Transportation Safety

Overview

Of utmost importance in transportation is safety. The Indiana State Department of Transportation (INDOT), with coordination and support from the Federal Highway Administration (FHWA), has outlined a statewide goal to reduce traffic-related fatalities. The goal was to reduce fatalities to .98 per 100 million vehicle miles traveled (HMVMT) in 2008 and .92 HMVMT in 2010. This goal was stated as part of the State Highway Safety Plan (SHSP) that was created in response to federal requirements. The requirements are found in The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which is periodic, federal authorizing legislation for the nation's Surface Transportation Program. The legislation puts in place a new core federal-aid funding program that began in fiscal year 2006 to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

In response to federal SAFETEA-LU regulations, INDOT, with coordination and support from FHWA, developed the SHSP. The plan identifies a number of local, regional and statewide initiatives and strategies targeted toward overall traffic safety. It outlines a broad approach that recognizes the need for local collaboration, coordination and better communication between state, regional and local agencies.

In response to the Indiana SHSP, NIRPC took the initiative to localize the plan for Northwest Indiana and conducted a safety assessment for all types of vehicular crashes in the region that take place on the state system. It is necessary to understand the conditions of the transportation network and establish a safe and efficient transportation network that accommodates all users. It also is vital to realizing the vision of the 2040 CRP, which includes establishing livable and safe centers within the region.

The Northwest Indiana plan uses the four building blocks: Engineering, Education, Enforcement and Emergency Services, which are known as the Four E's. These building blocks, in conjunction with INDOT's proposed emphasis areas, have been used to create a safety framework that is compatible with the SHSP and can be used as a catalyst for customizing a sub-state regionalplan. In this direction, NIRPC conducted a safety assessment for all types of crashes in the region that take place on the state system. In this assessment process, NIRPC staff investigated all types of crashes on all public roads within Lake, Porter and LaPorte Counties. This uniform assessment provides the region with a more reliable, more comprehensive understanding of crashes that took place regardless of roadway classification that would effectively lead to more mitigation efforts.

Another tool for local customization of safety planning is the Indiana Five Percent Report. This report is a ranking of roads within the state of Indiana with the most severe safety needs. The report, established under SAFETEA-LU, is a requirement of the federal government and is meant to provide greater transparency in assessing safety on both state and local roads. The locations in the report are narrowed to specific segments and

intersections. In addition to identifying areas of concern, the Indiana Five Percent Report is used to help direct highway funding to the areas that need it most.

Goals and Objectives

In developing the 2040 Comprehensive Regional Plan, a set of goals and objectives wasadopted. The safety-related goalis to have an accessible region with connected people and opportunities and a secure transportation system.

Objectives

- Reduce the number and severity of motor vehicle collisions
- Improve the safety of nonmotorized transportation through education, enforcement, engineering, design and construction
- Reduce emergency response times on the major expressways in the region
- Improve the safety and security of transit facilities, including stations, stops and vehicles

Performance measures should be used to evaluate the objectives. More specific SMART (Specific, Measurable, Accessible, Reliable and Time-Oriented) objectives should be used to provide guidance and motivation to regional stakeholders to achieve regional safety goals. The following are additional safety-related objectives that were determined based on safety data in Northwest Indiana.

- Reduce the crash rate by .34 (10 percent) and death/injury rate by .09 (15 percent) by the year 2020
- Reduce the bike/ped crashes by 17 (5 percent) by the year 2020
- Reduce incident clearance time by 35 percent by the year 2040
- Reduce incidents per 100,000 trips by 40 percent by the year 2040

Performance measures

- Crash rate (per 1,000,000 vehicle miles traveled)
- Traffic crashes injury rate/100,000 licensed drivers
- Traffic crashes fatality rate/100,000 licensed drivers
- Incident clearance response time (when available)

Step 1: Planning Process

- Make safety a priority
- Form a Safety Mitigation Committee

- Develop a safety vision
- Develop a comprehensive approach and performance measures
- Collaborate with the safety community
- Maintain regional safety information and analysis
- Improve data and analytical tools
- Address policies and facilities (behavioral and physical)
- Integrate safety into plans and programs
- Focus investments that address safety
- Use the SHSP
- Monitor safety implementation and analyze effectiveness
- Work to identify and prioritize infrastructure improvements in the LRTP and TIP (spell out these acronyms) regarding safety

Step 2: Area of Focus

- Pedestrians' and bicyclists' safety
- Driving behavior
- Signalized and unsignalized intersections
- Railroad crossings
- Heavy truck collisions
- Signage

Step 3: Evaluation – hot spot – project selection

Step 4: SHSP and the Four E's (Education, Enforcement,Engineering, Emergency Services)

NIRPC's Safety Framework

Development Process

The development process of the safety framework began with gathering data and creating and analyzing information. The purpose of this process is to serve as a guide for long-range improvement and to help community leaders better understand safety issues and trends occurring within the region. This information can help them develop recommendations for any issues raised by the data. To evaluate safety within the region, two

major assessments were performed. First, the number and type of crashes in the region were identified. Second, Geographic Information System-based maps were created to visually identify crash locations.

Data Sources

The primary source for transportation safety data is the crash report. These reports are filled out at the crash scene by a law enforcement officer and are valuable in summarizing the details of a crash. The crash data wasderived from Indiana State Police the Vehicle Crash Records System (VCRS), which provide source data for all road crashes. In Indiana, MPOs (spell out acronym) are allowed access to that relatively new state database. Transportation planners and engineers around the region will find these data useful for analysis, resulting in timely and informed decisions about safety improvement projects. This data play a key role in maintaining and enhancing Northwest Indiana transportation system in the mostefficient way possible. The crash report includes primary factors or driver behaviors that caused the crash, location of the incident, if it is located within a school or construction zone, weather conditions, vehicle types and other information needed to analyze transportation safety. The data were derived on a regional and local level to identify high-crash locations, which types of transportation modes are involved, areas where public education and outreach may be necessary and specific demographics.

Data Analysis

The GIS was usedas one of the analysis tools to assist in highlighting geographic concentrations of crashes. The Automated Reporting Information Exchange System (ARIES) site provides source data in an access sheets format. The report sheet includes latitude and longitude data. This data was added as XandY coordinates to a map and then converted to shapefiles. The shapefiles were projected to the map coordinate system and displayed as points of crash locations. The points are indicated as the location of the crashes, and the red points indicate that a fatality has occurred in the incident.

Some coordinates, however, were off. Some either did not have coordinates or had coordinates that were located off the regional map. The locations of the crashes with inaccurate data were fixed by manually looking up the location and the intersection of the crash.

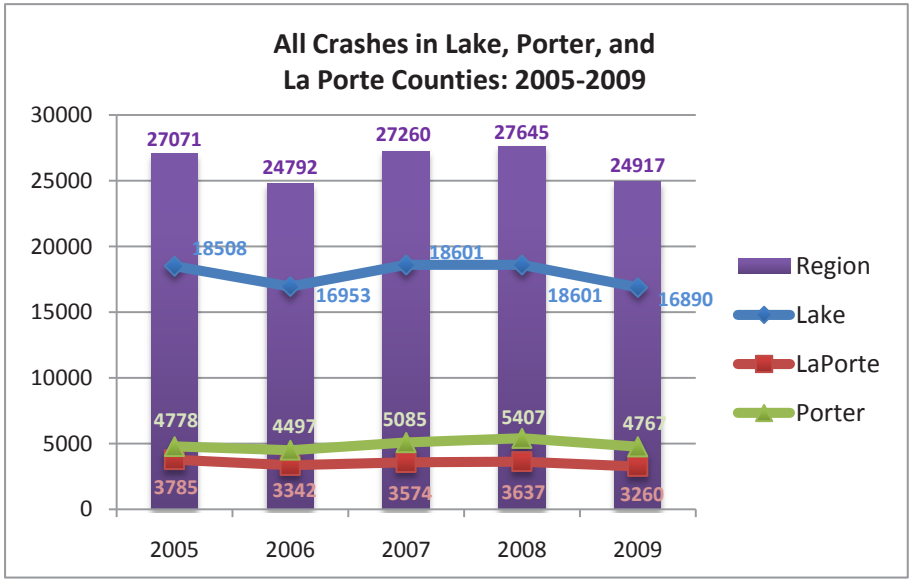
Top Ten Crash Locations		
	Roadway Name	
1	INDIANAPOLIS BLVD	5959
2	I80/I94	5728
3	US30	5248
4	CALUMET AVE	4986
5	I65	3743
6	SR53/Broadway	3240
7	SR912/Cline Avenue	2430
8	SR55/Cleveland st.	2006
9	RIDGE RD	1927
10	US20	1886

All Crashes

The analysis of the 2005-2009 crash data for the three counties of the NIRPC region shows that there was an average of approximately 26,337 crashes per year. In each of the five years studied, crashes occurring in Lake County accounted for approximately two-thirds of all incidents(Figure II.3). To pinpoint what areas and elements of the region's transportation network need improvement and which ones might not, a further examination is needed of the types of crashes in the region. Four categories of crashes are examined:

- Vehicular crashes with nonmotorized transportation
- Crashes involving trucks
- Crashes occurring at railroad crossings
- Crashes involving buses

