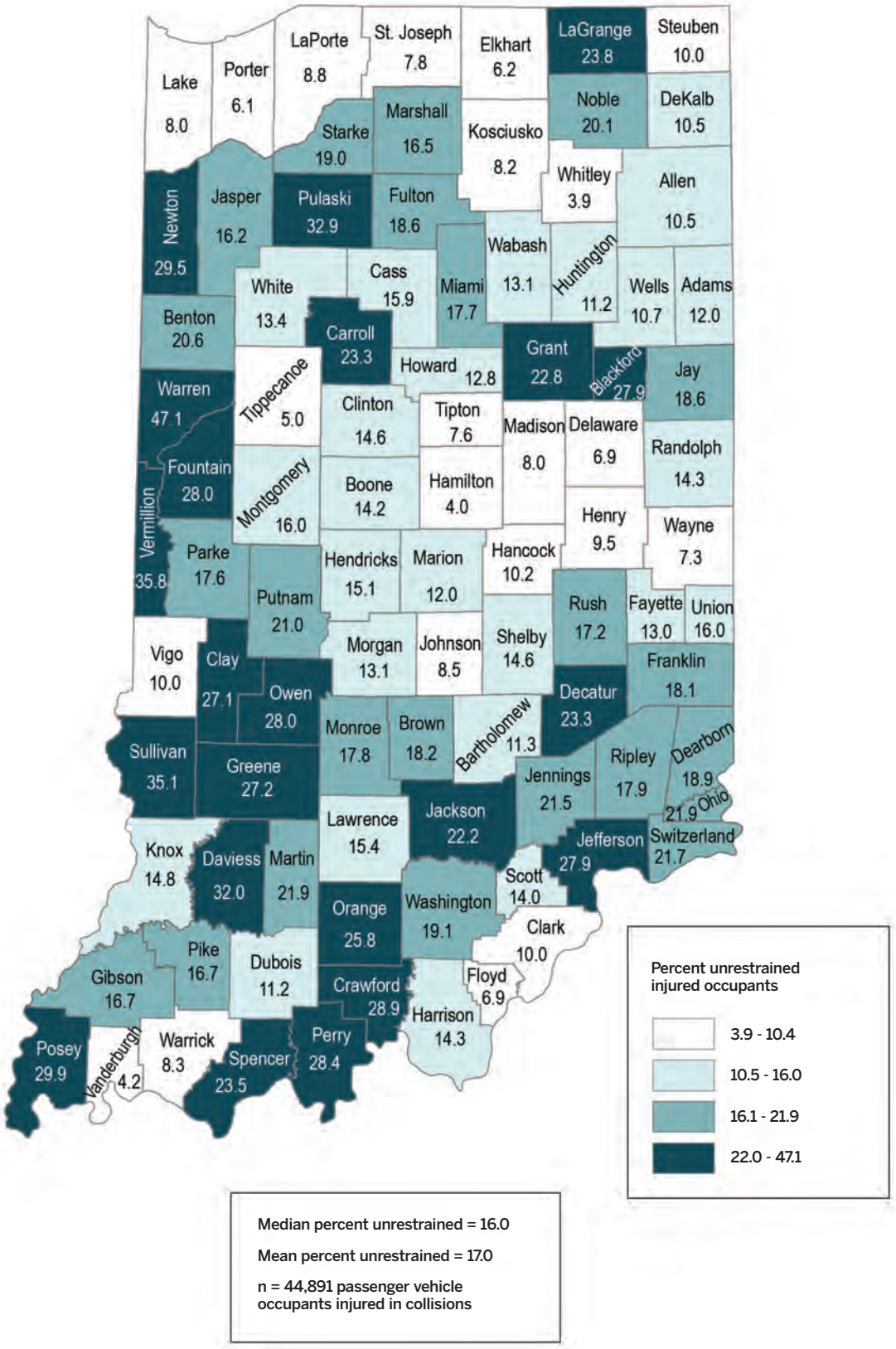
Table 2.5. *(continued)*

	Fatal			Incapacitating			Non-incapacitating		
	Total	Unrestrained	% Unrestrained	Total	Unrestrained	% Unrestrained	Total	Unrestrained	% Unrestrained
Marion	59	39	66.1	1,269	247	19.5	6,495	665	10.2
Marshall	2	1	50.0	102	23	22.5	140	18	12.9
Martin	2	0	0.0	17	7	41.2	12	0	0.0
Miami	7	2	28.6	125	26	20.8	61	8	13.1
Monroe	5	2	40.0	389	84	21.6	450	65	14.4
Montgomery	5	2	40.0	110	27	24.5	80	5	6.3
Morgan	3	2	66.7	238	40	16.8	149	8	5.4
Newton	6	3	50.0	55	19	34.5	22	4	18.2
Noble	7	5	71.4	120	29	24.2	137	23	16.8
Ohio	1	1	100.0	14	5	0.0	16	0	0.0
Orange	1	1	100.0	47	15	31.9	42	8	19.0
Owen	4	2	50.0	43	13	30.2	58	14	24.1
Parke	3	1	33.3	49	6	12.2	18	6	33.3
Perry	1	0	0.0	49	16	32.7	34	6	17.6
Pike	0	0	0.0	29	5	17.2	10	2	20.0
Porter	17	5	29.4	519	41	7.9	619	27	4.4
Posey	1	0	0.0	38	10	26.3	26	10	38.5
Pulaski	4	1	25.0	43	18	41.9	19	2	10.5
Putnam	7	3	42.9	114	21	18.4	52	13	25.0
Randolph	7	2	28.6	56	11	19.6	35	2	5.7
Ripley	6	2	33.3	93	20	21.5	44	4	9.1
Rush	0	0	0.0	35	4	11.4	24	7	29.2
St. Joseph	17	10	58.8	778	71	9.1	950	61	6.4
Scott	3	2	66.7	112	18	16.1	71	5	7.0
Shelby	3	1	33.3	159	25	15.7	113	11	9.7
Spencer	5	1	20.0	81	25	30.9	49	7	14.3
Starke	2	2	100.0	103	19	18.4	17	2	11.8
Steuben	4	0	0.0	87	6	6.9	80	10	12.5
Sullivan	2	2	100.0	51	19	37.3	27	8	29.6
Switzerland	0	0	0.0	14	3	21.4	7	2	28.6
Tippecanoe	14	9	64.3	113	9	8.0	1,081	43	4.0
Tipton	3	1	33.3	61	7	11.5	46	1	2.2
Union	2	2	100.0	11	0	0.0	10	2	20.0
Vanderburgh	12	2	16.7	80	10	12.5	1,543	63	4.1
Vermillion	5	4	80.0	35	8	22.9	16	8	50.0
Vigo	8	7	87.5	423	45	10.6	241	17	7.1
Wabash	0	0	0.0	95	10	10.5	63	12	19.0
Warren	3	2	66.7	21	7	33.3	6	5	83.3
Warrick	4	2	50.0	42	5	11.9	232	16	6.9
Washington	9	7	77.8	81	20	24.7	42	1	2.4
Wayne	2	0	0.0	163	19	11.7	147	5	3.4
Wells	2	2	100.0	59	5	8.5	60	7	11.7
White	4	0	0.0	94	14	14.9	52	6	11.5
Whitley	5	2	40.0	112	5	4.5	57	0	0.0

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) *Non-incapacitating* injuries include those reported as *non-incapacitating* and *possible*.
2) Includes only vehicle occupants (drivers and passengers). *Pedestrians, pedalcyclists* and *animal-drawn vehicle operators* are excluded.
3) Total counts include vehicle occupants identified as *restrained, unrestrained,* and *unknown* restraint usage.

Map 2.7. Percentage of unrestrained injured passenger vehicle occupants in Indiana collisions by county, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.6. Young drivers (ages 15-20) involved in Indiana collisions, by injury status and county, 2017

County	All drivers in collisions	Young drivers in collisions									
		Total		Fatal		Incapacitating		Non-incapacitating		Other/no injury	
		Count	As % of total drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions
All counties	**341,914**	**44,633**	**13.1**	**47**	**0.1**	**1,637**	**3.7**	**2,467**	**5.5**	**40,482**	**90.7**
Mean	3,716	485	14.4	1	0.2	18	5.7	27	5.4	440	88.6
Median	1,471	210	14.3	0	0.0	11	4.8	11	4.6	189	90.2
Minimum	130	20	10.2	0	0.0	1	0.0	0	0.0	15	62.5
Maximum	62,565	6,382	18.9	4	5.0	110	20.0	515	25.0	5,766	96.3
Adams	1,012	145	14.3	1	0.7	5	3.4	11	7.6	128	88.3
Allen	22,005	3,244	14.7	1	0.0	92	2.8	197	6.1	2,954	91.1
Bartholomew	3,343	454	13.6	0	0.0	32	7.0	45	9.9	377	83.0
Benton	190	30	15.8	0	0.0	6	20.0	3	10.0	21	70.0
Blackford	390	54	13.8	0	0.0	6	11.1	0	0.0	48	88.9
Boone	3,031	387	12.8	1	0.3	19	4.9	17	4.4	350	90.4
Brown	757	105	13.9	1	1.0	5	4.8	12	11.4	87	82.9
Carroll	665	103	15.5	0	0.0	12	11.7	9	8.7	82	79.6
Cass	1,843	232	12.6	1	0.4	12	5.2	13	5.6	206	88.8
Clark	7,188	859	12.0	0	0.0	27	3.1	50	5.8	782	91.0
Clay	1,029	141	13.7	0	0.0	10	7.1	3	2.1	128	90.8
Clinton	1,604	248	15.5	0	0.0	17	6.9	6	2.4	225	90.7
Crawford	436	48	11.0	1	2.1	4	8.3	3	6.3	40	83.3
Daviess	453	65	14.3	0	0.0	6	9.2	5	7.7	54	83.1
Dearborn	2,652	421	15.9	1	0.2	41	9.7	9	2.1	370	87.9
Decatur	1,231	193	15.7	0	0.0	10	5.2	11	5.7	172	89.1
DeKalb	2,026	288	14.2	0	0.0	12	4.2	18	6.3	258	89.6
Delaware	6,282	985	15.7	0	0.0	56	5.7	43	4.4	886	89.9
Dubois	2,230	363	16.3	1	0.3	13	3.6	31	8.5	318	87.6
Elkhart	11,987	1,581	13.2	3	0.2	72	4.6	38	2.4	1,468	92.9
Fayette	764	97	12.7	1	1.0	4	4.1	3	3.1	89	91.8
Floyd	4,673	647	13.8	0	0.0	18	2.8	21	3.2	608	94.0
Fountain	577	85	14.7	0	0.0	3	3.5	3	3.5	79	92.9
Franklin	653	120	18.4	0	0.0	11	9.2	4	3.3	105	87.5
Fulton	803	121	15.1	0	0.0	4	3.3	6	5.0	111	91.7
Gibson	1,630	234	14.4	1	0.4	15	6.4	18	7.7	200	85.5
Grant	3,330	437	13.1	0	0.0	17	3.9	14	3.2	406	92.9
Greene	1,196	156	13.0	0	0.0	11	7.1	11	7.1	134	85.9
Hamilton	15,303	2,172	14.2	0	0.0	62	2.9	81	3.7	2,029	93.4
Hancock	3,083	499	16.2	0	0.0	23	4.6	18	3.6	458	91.8
Harrison	1,822	266	14.6	0	0.0	21	7.9	15	5.6	230	86.5
Hendricks	7,516	1,209	16.1	0	0.0	46	3.8	46	3.8	1,117	92.4
Henry	1,516	199	13.1	0	0.0	17	8.5	10	5.0	172	86.4
Howard	4,388	598	13.6	1	0.2	30	5.0	28	4.7	539	90.1
Huntington	1,642	235	14.3	0	0.0	10	4.3	12	5.1	213	90.6
Jackson	2,395	322	13.4	0	0.0	15	4.7	16	5.0	291	90.4
Jasper	1,652	230	13.9	0	0.0	9	3.9	9	3.9	212	92.2
Jay	774	94	12.1	1	1.1	3	3.2	15	16.0	75	79.8
Jefferson	1,591	239	15.0	0	0.0	9	3.8	14	5.9	216	90.4
Jennings	1,121	161	14.4	1	0.6	7	4.3	5	3.1	148	91.9
Johnson	6,297	918	14.6	0	0.0	40	4.4	24	2.6	854	93.0
Knox	1,340	225	16.8	0	0.0	15	6.7	15	6.7	195	86.7
Kosciusko	4,110	588	14.3	2	0.3	5	0.9	49	8.3	532	90.5
LaGrange	1,357	201	14.8	2	1.0	2	1.0	15	7.5	182	90.5
Lake	28,411	3,010	10.6	1	0.0	110	3.7	130	4.3	2,769	92.0
LaPorte	5,484	664	12.1	1	0.2	30	4.5	40	6.0	593	89.3
Lawrence	2,210	343	15.5	0	0.0	25	7.3	27	7.9	291	84.8
Madison	6,467	786	12.2	2	0.3	34	4.3	21	2.7	729	92.7