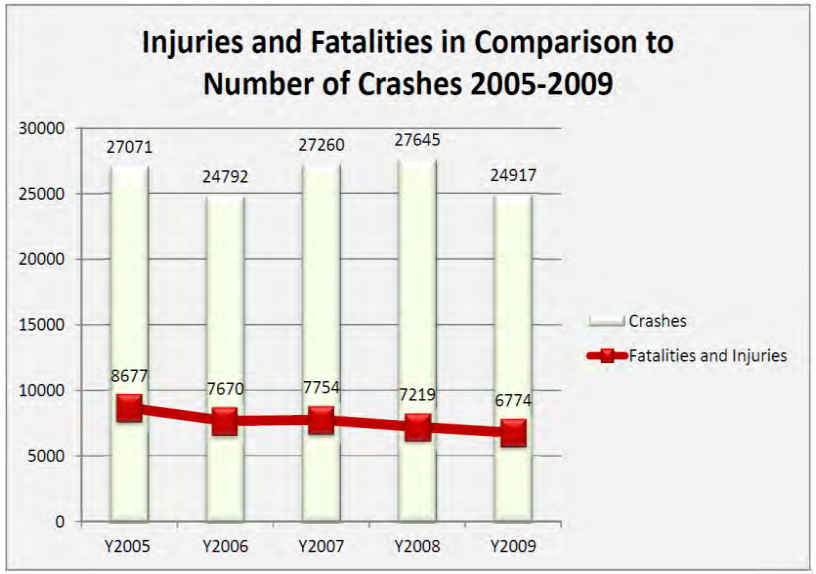
Crashes	Y2005	Y2006	Y2007	Y2008	Y2009	Total
Total Crashes	27071	24792	27260	27645	24917	131685
Fatal Crashes	126	93	128	115	100	562
% of Crashes with Fatality	0.47%	0.38%	0.47%	0.42%	0.40%	0.43%
Crashes with Injury	6031	5416	5508	4559	4927	26441
% of Crashes with Injuries	22%	22%	20%	16%	20%	20%
Total Fatalities	**143**	**103**	**141**	**133**	**111**	**631**
Total Injuries	**8534**	**7567**	**7613**	**7086**	**6663**	**37463**



Traffic crashes from 2005-2009 in Northwest Indiana decreased at roughly the same rate as in the state at 7.9% and 8.1%, respectively. Fatalities fell 26.2% statewide and 22.3% in Northwest Indiana over the same period (from 143 in 2005 to 111 in 2009).

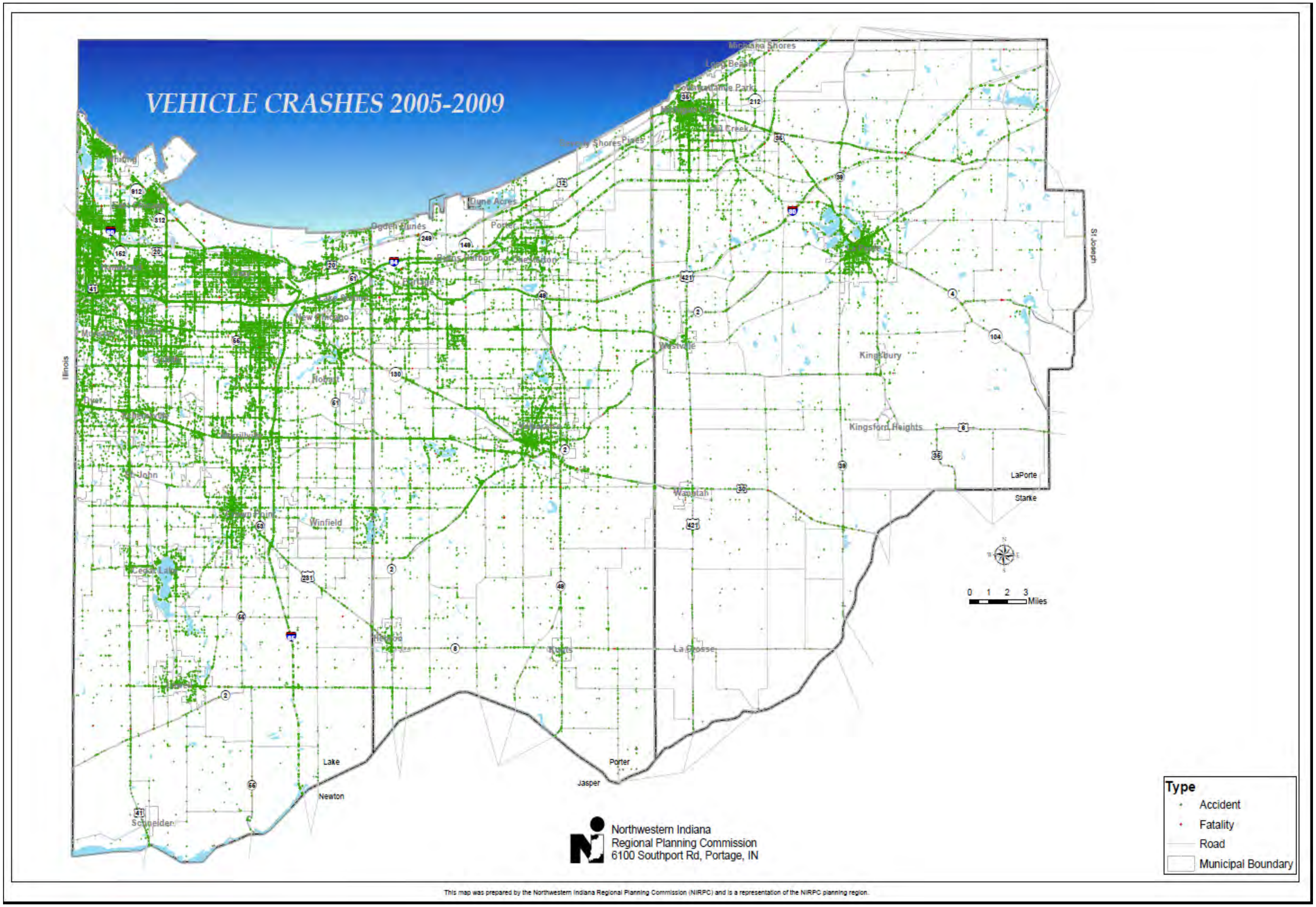
Figure II.3 All Crashes in Lake, Porter, and LaPorte Counties: 2005-2009; NIRPC, Data Source: Indiana State Police, 2010.

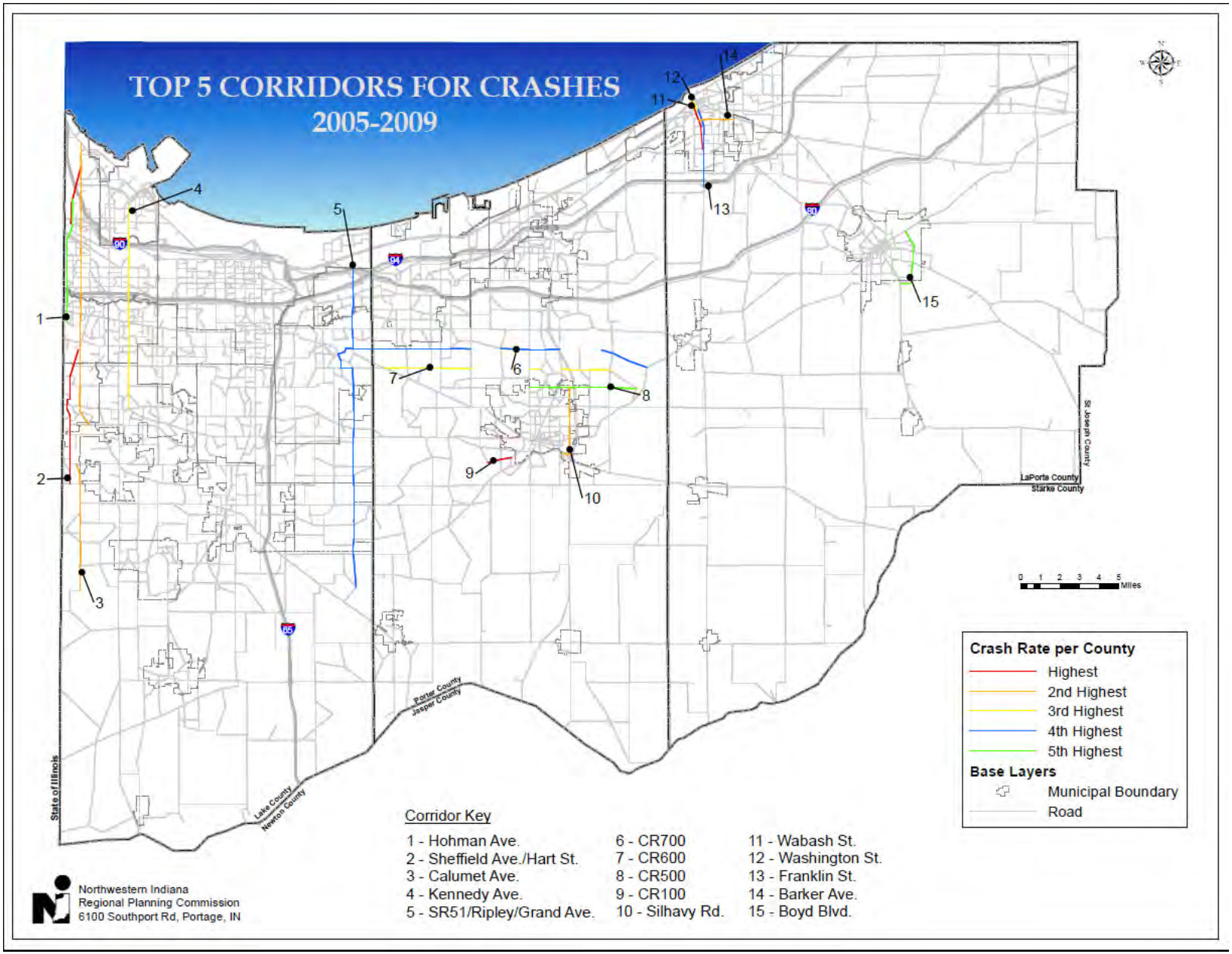
According to the table, the total crashes in the three counties decreased by approximately 7.9% between 2005 and 2009, while the fatality rate peaked in 2005. During 2005, traffic crashes claimed 143 lives (15% of the statewide fatalities) and left 6,031 injured (14.5% of the statewide injuries) in the Northwest Indiana region. The percentage of crashes that resulted in a fatality was .43% for the five-year period from 2005 to 2009. Based on the five years of traffic crash data, there are 72 traffic crashes per day and one fatality crash every three days in Northwest Indiana.