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Table 2.6. *(continued)*

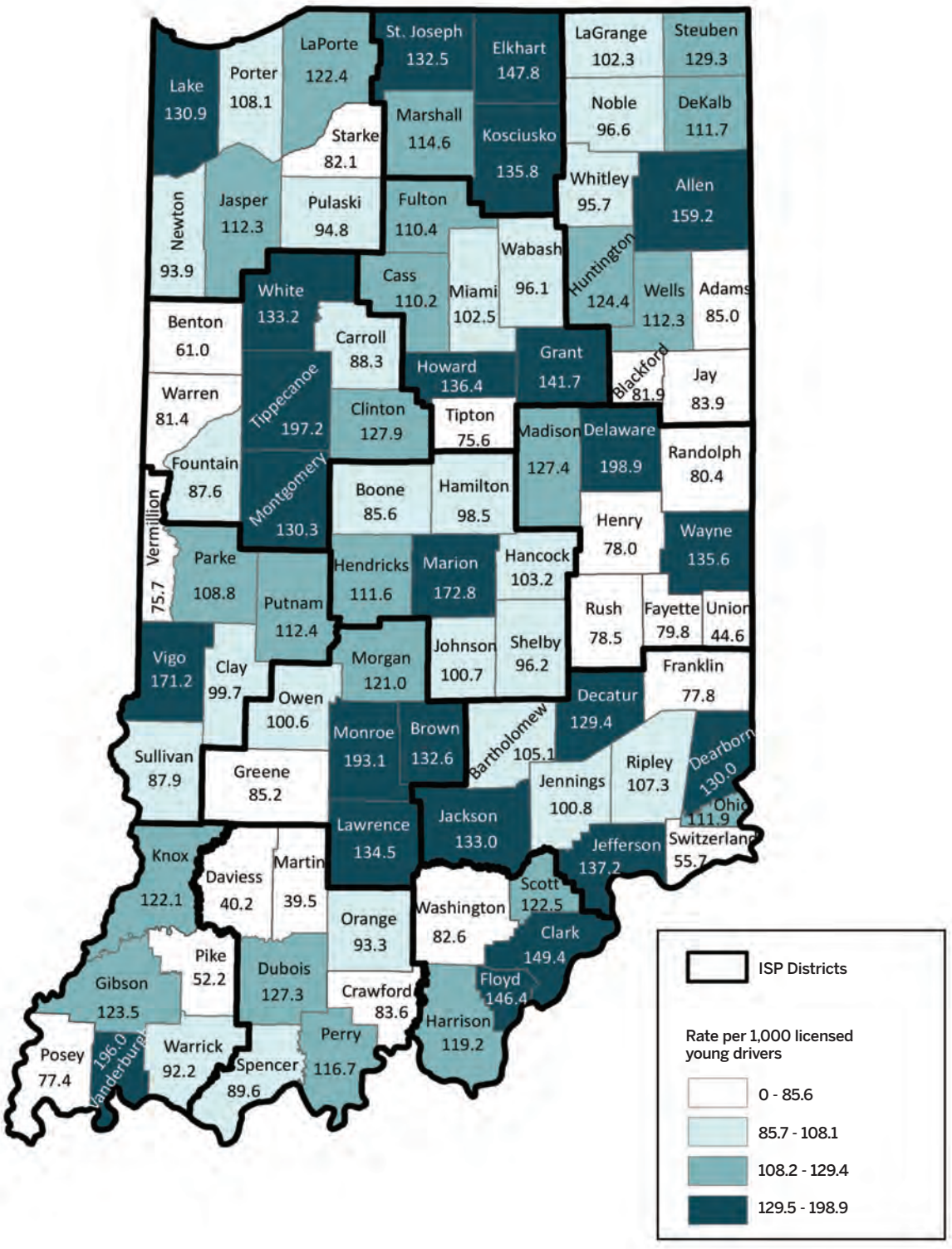
County	All drivers in collisions	Young drivers in collisions									
		Total		Fatal		Incapacitating		Non-incapacitating		Other/no injury	
		Count	As % of total drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions	Count	As % of all young drivers in collisions
Marion	62,565	6,382	10.2	4	0.1	97	1.5	515	8.1	5,766	90.3
Marshall	2,193	311	14.2	1	0.3	16	5.1	15	4.8	279	89.7
Martin	155	24	15.5	0	0.0	3	12.5	6	25.0	15	62.5
Miami	1,466	190	13.0	1	0.5	9	4.7	8	4.2	172	90.5
Monroe	6,411	1,098	17.1	0	0.0	27	2.5	50	4.6	1,021	93.0
Montgomery	1,607	264	16.4	0	0.0	14	5.3	9	3.4	241	91.3
Morgan	3,062	517	16.9	1	0.2	29	5.6	19	3.7	468	90.5
Newton	482	78	16.2	0	0.0	9	11.5	5	6.4	64	82.1
Noble	1,883	270	14.3	2	0.7	10	3.7	11	4.1	247	91.5
Ohio	212	33	15.6	0	0.0	6	18.2	3	9.1	24	72.7
Orange	777	105	13.5	0	0.0	4	3.8	4	3.8	97	92.4
Owen	840	117	13.9	0	0.0	4	3.4	7	6.0	106	90.6
Parke	543	80	14.7	0	0.0	8	10.0	3	3.8	69	86.3
Perry	691	107	15.5	0	0.0	6	5.6	9	8.4	92	86.0
Pike	185	35	18.9	0	0.0	5	14.3	0	0.0	30	85.7
Porter	8,280	1,046	12.6	2	0.2	47	4.5	67	6.4	930	88.9
Posey	772	114	14.8	0	0.0	5	4.4	4	3.5	105	92.1
Pulaski	546	69	12.6	0	0.0	6	8.7	3	4.3	60	87.0
Putnam	1,403	217	15.5	2	0.9	12	5.5	6	2.8	197	90.8
Randolph	701	109	15.5	2	1.8	6	5.5	6	5.5	95	87.2
Ripley	1,124	204	18.1	1	0.5	14	6.9	8	3.9	181	88.7
Rush	471	75	15.9	0	0.0	2	2.7	2	2.7	71	94.7
St. Joseph	13,968	1,679	12.0	1	0.1	36	2.1	68	4.1	1,574	93.7
Scott	973	149	15.3	0	0.0	9	6.0	4	2.7	136	91.3
Shelby	1,849	230	12.4	0	0.0	17	7.4	17	7.4	196	85.2
Spencer	776	114	14.7	0	0.0	8	7.0	4	3.5	102	89.5
Starke	841	98	11.7	0	0.0	7	7.1	2	2.0	89	90.8
Steuben	1,958	216	11.0	0	0.0	4	1.9	9	4.2	203	94.0
Sullivan	609	103	16.9	0	0.0	3	2.9	4	3.9	96	93.2
Switzerland	155	27	17.4	0	0.0		0.0	1	3.7	26	96.3
Tippecanoe	11,087	1,584	14.3	2	0.1	12	0.8	125	7.9	1,445	91.2
Tipton	545	72	13.2	0	0.0	7	9.7	6	8.3	59	81.9
Union	130	20	15.4	1	5.0		0.0	1	5.0	18	90.0
Vanderburgh	12,015	1,560	13.0	1	0.1	7	0.4	145	9.3	1,407	90.2
Vermillion	438	64	14.6	0	0.0	9	14.1	0	0.0	55	85.9
Vigo	5,750	812	14.1	0	0.0	44	5.4	29	3.6	739	91.0
Wabash	1,213	166	13.7	1	0.6	11	6.6	5	3.0	149	89.8
Warren	272	42	15.4	0	0.0	2	4.8	1	2.4	39	92.9
Warrick	2,413	360	14.9	0	0.0	1	0.3	38	10.6	321	89.2
Washington	927	127	13.7	0	0.0	8	6.3	7	5.5	112	88.2
Wayne	3,324	411	12.4	0	0.0	15	3.6	10	2.4	386	93.9
Wells	1,084	184	17.0	0	0.0	11	6.0	17	9.2	156	84.8
White	1,284	183	14.3	1	0.5	18	9.8	8	4.4	156	85.2
Whitley	1,475	185	12.5	0	0.0	16	8.6	12	6.5	157	84.9

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) *Non-incapacitating* injuries include those reported as *non-incapacitating* and *possible* injuries.
2) *Other/no injury* counts include injury type values identified as *not reported, refused, unknown,* invalid and missing codes.

Map 2.8. Young drivers (ages 15-20) involved in collisions per 1,000 licensed young drivers, 2017

Median rate = 108.5 Mean rate = 109.9 n = 41,364 young drivers



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.7. Indiana collisions involving motorcycles, by severity and county, 2017

	Total		Fatal		Non-fatal injury		Property damage only	
County	Count	Motorcycle collisions as % of total collisions	Count	Motorcycle collisions as % of total fatal collisions	Count	Motorcycle collisions as % of total non-fatal injury collisions	Count	Motorcycle collisions as % of total property damage collisions
All counties	**3,131**	**1.4**	**144**	**13.8**	**1,998**	**5.8**	**989**	**0.5**
Mean	34	1.8	2	17.3	22	7.8	11	0.7
Median	18	1.6	1	14.3	12	7.0	5	0.5
Minimum	0	0.0	0	0.0	0	0.0	0	0.0
Maximum	374	5.6	13	100.0	251	26.3	111	2.9
Adams	11	1.5	3	37.5	6	6.1	2	0.3
Allen	208	1.5	13	32.5	143	5.8	52	0.4
Bartholomew	45	2.2	2	13.3	36	6.5	7	0.5
Benton	0	0.0	0	0.0	0	0.0	0	0.0
Blackford	7	2.4	1	100.0	3	9.7	3	1.1
Boone	25	1.2	2	28.6	14	5.4	9	0.5
Brown	31	5.2	2	28.6	18	20.7	11	2.2
Carroll	13	2.5	0	0.0	10	13.3	3	0.7
Cass	23	1.8	0	0.0	20	11.1	3	0.3
Clark	46	1.0	1	7.1	29	4.4	16	0.4
Clay	17	2.4	0	0.0	14	11.2	3	0.5
Clinton	17	1.5	0	0.0	11	7.6	6	0.6
Crawford	5	1.3	0	0.0	3	6.8	2	0.6
Daviess	2	0.6	0	0.0	2	2.4	0	0.0
Dearborn	22	1.2	0	0.0	15	6.8	7	0.4
Decatur	13	1.5	0	0.0	8	6.7	5	0.7
DeKalb	24	1.7	1	25.0	16	7.9	7	0.6
Delaware	53	1.3	2	25.0	38	6.0	13	0.4
Dubois	27	1.7	2	40.0	17	8.1	8	0.6
Elkhart	128	1.7	5	20.8	69	7.1	54	0.8
Fayette	6	1.2	0	0.0	3	4.6	3	0.7
Floyd	38	1.3	2	20.0	21	5.8	15	0.6
Fountain	6	1.4	0	0.0	6	10.3	0	0.0
Franklin	20	3.9	1	25.0	13	16.5	6	1.4
Fulton	12	1.9	1	33.3	6	9.4	5	0.9
Gibson	16	1.5	3	18.8	6	3.4	7	0.8
Grant	55	2.4	2	25.0	34	11.6	19	0.9
Greene	14	1.5	1	9.1	9	7.0	4	0.5
Hamilton	89	1.0	3	30.0	49	4.4	37	0.5
Hancock	21	1.1	1	6.7	15	4.6	5	0.3
Harrison	28	2.1	4	44.4	19	8.6	5	0.5
Hendricks	48	1.0	1	12.5	27	4.6	20	0.5
Henry	15	1.4	0	0.0	9	4.1	6	0.7
Howard	51	1.9	3	27.3	30	7.0	18	0.8
Huntington	18	1.5	1	25.0	14	7.9	3	0.3
Jackson	29	1.7	1	10.0	17	7.9	11	0.7
Jasper	16	1.3	1	14.3	11	6.2	4	0.4
Jay	8	1.4	0	0.0	4	4.7	4	0.8
Jefferson	27	2.6	1	12.5	14	9.0	12	1.4
Jennings	8	1.0	0	0.0	5	4.9	3	0.5
Johnson	35	1.0	0	0.0	19	3.3	16	0.5
Knox	20	2.2	1	14.3	17	9.8	2	0.3
Kosciusko	43	1.6	2	14.3	28	6.7	13	0.6
LaGrange	21	2.0	2	22.2	12	9.0	7	0.8
Lake	173	1.0	3	6.1	100	3.5	70	0.5
LaPorte	46	1.2	1	4.8	32	5.1	13	0.4
Lawrence	39	2.5	2	16.7	25	10.0	12	0.9
Madison	65	1.6	3	23.1	44	7.3	18	0.5

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Table 2.7. *(continued)*

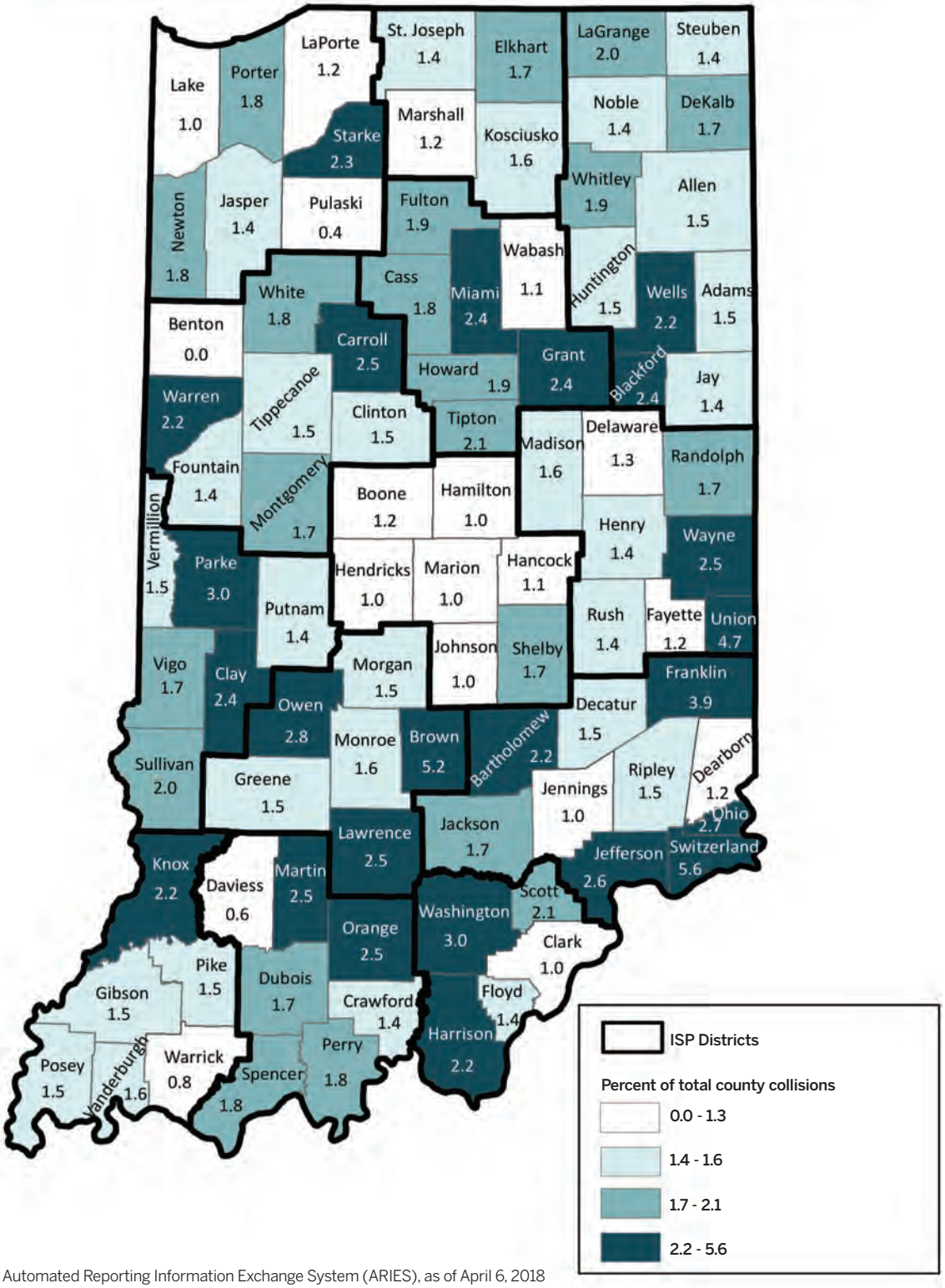
County	Total		Fatal		Non-fatal injury		Property damage only	
	Count	Motorcycle collisions as % of total collisions	Count	Motorcycle collisions as % of total fatal collisions	Count	Motorcycle collisions as % of total non-fatal injury collisions	Count	Motorcycle collisions as % of total property damage collisions
Marion	374	1.0	12	12.2	251	4.0	111	0.4
Marshall	19	1.2	2	33.3	14	6.9	3	0.2
Martin	3	2.5	0	0.0	3	10.7	0	0.0
Miami	26	2.4	2	28.6	12	8.5	12	1.3
Monroe	67	1.6	4	50.0	48	6.4	15	0.4
Montgomery	18	1.6	0	0.0	14	8.4	4	0.4
Morgan	29	1.5	1	25.0	16	5.2	12	0.7
Newton	7	1.8	1	16.7	5	7.0	1	0.3
Noble	20	1.4	0	0.0	15	7.7	5	0.4
Ohio	5	2.7	0	0.0	3	10.3	2	1.3
Orange	15	2.5	0	0.0	8	9.3	7	1.3
Owen	17	2.8	0	0.0	12	14.3	5	1.0
Parke	14	3.0	0	0.0	9	15.5	5	1.2
Perry	9	1.8	0	0.0	8	11.4	1	0.2
Pike	2	1.5	0	0.0	2	5.9	0	0.0
Porter	91	1.8	6	24.0	64	6.9	21	0.5
Posey	9	1.5	1	33.3	6	9.8	2	0.4
Pulaski	2	0.4	0	0.0	0	0.0	2	0.5
Putnam	15	1.4	0	0.0	11	7.5	4	0.5
Randolph	9	1.7	1	14.3	6	8.0	2	0.5
Ripley	12	1.5	0	0.0	4	3.8	8	1.1
Rush	5	1.4	0	0.0	2	3.7	3	1.0
St. Joseph	130	1.4	7	29.2	84	5.8	39	0.5
Scott	13	2.1	0	0.0	9	6.9	4	0.8
Shelby	21	1.6	1	14.3	14	5.6	6	0.6
Spencer	10	1.8	1	16.7	7	6.9	2	0.4
Starke	14	2.3	2	66.7	7	8.6	5	0.9
Steuben	20	1.3	0	0.0	13	9.9	7	0.5
Sullivan	9	2.0	0	0.0	4	5.7	5	1.3
Switzerland	7	5.6	2	100.0	5	26.3	0	0.0
Tippecanoe	107	1.5	5	26.3	71	6.9	31	0.5
Tipton	8	2.1	1	25.0	4	4.7	3	1.0
Union	4	4.7	0	0.0	2	13.3	2	2.9
Vanderburgh	108	1.6	7	36.8	75	5.7	26	0.5
Vermillion	5	1.5	0	0.0	3	8.6	2	0.7
Vigo	66	1.7	4	30.8	33	5.7	29	0.9
Wabash	10	1.1	1	100.0	6	4.9	3	0.4
Warren	5	2.1	0	0.0	4	16.0	1	0.5
Warrick	13	0.8	0	0.0	9	4.2	4	0.3
Washington	20	3.0	2	18.2	12	11.8	6	1.1
Wayne	58	2.5	3	42.9	27	9.4	28	1.4
Wells	16	2.1	1	25.0	12	11.4	3	0.5
White	16	1.8	1	20.0	11	8.3	4	0.5
Whitley	19	1.9	2	28.6	12	8.2	5	0.6

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) Percent calculations represent the percent of total county collisions (presented in Table 2.1) in each injury category that involved a *motorcycle* or *moped*.
2) *Non-fatal* injury collisions include collisions with *incapacitating*, *non-incapacitating* and *possible* injuries.
3) Motorcycles are defined as vehicles reported as *motorcycle, moped, class A* and *B motor driven cycles*, and *motorized bicycle* riders.