Crash Rate

The crash rate was calculated for each of the 25 corridors for each county that had the most crashes. The five corridors for each county with highest crash rates are indicated in color on the following map. Some local roadways have severely high crash rates. Wabash Street in Michigan City has the highest crash rate at 1,154, which means there will be 1,154 crashes perone million vehicle miles traveled in the project corridor.


VEHICLE CRASHES 2005-2009
Michiana Shores
Dune Acres
Ogden Dunes
Portage
Winfield
Kingsbury
Kingsford Heights
Wanatah
La Crosse
Schneider
Illinois
St Joseph
LaPorte
Starke
Lake
Newton
Jasper
Porter
0 1 2 3 Miles
Northwestern Indiana
Regional Planning Commission
6100 Southport Rd, Portage, IN
Type
Accident
Fatality
Road
Municipal Boundary
This map was prepared by the Northwestern Indiana Regional Planning Commission (NIRPC) and is a representation of the NIRPC planning region.


TOP 5 CORRIDORS FOR CRASHES
2005-2009
Crash Rate per County
Highest
2nd Highest
3rd Highest
4th Highest
5th Highest
Base Layers
Municipal Boundary
Road
Miles
Corridor Key
1 - Hohman Ave.
2 - Sheffield Ave./Hart St.
3 - Calumet Ave.
4 - Kennedy Ave.
5 - SR51/Ripley/Grand Ave.
6 - CR700
7 - CR600
8 - CR500
9 - CR100
10 - Silhavy Rd.
11 - Wabash St.
12 - Washington St.
13 - Franklin St.
14 - Barker Ave.
15 - Boyd Blvd.
Northwestern Indiana
Regional Planning Commission
6100 Southport Rd, Portage, IN
State of Illinois
Lake County
Newton County
Porter County
Jasper County
LaPorte County
Starke County
St Joseph County

Top 25 Corridors for Crashes in Lake County				
Corridor	Crash Rate Rank	Crash Rate	Number of Crashes	Crash rank
SHEFFIELD AVE/Hart st.	1	46.89211339	734	25
CALUMET AVE	2	44.72443612	4986	4
KENNEDY AVE	3	35.93658916	1699	11
RIPLEY ST/SR 51/Grand Blvd	4	32.95600438	1334	15
HOHMAN AVE	5	30.77899664	1090	17
SR53/Broadway	6	30.52698264	3240	6
COLUMBIA AVE	7	29.48111579	1014	19
MAIN ST	8	29.06298447	1400	14
CHICAGO AVE/SR312	9	25.48582351	736	24
US30	10	23.32815901	5248	3
SR55/Cleveland st.	11	22.78774102	2006	8
165TH ST	12	22.78327884	930	20
169TH ST/15th Ave	13	22.73268143	1168	16
INDIANAPOLIS BLVD	14	18.43592291	5959	1
JOLIET ST/73rd Ave./SR 330/Old Lincoln HWY	15	18.12079579	891	21
45TH AVE	16	17.29522049	1071	18
US20	17	12.61617133	1886	10
RIDGE RD	18	12.295501	1927	9
SR912/Cline Avenue	19	12.26111303	2430	7
GRANT ST	20	12.11904184	828	22
US12	21	11.48757378	1695	12
US 231	22	11.29521253	821	23
I65	23	7.33934529	3743	5
I80/I94	24	6.76924873	5728	2
I90	25	5.010531158	1546	13

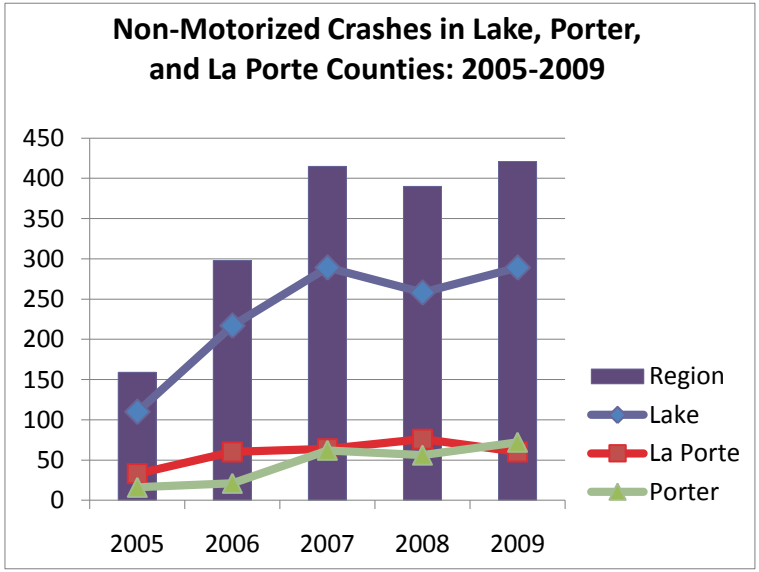
Top 25 Corridors for Crashes in Porter County				
Corridor	Crash Rate Rank	Crash Rate	Number of Crashes	Crash rank
CR100	1	226.6772383	229	19
SILHAVY RD	2	175.6525834	232	18
CR600	3	92.77170266	282	16
CR700	4	91.53850511	299	15
CR500	5	86.29805071	364	14
INDIAN BOUNDARY RD	6	79.35245094	384	13
CALUMET AVE	7	56.04758937	823	8
MERIDIAN RD	8	51.88100593	203	22
DIVIISON RD	9	44.83935991	218	20
CALUMET RD	10	32.79971366	183	26
WILLOWCREEK RD	11	29.32193869	516	9
US6	12	27.49778707	1720	1
CAMPBELL ST	13	19.17976329	251	17
STURDY RD	14	19.11186362	213	21
CENTRAL AVE	15	16.08584401	388	12
US20	16	12.76776627	1090	4
SR130	17	11.89250839	842	7
SR149	18	9.181594593	416	11
CR400	19	8.723041699	202	23
SR2	20	8.581330035	909	6
I80	21	8.550718815	926	5
US30	22	8.487408161	1274	3
SR8	23	7.223630465	187	24
US12	24	6.801890374	469	10
COUNTY LINE RD	25	5.438314877	185	25
I94	26	3.798435305	1424	2

Top 25 Corridors for Crashes in LaPorte County				
Corridor	Crash Rate Rank	Crash Rate	Number of Crashes	Crash rank
WABASH ST	1	1154.097045	184	15
BARKER AVE	2	97.9947186	133	21
WASHINGTON ST	3	60.30267362	158	19
FRANKLIN ST	4	45.50420336	1220	2
BOYD BLVD	5	45.27838533	177	16
11TH ST	6	35.20690926	121	24
COOLSPRING AVE	7	29.98906524	160	18
WOODLAND AVE	8	28.77649745	198	14
SR4	9	26.38752865	226	11
SR212	10	20.6430222	156	20
SR2	11	12.09015889	1385	1
US12	12	9.864000099	360	8
OHIO ST	13	9.854562426	125	23
JOHNSON RD	14	8.097201335	256	10
US421	15	6.825279434	974	5
US20	16	6.567066526	1189	4
US35	17	6.304479669	1196	3
MICHIGAN BLVD	18	4.616605742	171	17
I80	19	4.496870658	890	6
CR400N	20	4.221408017	131	22
US6	21	3.727264849	224	12
I94	22	3.655876429	807	7
US30	23	2.521047409	221	13
LINCOLNWAY	24	2.324331701	109	25
SR39	25	1.667377129	270	9

Top Ten Non-Motorized incident locations		
	Roadway Name	Crash Count
1	BROADWAY AVE	58
2	US 20	39
3	SR 2	35
4	FRANKLIN ST/US 421	35
5	US 41	33
6	US 6	27
7	CENTRAL AVE	21
8	US 35	21
9	US 30	20
10	INDIANAPOLIS BLVD	19

Nonmotorized Transportation

Crashes involving vehicles and nonmotorized transportation (i.e. pedestrians and bicyclists) are of great concern as they directly reflect the livability of our centers and influence the willingness of our residents to use alternative transportation (Figure II.4). As the road network is made more bicycle- and pedestrian-friendly and the region's trail network is expanded, safety for these users becomes an ever-larger concern. While nonmotorized transportation is growing within the region, both as a means of recreation and active transportation, data for nonmotorized crashes for the region show a significant increase in the number of crashes between 2005 and 2009. During that period, the number of crashes per year averaged 337, while the total number of crashes rose 265%, from 159 to 421.



Nonmotorized crashes represent 1.3% of all crashes in Northwest Indiana. This increase could reflect the growing popularity of nonmotorized transportation and the increase in available opportunities to use alternative transportation via paths, trails and sidewalks. More importantly, this trend indicates a need to address safety issues related to nonmotorized transportation within the 2040 CRP and points to the growing importance of NIRPC policies that support the livable centers strategy, such as the recently adopted Complete Streets Policy and programs like Safe Routes to School.

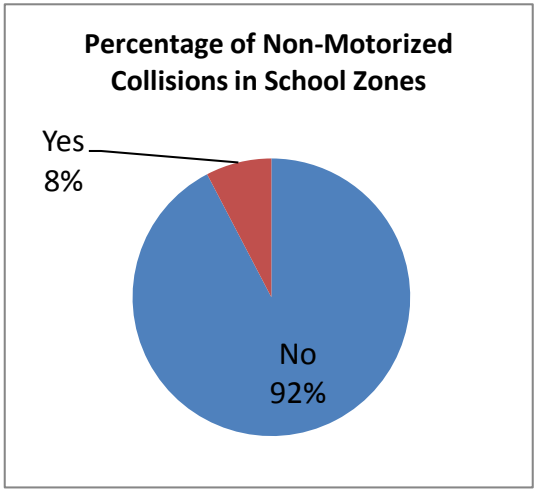
Motor vehicle crashes involving a pedestrian are of regional concern because those hit by a vehicle have a great chance of being seriously injured or killed (I Figure II.4 Crashes in Lake, Porter, and LaPorte Counties Involving Nonmotorized Transportation: 2005-2009; NIRPC, 2010

Data Source: Indiana State Police, 2010.

Bicycle Crashes

As the demand for this mode of transportation increases, Northwest Indiana should continue to collect additional data and monitor changing bicycle safety trends. Introducing rates and risks of bicyclists and their conflicts with other transportation modes are indicators of bicycle safety in

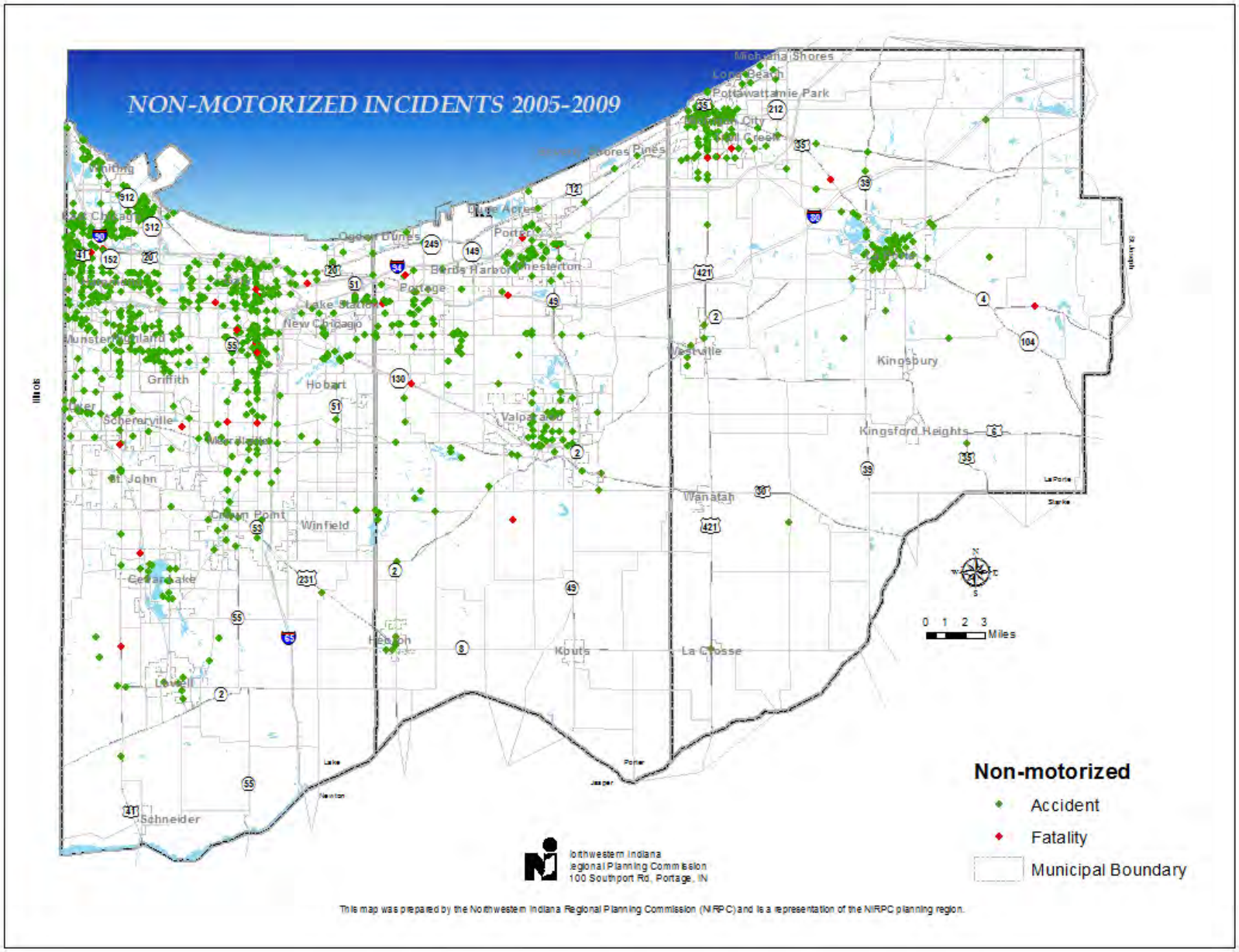
the region. The ARIES database was scaled down since 2007 when the last update of the plan was produced. Currently, it no longer keeps track of bicycle crashes. This mode of travel should be monitored in the near future, as more people use it as an alternative to driving.



Pedestrian Crashes

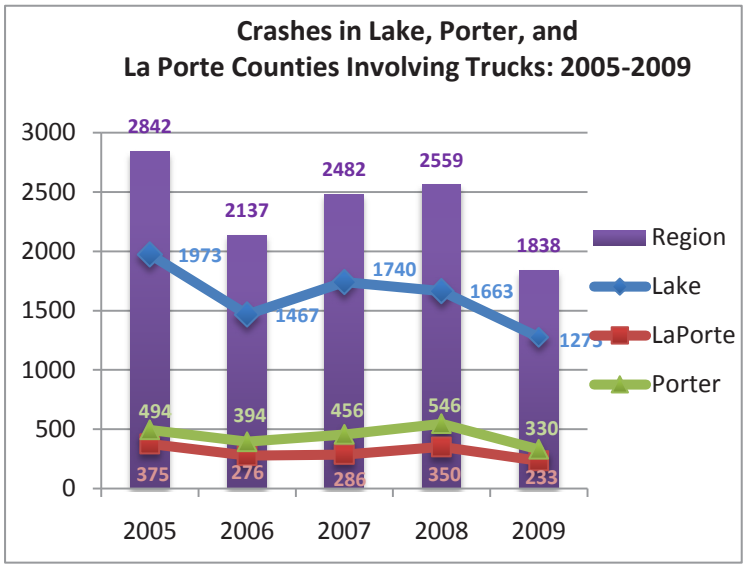
Pedestrians were involved in 1.0% of all crashes reported in Northwest Indiana from 2005 to 2009. Pedestrian crashes resulted in 2.37% of all fatalities from crashes from 2005 to 2009 and 2.88% of all injuries in that same period. By comparison, nationally, pedestrian deaths account for 12% of all traffic fatalities and 3% of all traffic injuries. (Source: NHTSA). The reason for the low rate is because the rate of walking in the region is suspected to be low. Statewide, the long-term goal is to reduce the number of fatalities of pedestrians by 5.4% in 2013

Figure II.5 shows the percentage of nonmotorized crashes, which represents 8% of all pedestrian crashes. Safety is a major concern for parents, especially if schools are not providing school bus service for their addresses. NIRPC will incorporate the school zone crash data into the Safe Routes to School (SRTS) Program and classify crash locations as priority locations.


NON-MOTORIZED INCIDENTS 2005-2009
Michiana Shores
Long Beach
Pottawattamie Park
Dune Acres
Ogden Dunes
Portage
Lake Station
New Chicago
Griffith
Hobart
Schererville
St. John
Crown Point
Winfield
Cedar Lake
Lowell
Schneider
Valparaiso
Kingsbury
Kingsford Heights
Wanatah
Kouts
La Crosse
0 1 2 3
Miles
Non-motorized
Accident
Fatality
Municipal Boundary
Northwestern Indiana
Regional Planning Commission
100 Southport Rd, Portage, IN
This map was prepared by the Northwestern Indiana Regional Planning Commission (NIRPC) and is a representation of the NIRPC planning region.

Appendices

Crashes Involving Trucks



Northwest Indiana contains a dense freight network due to the conflux of interstates and the region's port facilities.This network relies largely on trucks for movement of cargo, and because of the larger size and heavier weight of these vehicles, the resulting crashes are usually much more severe.Therefore, this category warrants special attention. Between 2005 and 2009, crashes involving trucks averaged approximately 2,400 incidents per year (Figure II.5). While truck crashes in Porter and LaPortecounties stayed relatively constant, Lake County crashes fluctuated, but generally experienced a downward trend. Unfortunately, this is most likely a function of the economic downturn and the corresponding reduction in container transportation rather than the result of significant improvements in safety. Therefore, it's anticipated that without significant safety enhancements, an improved economy also will bring an increase in the number of crashes involving trucks. Most of the truck crashes in Northwest Indiana occur on interstate highways.