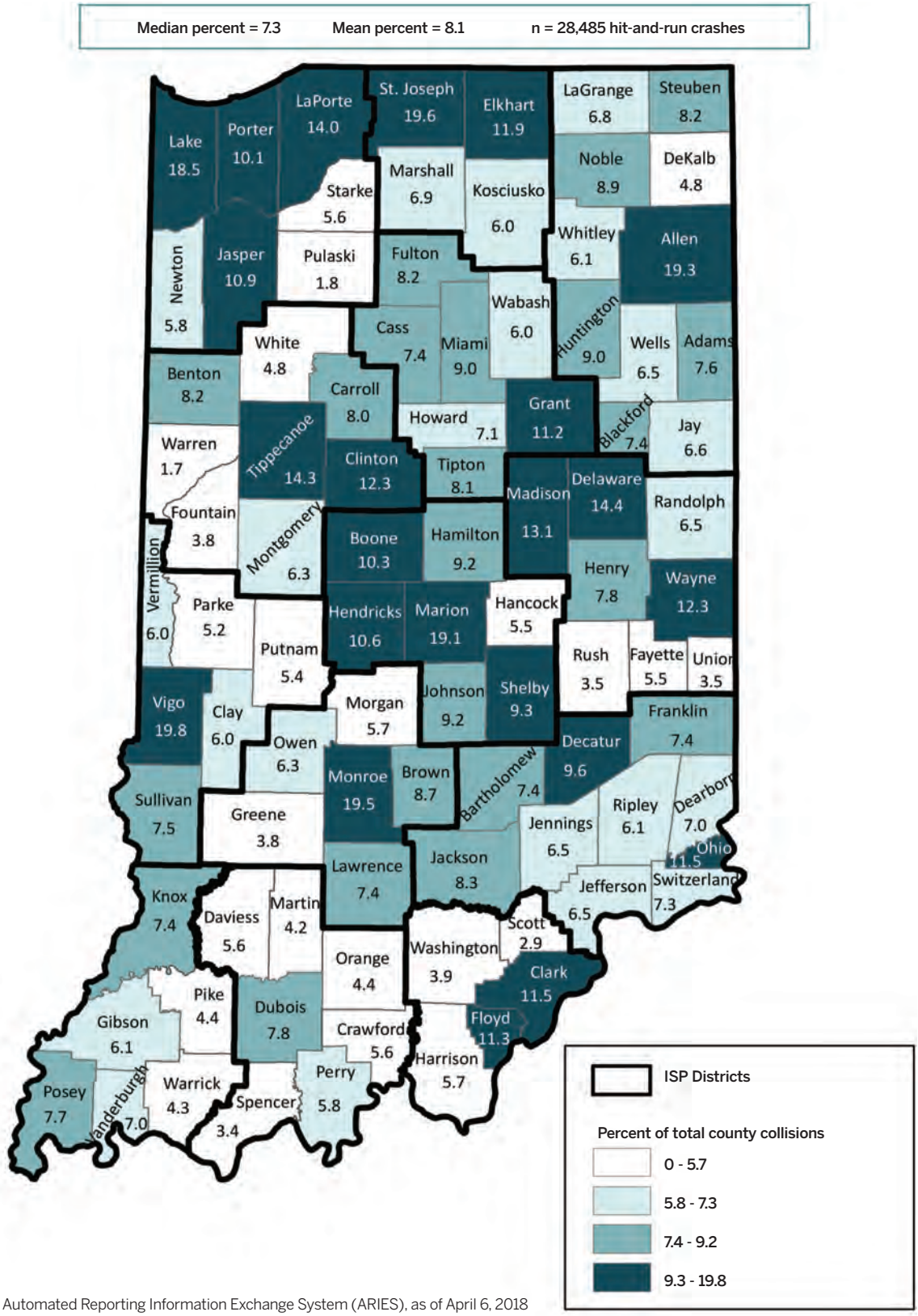
Map 2.9. Percentage of county collisions that involved a motorcycle, 2017

Median percent = 1.6 Mean percent = 1.8 n = 3,131 motorcycle-involved crashes



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Map 2.10. Percentage of county collisions that involved a hit-and-run driver, 2017



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Table 2.8. County ranks by collision metric, 2017

Low — High

County	Collision metric						County rank composite
	Fatalities per 100K population	Speed-related collisions as % of total collisions	Alcohol-impaired collisions as % of total collisions	Motorcycle collisions as % of total collisions	Unrestrained passenger vehicle injuries as % total injuries	Young drivers as % of total drivers in collisions	
Adams	86	68	91	64	37	6	74
Allen	73	49	26	70	31	43	60
Bartholomew	40	64	31	61	20	67	54
Benton	20	80	65	92	1	12	44
Blackford	16	89	84	80	78	7	76
Boone	83	58	46	78	54	58	86
Brown	85	26	10	1	78	11	19
Carroll	14	29	59	62	37	5	16
Cass	19	22	54	15	37	10	3
Clark	77	83	69	74	28	86	90
Clay	34	75	12	58	61	28	42
Clinton	58	40	24	22	32	23	12
Crawford	36	21	62	3	1	81	15
Daviess	47	43	1	24	73	15	13
Dearborn	69	54	44	41	1	26	30
Decatur	1	23	75	35	78	60	46
DeKalb	42	17	41	44	21	73	31
Delaware	76	37	78	69	16	14	59
Dubois	84	62	23	50	37	30	55
Elkhart	81	8	85	56	49	76	79
Fayette	55	88	42	82	16	69	74
Floyd	66	79	52	77	21	63	80
Fountain	59	45	39	36	78	36	61
Franklin	52	3	35	7	78	4	5
Fulton	70	51	87	37	37	83	82
Gibson	11	52	13	51	50	49	25
Grant	41	34	68	23	54	77	65
Greene	21	39	64	85	35	35	50
Hamilton	88	73	60	86	77	64	92
Hancock	71	61	53	66	59	29	70
Harrison	8	76	73	39	61	32	57
Hendricks	65	56	79	79	54	21	76
Henry	26	24	11	8	21	66	2
Howard	27	71	33	19	50	56	36
Huntington	51	19	77	38	1	44	26
Jackson	74	47	47	54	60	72	76
Jasper	25	50	51	52	37	53	42
Jay	50	92	89	55	37	84	89
Jefferson	45	82	80	6	16	52	51
Jennings	12	77	40	83	37	16	38
Johnson	89	72	57	40	67	41	83
Knox	80	41	18	42	13	2	11
Kosciusko	24	46	70	72	36	25	47
LaGrange	46	2	49	60	32	34	23
Lake	68	12	63	88	30	90	73
LaPorte	39	28	19	53	53	89	51
Lawrence	53	65	83	11	71	61	72
Madison	72	66	36	47	73	74	84

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Table 2.8. *(continued)*

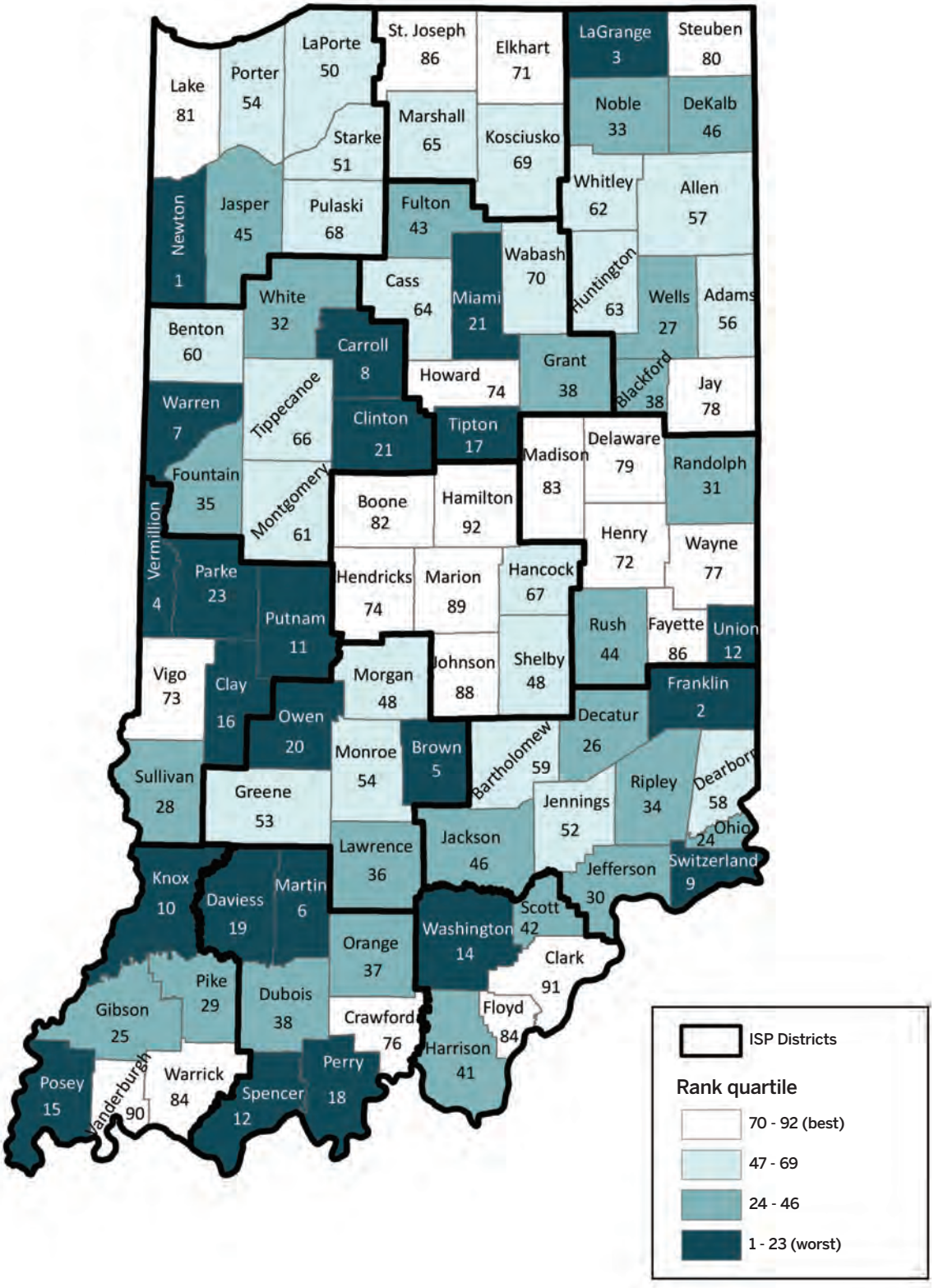
Low — High

County	Collision metric						County rank composite
	Fatalities per 100K population	Speed-related collisions as % of total collisions	Alcohol-impaired collisions as % of total collisions	Motorcycle collisions as % of total collisions	Unrestrained passenger vehicle injuries as % total injuries	Young drivers as % of total drivers in collisions	
Marion	64	55	71	81	27	92	88
Marshall	31	33	15	84	37	70	44
Martin	30	6	14	2	78	85	21
Miami	61	10	25	10	69	57	28
Monroe	62	42	66	34	54	8	39
Montgomery	44	53	50	75	54	13	57
Morgan	28	59	55	13	21	33	18
Newton	23	32	8	48	37	55	13
Noble	78	13	30	30	19	22	10
Ohio	7	35	5	71	1	24	1
Orange	67	70	67	87	1	48	71
Owen	18	87	21	25	37	78	39
Parke	3	20	32	9	61	59	7
Perry	87	57	16	18	78	37	61
Pike	2	5	9	59	78	9	4
Porter	60	25	27	43	68	71	64
Posey	82	4	6	57	78	50	49
Pulaski	43	36	90	32	71	87	81
Putnam	91	9	58	20	50	39	41
Randolph	9	91	4	29	69	51	34
Ripley	6	63	48	14	61	42	29
Rush	37	60	92	89	78	27	87
St. Joseph	79	31	74	68	34	88	85
Scott	4	78	43	26	21	40	20
Shelby	15	16	29	16	61	54	9
Spencer	49	81	17	91	73	3	67
Starke	22	44	45	12	1	82	16
Steuben	5	14	76	67	78	80	69
Sullivan	32	74	28	27	1	68	26
Switzerland	35	85	3	4	78	17	22
Tippecanoe	90	7	61	65	28	31	53
Tipton	29	1	82	33	61	18	24
Union	92	69	20	5	1	1	8
Vanderburgh	75	90	81	63	76	62	91
Vermillion	33	11	2	28	14	91	5
Vigo	54	84	72	45	12	47	67
Wabash	10	30	38	21	78	79	36
Warren	17	15	88	90	21	45	48
Warrick	56	67	34	73	37	19	55
Washington	63	86	7	49	15	20	32
Wayne	48	38	37	17	78	75	61
Wells	13	48	86	46	1	46	32
White	57	18	56	31	78	65	66
Whitley	38	27	22	76	54	38	35

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Notes:
1) A collision is identified as speed-related if any one of the following conditions is met: (1) unsafe speed or speed too fast for weather conditions is listed as the primary or contributing factor of the collision; (2) a vehicle driver is issued a speeding citation.
2) A collision is considered alcohol-impaired when any vehicle driver involved has a BAC test result at or above 0.08 g/dL.
3) *Motorcycle* collisions defined as collisions with at least one *motorcycle, moped, class A and B motor driven cycles*, or *motorized bicycle* is involved.
4) Young drivers are drivers ages 15 to 20.
5) Ties received the same rank.
6) County rank composite is the rank of the average county rankings across the six collision metrics presented in previous tables.
7) Color scale depicts rankings from high (1) to low (92) for each individual collision metric.

Map 2.11. County rank, composite (average, six metrics), 2017



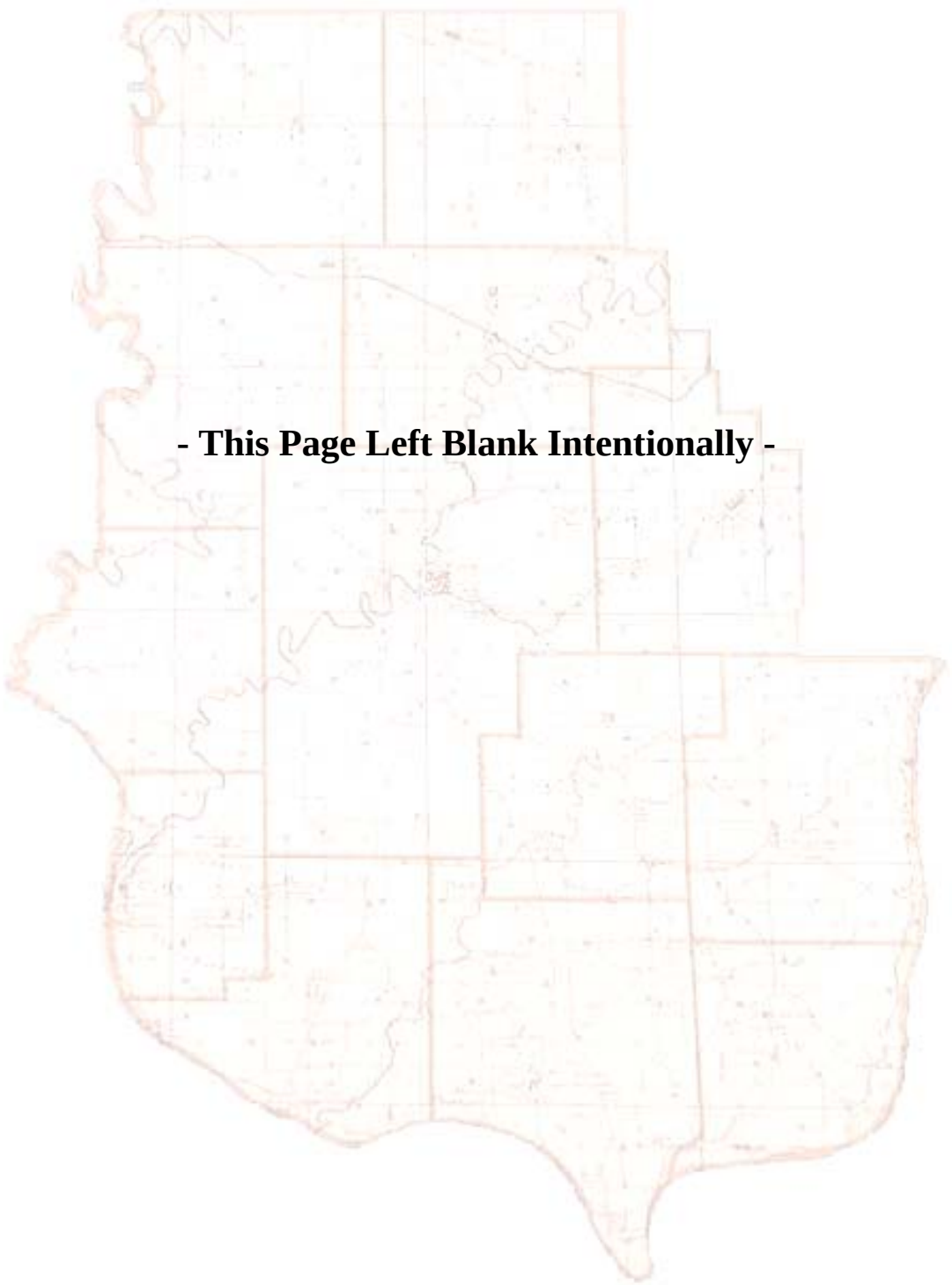
Sources: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

Note: Duplicate ranks indicate tie values in composite ranking calculations.