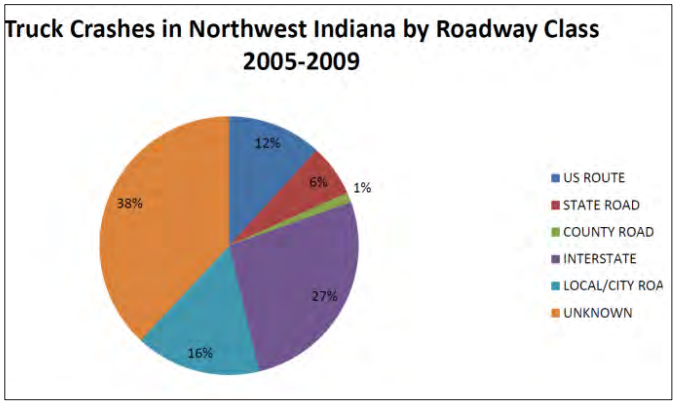
Truck crashes represent 9% of all crashes in Northwest Indiana from 2005-2009. The fatality rate (0.6%) is considered a much lower rate compared to the Indiana fatality rate (11% in 2009). When large trucks are involved in crashes it is more severe than other motor vehicle crashes. Special

Truck High Spot Crash Locations

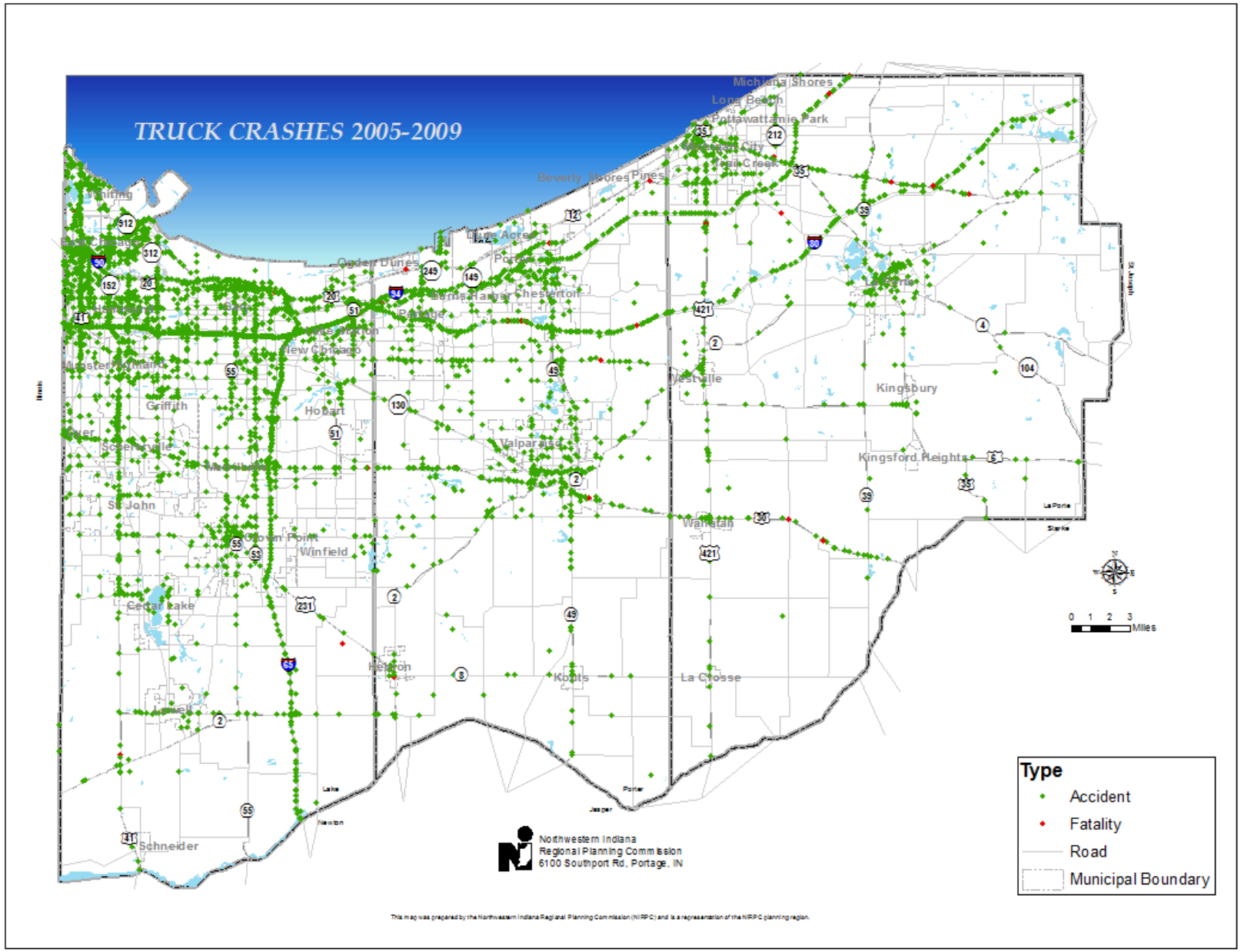
Roadway Name	Crash Count
I-80	1840
I-94	687
I-65	490
US 20	440
US 30	389
US 41	285
I-90	204
SR 51	192
SR 2	177
SR 49	144

Truck Crashes by Roadway Class in Northwest Indiana, 2005-2009

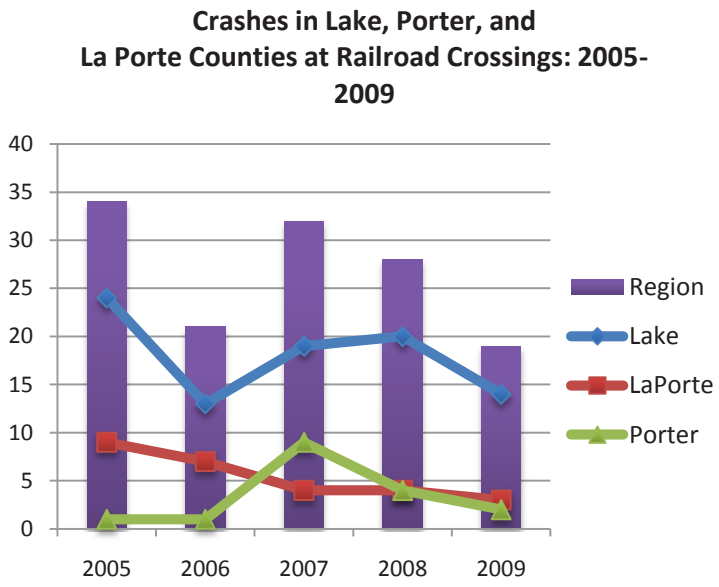
US ROUTE	1398
STATE ROAD	770
COUNTY ROAD	148
INTERSTATE	3172
LOCAL/CITY ROAD	1859
UNKNOWN	4511
Total	11858



attention should be given to commercial motor vehicle crashes particularly as a large number of trucks pass through the region everyday because of a concentration of industrial sites and the amount of freight traffic that goes to Chicago.



Railroad Crossing Crashes



Crashes by Railroad Company	
Company	Number of Crashes
Norfolk Southern	43
CSX	26
Chicago, South Shore and South Bend	11
Elgin Joliet and Eastern (Now CN)	11
CN	8
Chicago, Fort Wayne and Eastern	4
Amtrak	0
Chesapeake and Indiana Rail Co.	0

On average, there are 27 vehicle-train crashes each year (Figure II.6). While the instances of crashes occurring at railroad crossings are considerably lower than other types of crashes in the region, this type of crash has a much greater potential to be fatal due to the weight and speeds of the vehicles involved. Further, the number of rail lines passing through an urbanized area is directly related to the number of crashes. As a result, Lake County, with its more urbanized geography, has the highest number of railroad crossing crashes out of the three counties. In addition to the high fatality rates for crashes of this kind, the 2040 CRP's focus on the revitalization of urban centers and the creation of livable centers makes it necessary to prioritize safety improvements to reduce crashes at railroad crossings.

Railroad crossing crashes in Northwest Indiana represent 0.1% (134) of all crashes (131,685). Although the total number of crashes is significantly low, the fatality rate represents 17.1% (23) of all railroad crossing crashes in the region between 2005 to 2009.