Appendix B

Indiana LTAP

Crash Heat Maps



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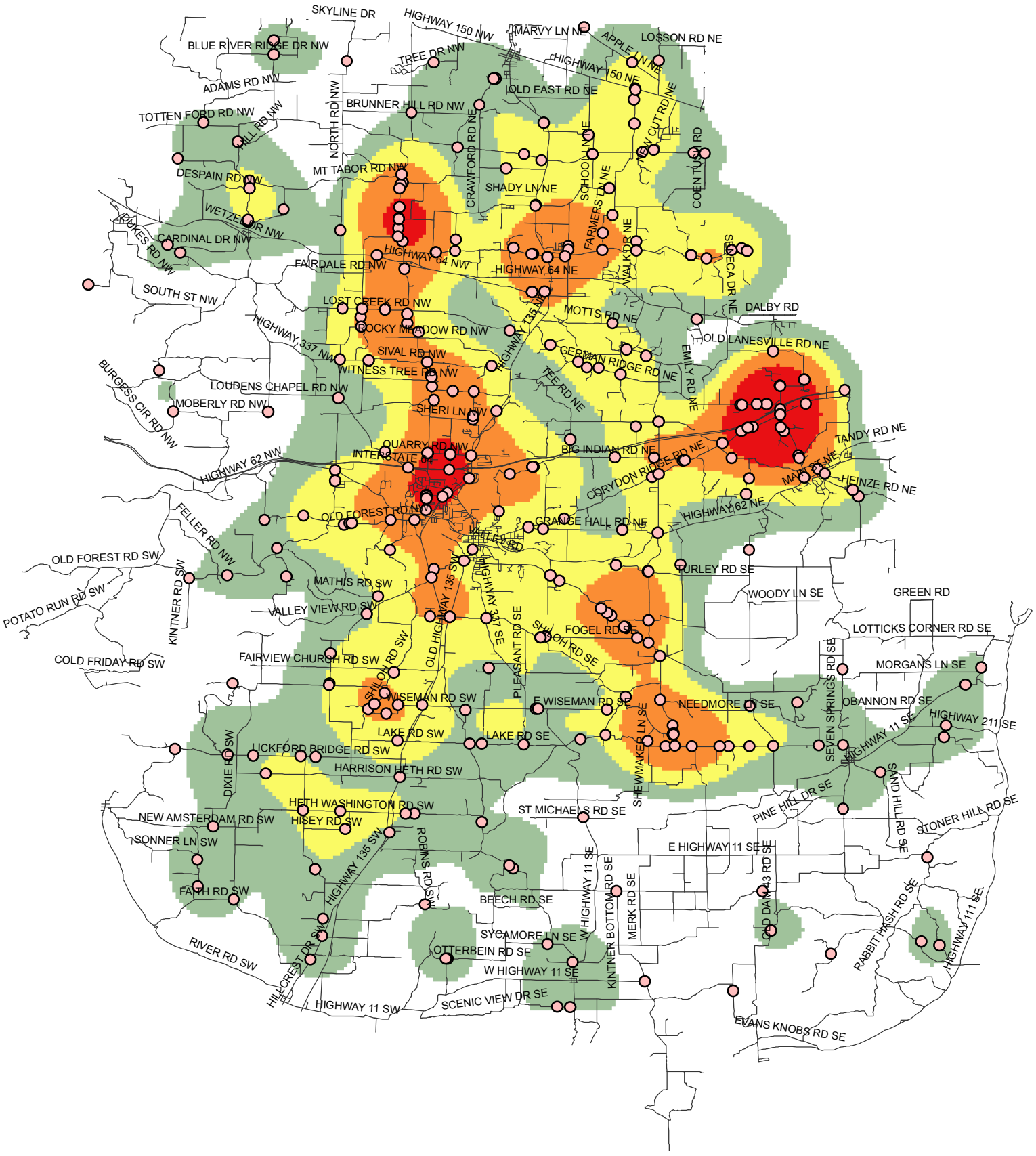
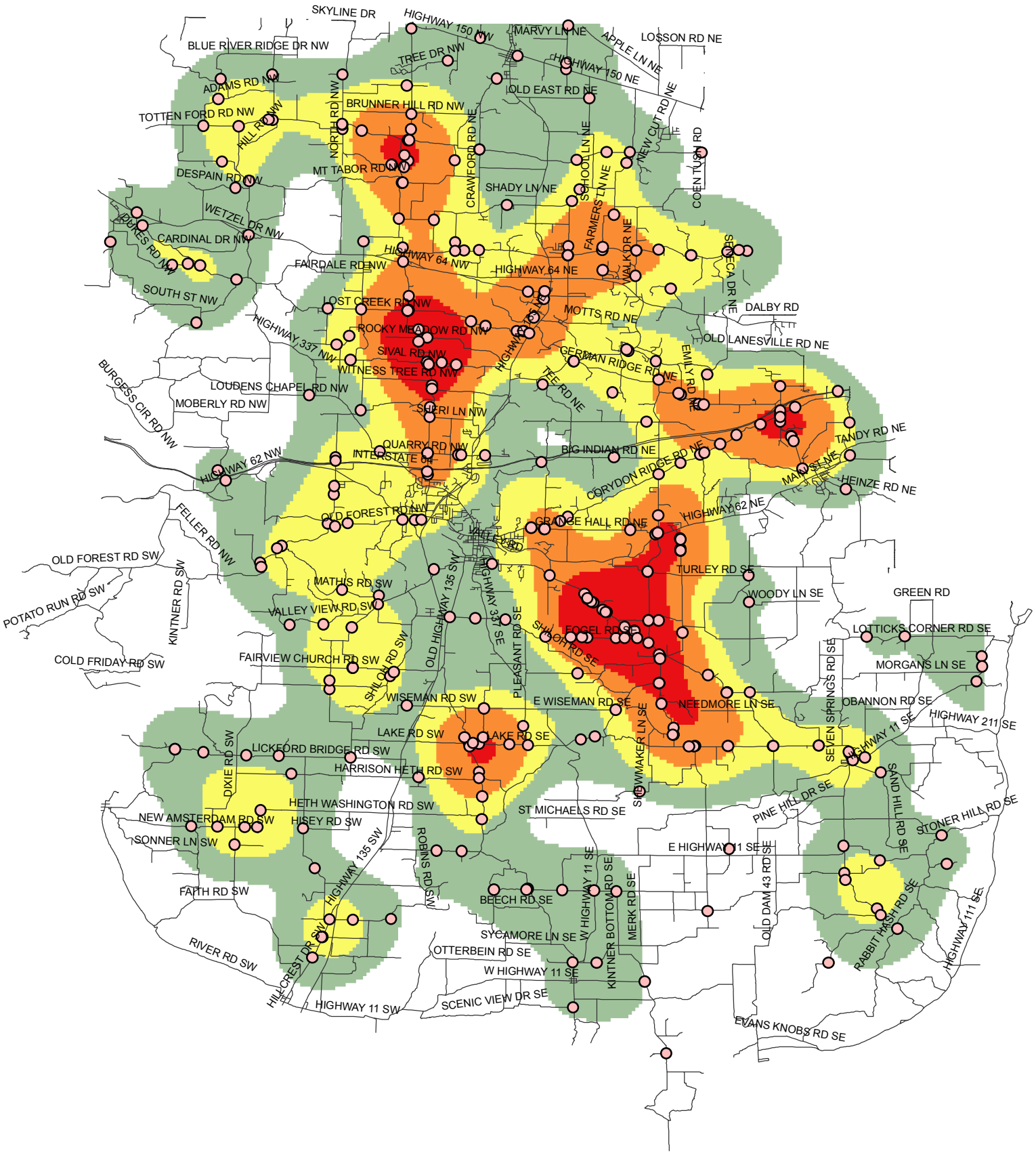
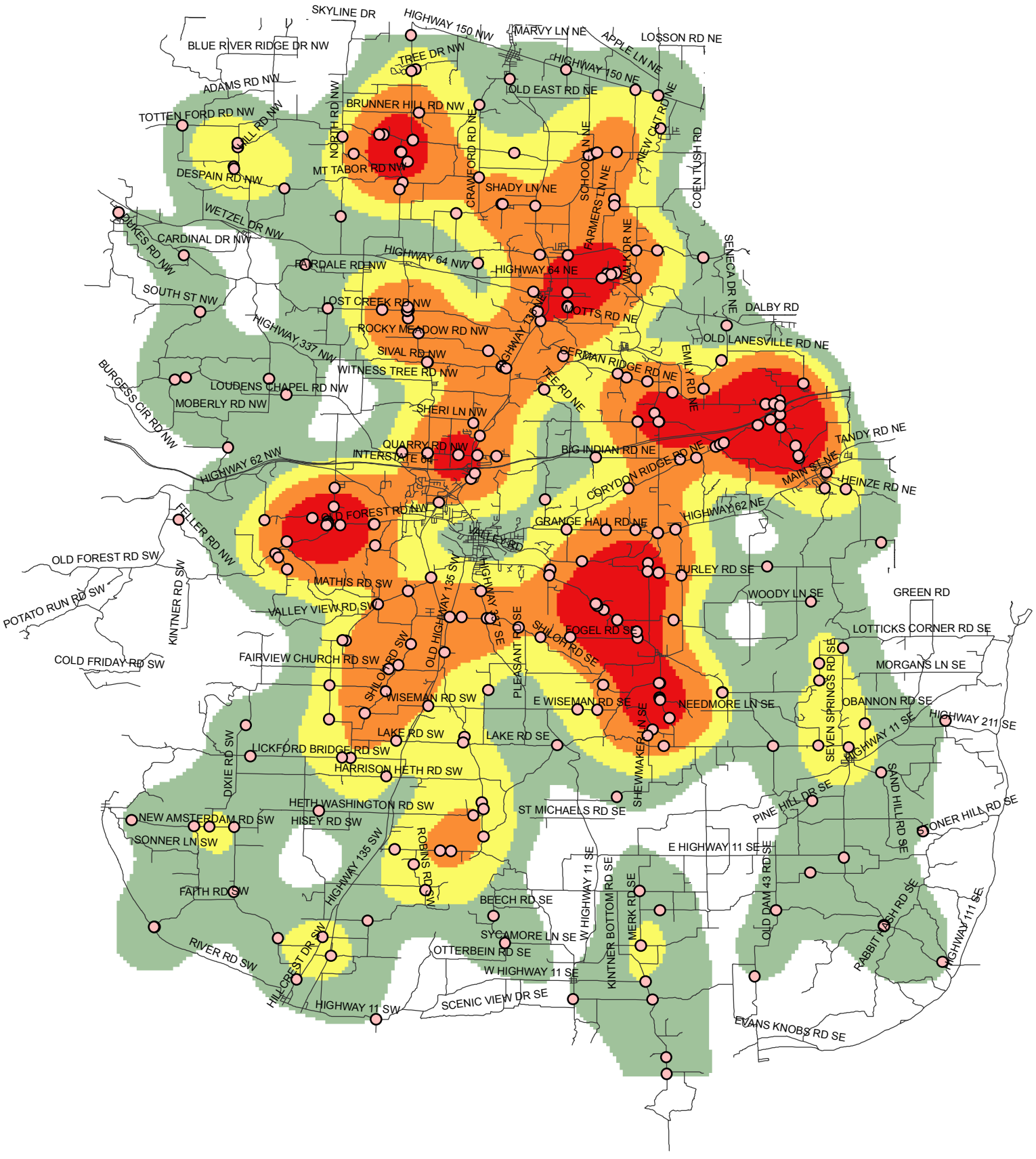
Harrison County
2006



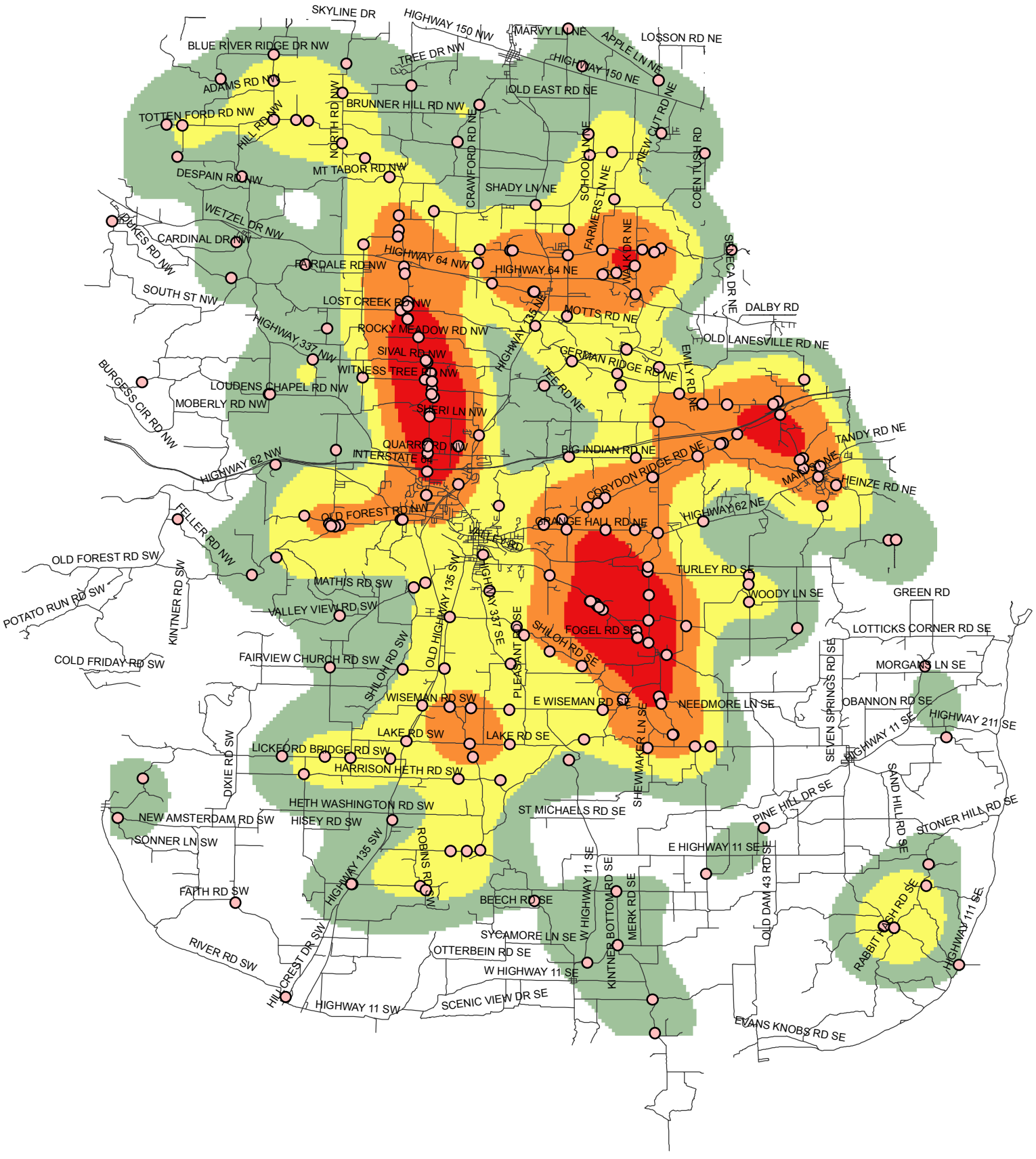
Harrison County
2007



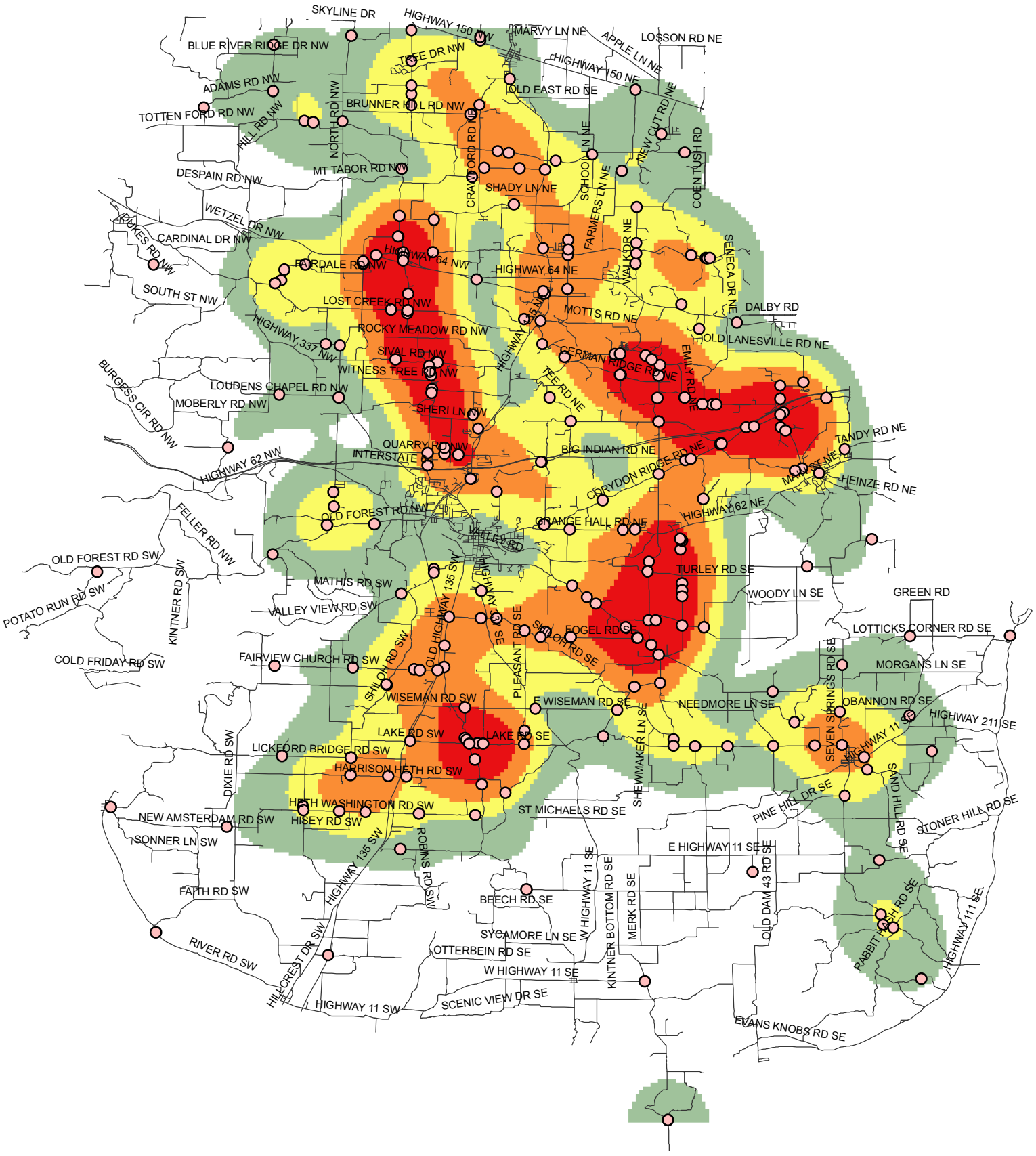
Harrison County
2008



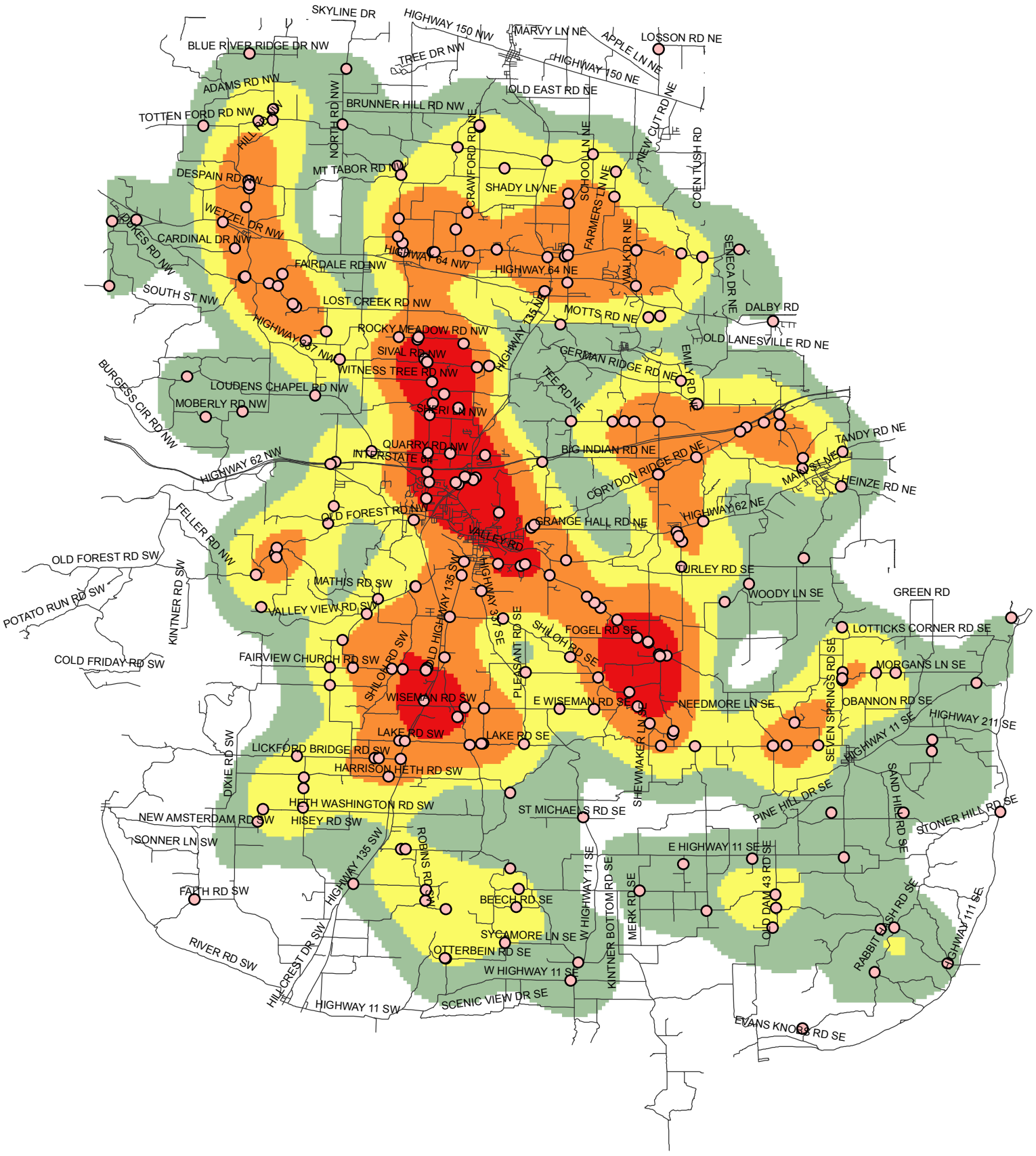
Harrison County
2009



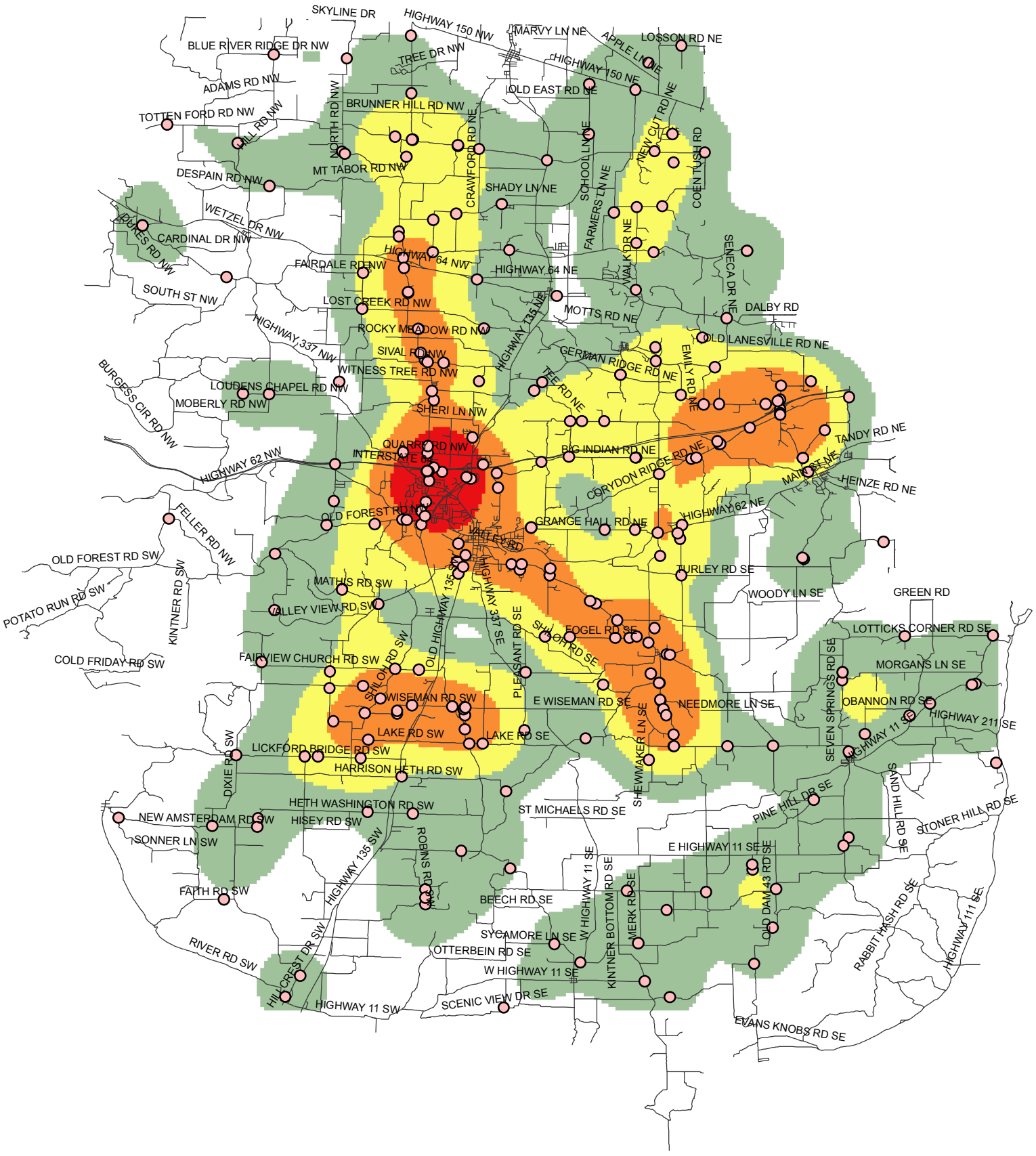
Harrison County
2010