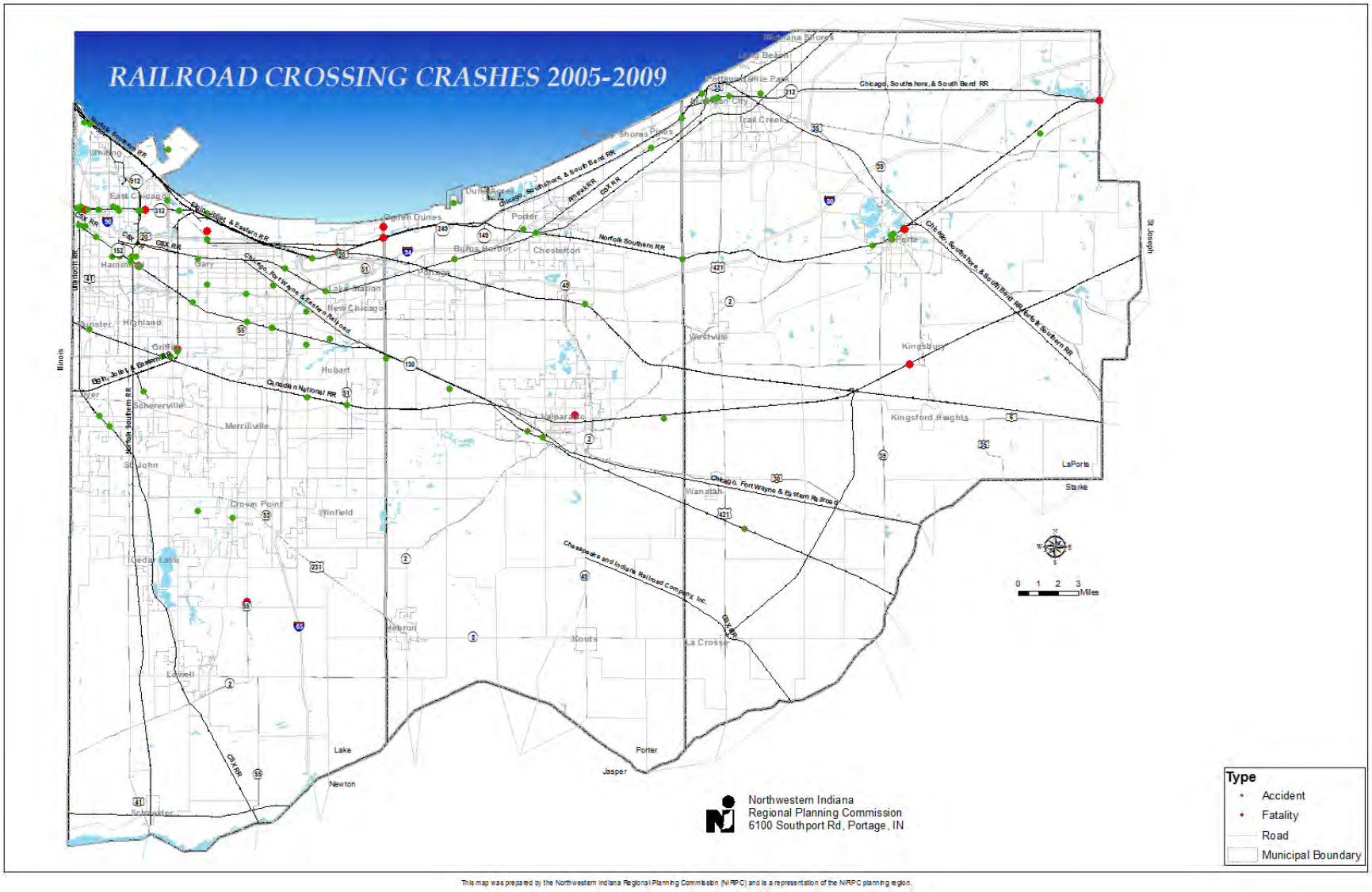


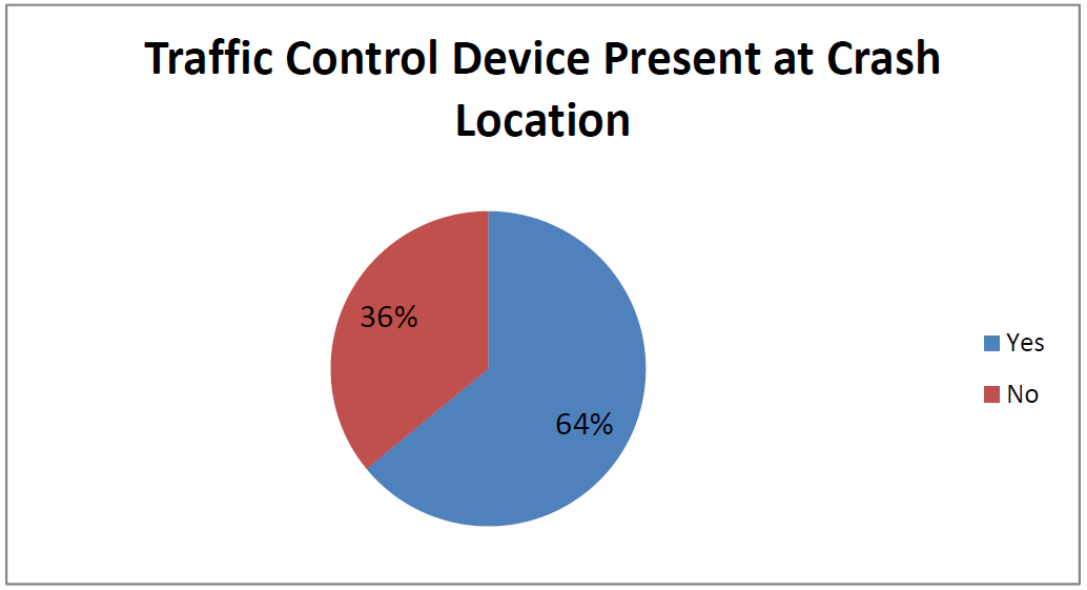
Figure II.6 Crashes in Lake, Porter, and LaPorte Counties at Railroad Crossings: 2005-2009; NIRPC

Top Ten Railroad Crash Locations		
	Roadway Name	Crash Count
1	165TH ST	6
2	CLARK RD	6
3	COUNTY LINE RD	6
4	11TH ST	5
5	CHICAGO AVE	5
6	LAKE ST	3
7	MILLER AVE	3
8	US 6	3
9	169TH ST/15th Ave	3
10	145TH ST	2
10	41ST AVE	2
10	77TH AVE	2
10	BURR ST	2
10	CALUMET AVE	2
10	COLUMBIA AVE	2
10	FRANKLIN ST	2
10	HOHMAN AVE	2
10	JOHNSON AVE	2
10	KENNEDY AVE	2
10	MAIN ST	2
10	SOHL AVE	2
10	SR 312	2
10	TIPTON ST	2
10	TYLER ST	2
10	US 12	2
10	US 20	2

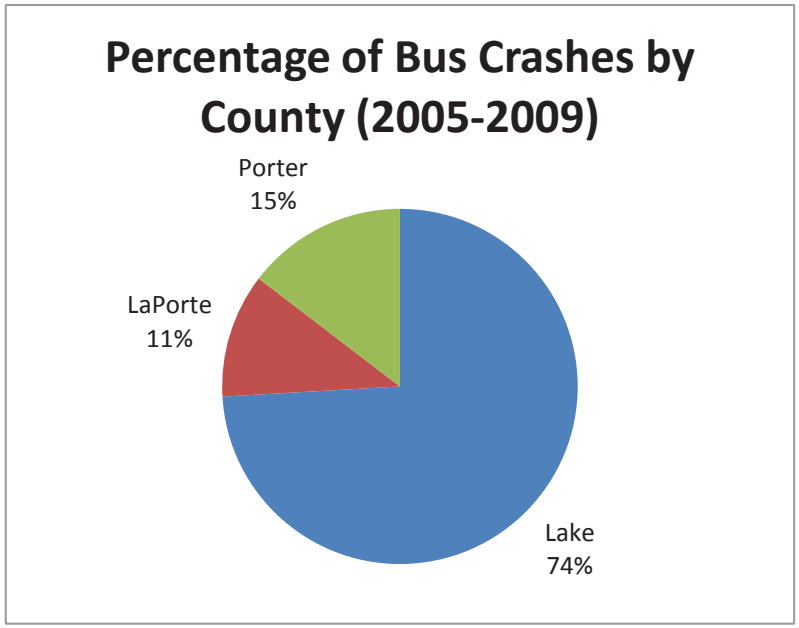
Data Source: Indiana State Police, 2010.

Traffic Control Devices

Crashes that involved traffic control operational devices and signage represent 64% of the total crashes that occurred between 2005 and 2009 in the region. The traffic control crashes include flashing signals, lane control, no passing zone, railroad crossing gate/flagman, railroad crossing sign, traffic control signal, officer/crossing guard/flagman, stop sign and yield sign.