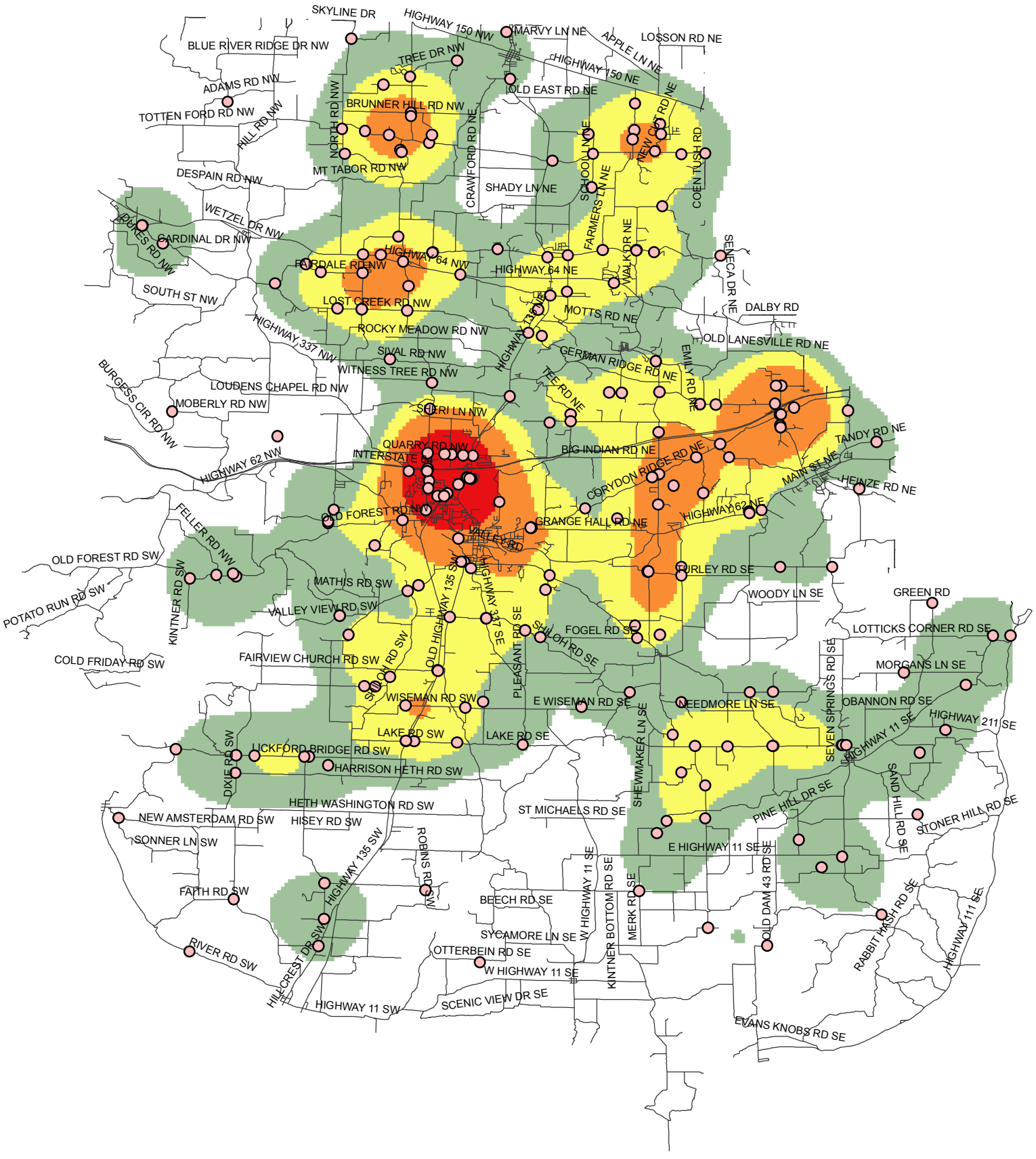
Harrison County
2011



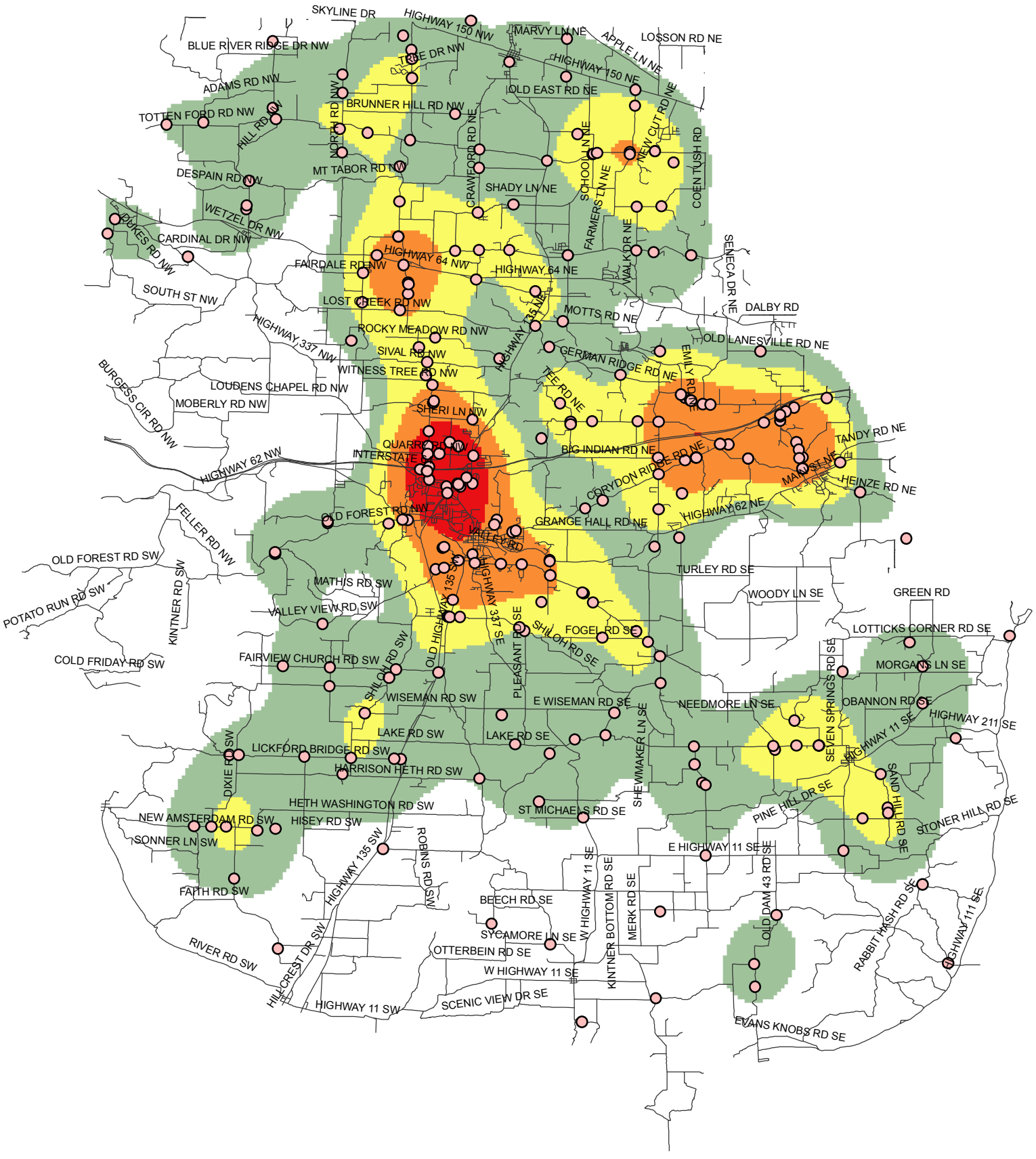
Harrison County
2012



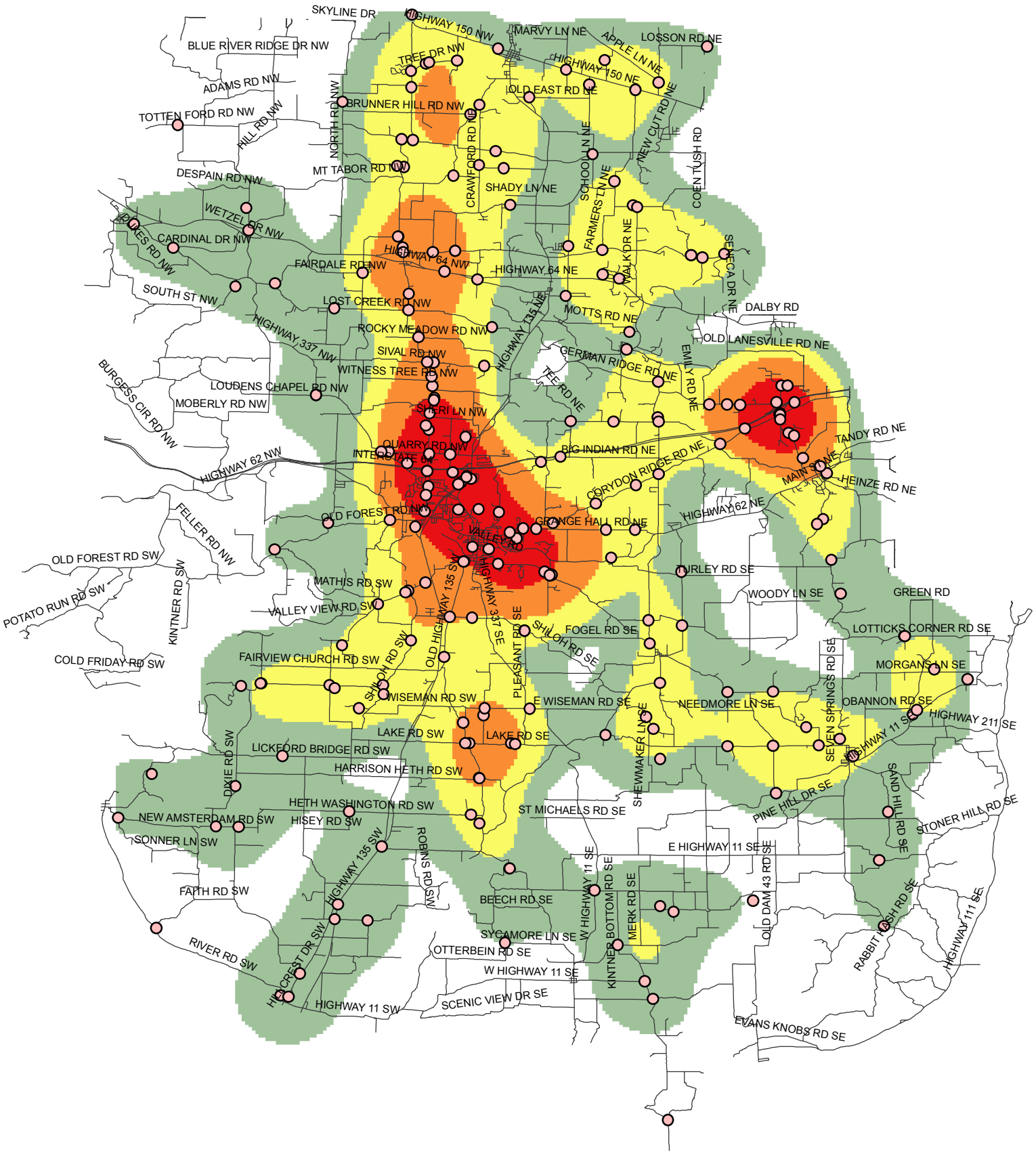
Harrison County
2013



Harrison County
2014



Harrison County
2015



Harrison County
(2006 - 2015)