School and Transit Bus Crashes

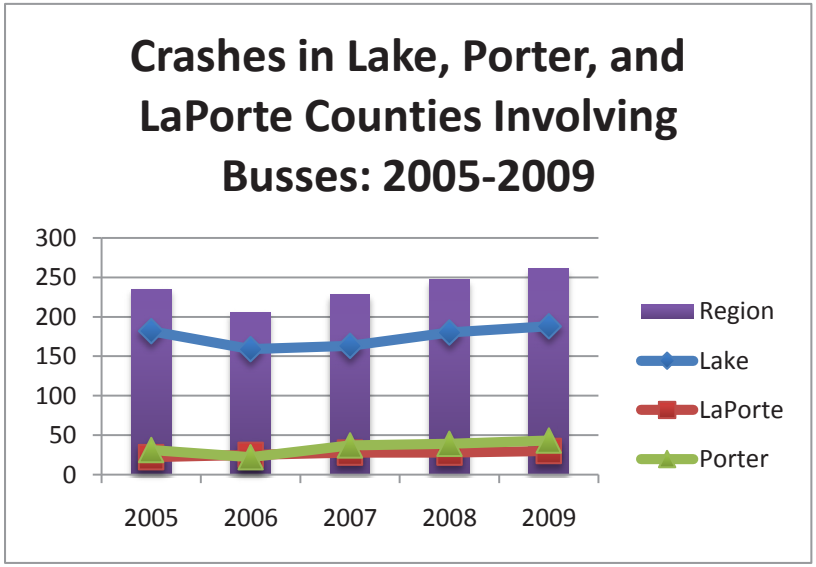


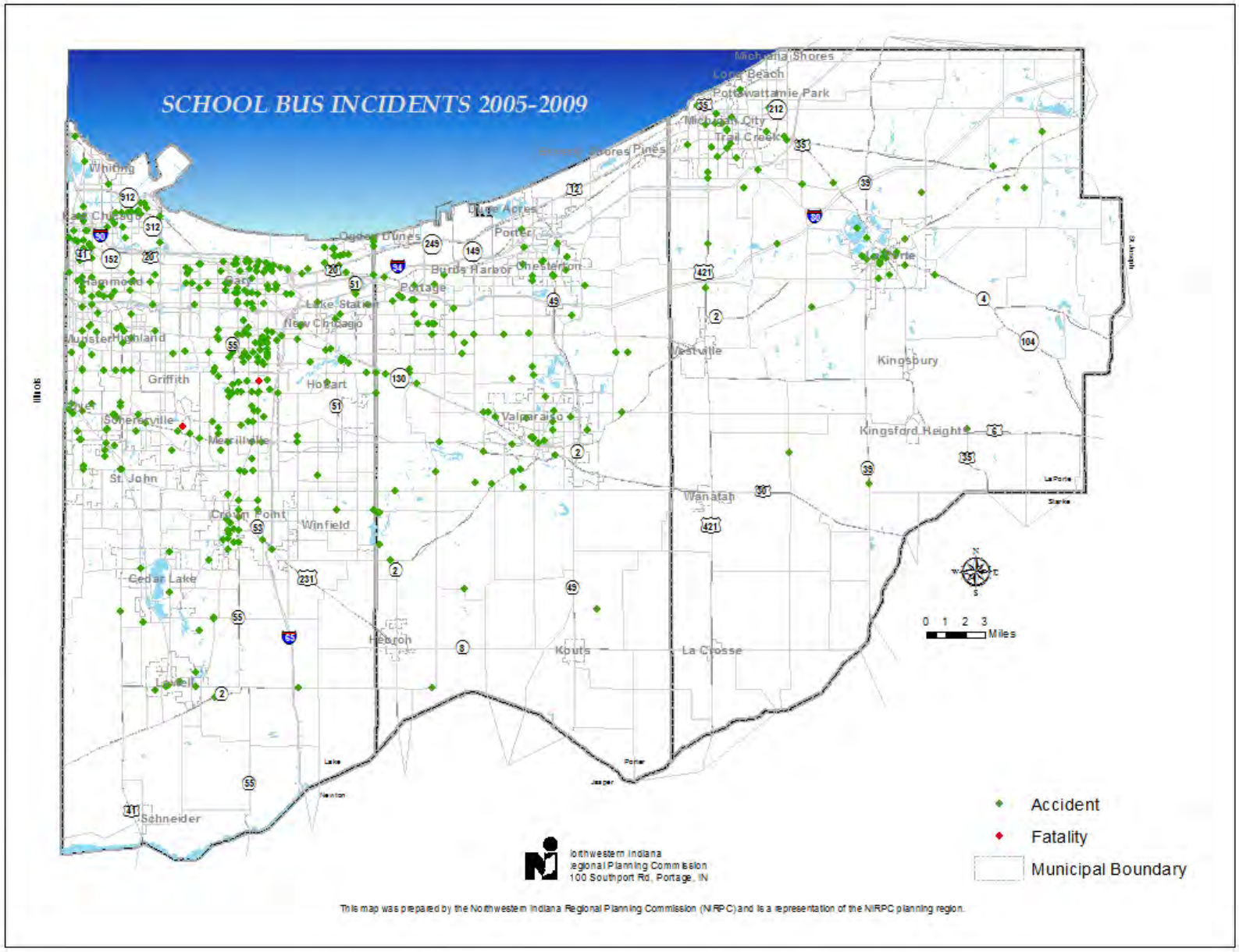
Data Source: Indiana State Police, 2010.

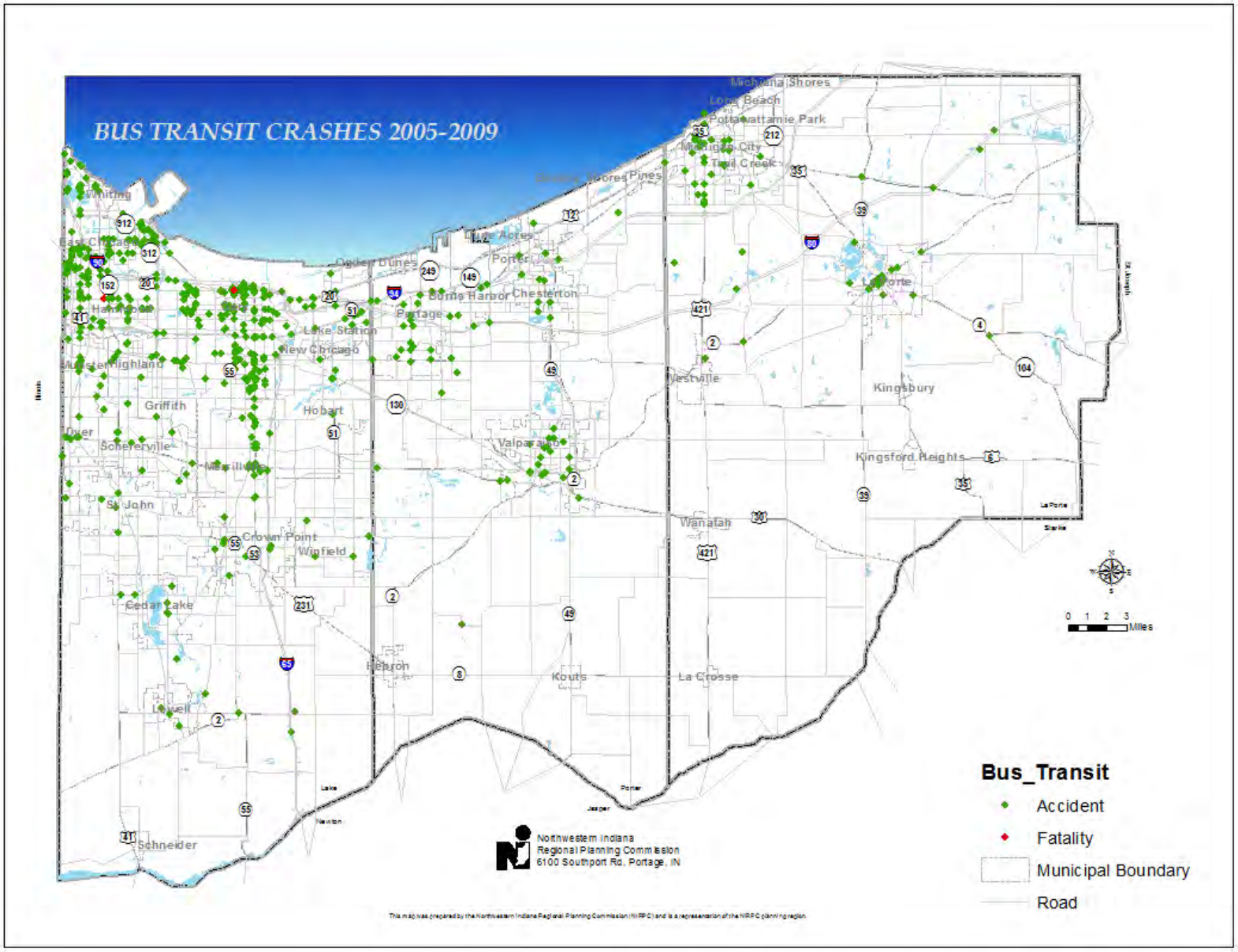
According to the National Safety Council, bus riding is the safest form of surface transportation. Between 2005 and 2009, an average of 236 bus crashes occurred in Northwest Indiana each year (Figure II.7). While this is a relatively low number compared to other crash types, increased user demand and planned service expansions will bring added bus traffic and the potential for even greater safety concerns. In urban areas, the concern for bus safety is even greater: 74% of all bus crashes occurring between 2005 and 2009 took place in Lake County, the most urbanized of the three counties and therefore the one with the most extensive use of both transit and school buses. As the bus and transit system expands in Northwest Indiana, efforts must be taken to ensure the safety of all passengers, especially those in urban centers where bus service is most concentrated.

Figure II.8 Percentage of Bus Crashes by County 2005-2009; NIRPC

Top Ten Bus Crash Locations	
Roadway Name	**Crash Count**
BROADWAY AVE	40
US 41	31
US 20	26
CALUMET AVE	23
I-80	23
US 30	22
15TH AVE/169th ST	19
HOHMAN AVE	17
MAIN ST	15
US 12	15




SCHOOL BUS INCIDENTS 2005-2009
Michiana Shores
Long Beach
Pottawattamie Park
Michigan City
Trail Creek
Beverly Shores
Pines
Whiting
Dune Acres
Porter
Ogden Dunes
Burns Harbor
Chesterton
Portage
Lake Station
New Chicago
Hammond
Gary
Munster
Highland
Griffith
Hobart
Valparaiso
Somerville
Merrillville
St. John
Crown Point
Winfield
Cedar Lake
Hebron
Kouts
La Crosse
Westville
Kingsbury
Kingsford Heights
Wanatah
Illinois
0 1 2 3 Miles
Accident
Fatality
Municipal Boundary
Northwestern Indiana
Regional Planning Commission
100 Southport Rd, Portage, IN
This map was prepared by the Northwestern Indiana Regional Planning Commission (NIRPC) and is a representation of the NIRPC planning region.


BUS TRANSIT CRASHES 2005-2009
Michiana Shores
Long Beach
Pottawattamie Park
Trail Creek
Pines
Beverly Shores
Dunes Acres
Porter
Ogden Dunes
Burns Harbor
Chesterton
Portage
Lake Station
New Chicago
Hammond
Whiting
East Chicago
Highland
Griffith
Hobart
Dyer
Schererville
St. John
Crown Point
Winfield
Cedar Lake
Lowell
Schneider
Hebron
Kouts
La Crosse
Westville
Kingsbury
Kingsford Heights
Wanatah
La Porte
0 1 2 3 Miles
Bus_Transit
Accident
Fatality
Municipal Boundary
Road
Northwestern Indiana
Regional Planning Commission
6100 Southport Rd. Portage, IN

Appendices

Causes of Crashes

In Northwest Indiana, the No. 1 cause of crashes is failure to yield right of way. These types of crashes represent 16% of all crashes in the region between 2005 and 2009. Other leading causes include following too closely and unsafe backing. Animal/object in the roadway was the fifth leading cause of crashes, but it should be noted that it was the No. 1 cause of crashes in Porter County. Many of these crashes occurred on the Indiana Toll Road and Interstate 94. This trend is because these expressways travel through more rural and wooded areas than thosein Lake and LaPortecounties.

Failure to yield right of way

Failure to yield right of way occurs when two or more vehicles attempt to occupy one pathway on a roadway and a driver tries to skip ahead on the driver that has the right of way. Failure to yield right of way occurs mostly on roads. This type of accident does not occur as often on the region's expressways.

Following too closely

Following too closely, or tailgating, is the process of following another driver so close that if there is an interruption or obstruction, the reaction time for the driver will not be enough to prevent a crash. Following too closely most commonly occurs in locations that feature a lot of congestion, such as expressways and business districts.

Unsafe backing

The third leading cause of crashes is unsafe backing. This occurs when drivers back out of their driveways or back up illegally on expressway interchanges. This type of crash also occurs in commercial parking lots. Unsafe backing crashes occur about evenly throughout the region.

Top Ten Causes of Crashes		
1	Other	7649
2	FAILURE TO YIELD RIGHT OF WAY	6756
3	FOLLOWING TOO CLOSELY	5291
4	UNSAFE BACKING	3762
5	SPEED TOO FAST FOR WEATHER CONDITIONS	2458
6	ANIMAL/OBJECT IN ROADWAY	2303
7	Ran off Road	2186
8	IMPROPER LANE USAGE	2017
9	ROADWAY SURFACE CONDITION/HOLES/RUTS IN SURFACE/	1545
10	DISREGARD SIGNAL/REG SIGN	1507

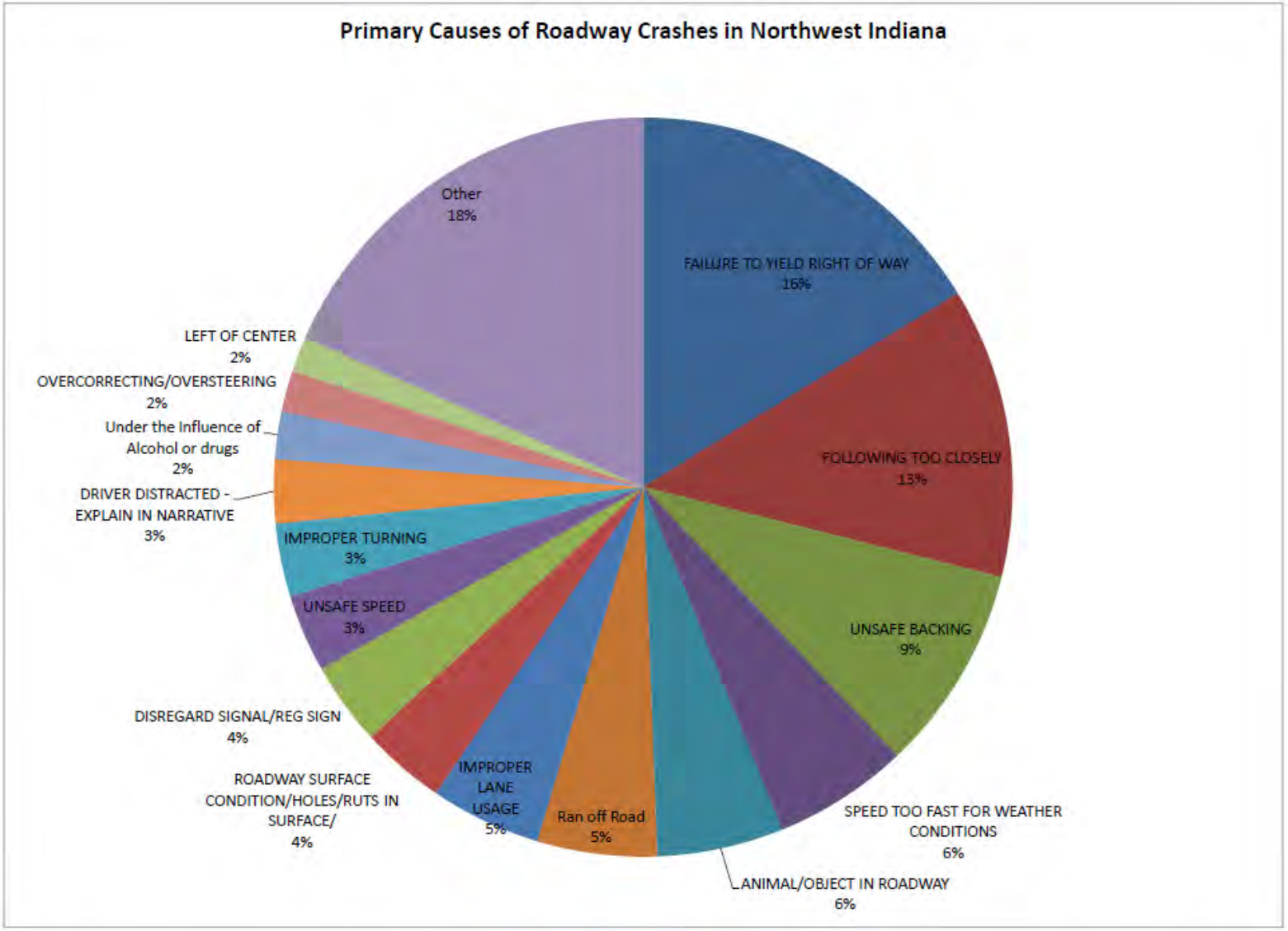
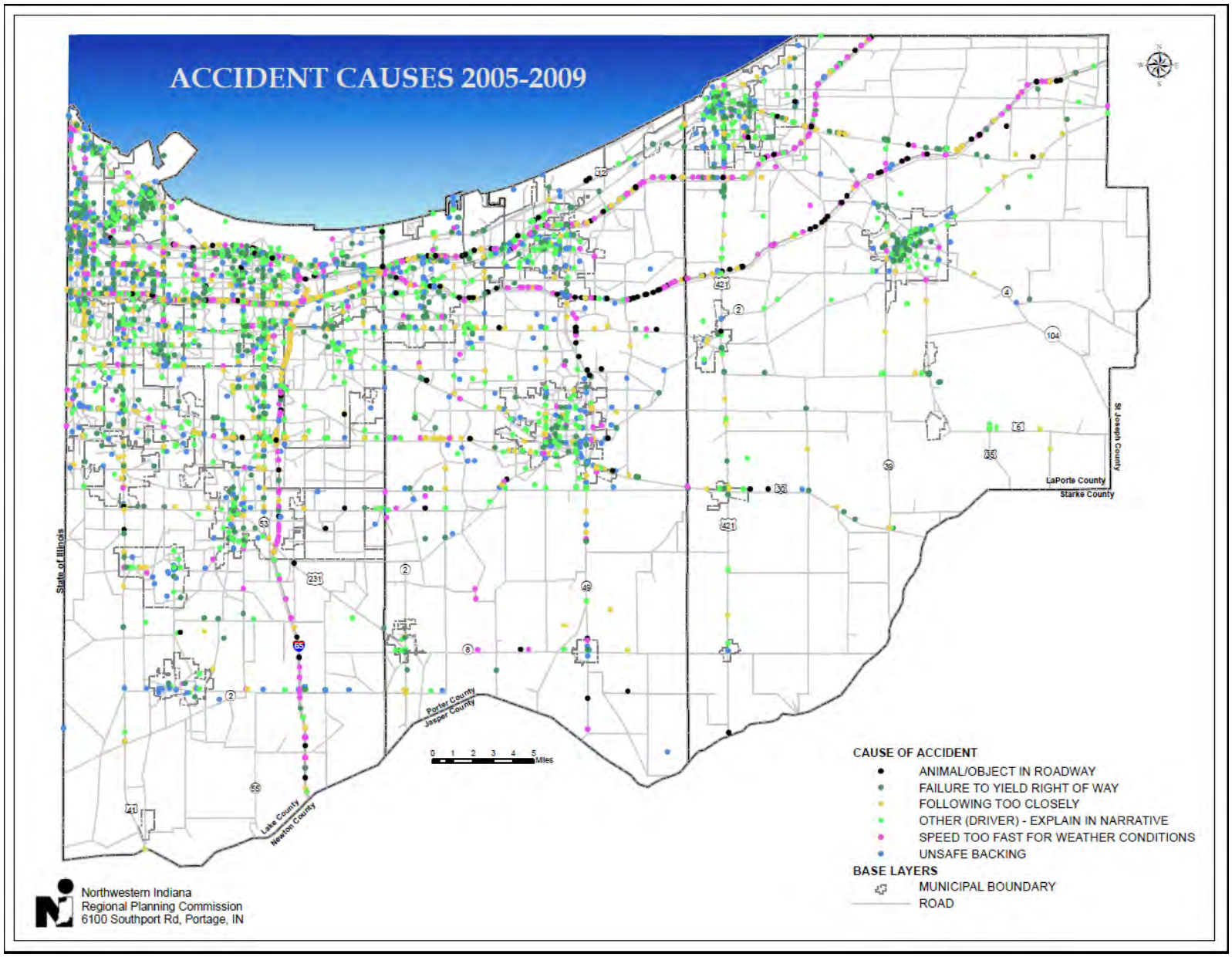


Figure II.2 Primary Causes of Roadway Collisions in Northwest Indiana


ACCIDENT CAUSES 2005-2009
State of Illinois
Lake County
Newton County
Porter County
Jasper County
LaPorte County
Starke County
St Joseph County
0 1 2 3 4 5 Miles
CAUSE OF ACCIDENT
ANIMAL/OBJECT IN ROADWAY
FAILURE TO YIELD RIGHT OF WAY
FOLLOWING TOO CLOSELY
OTHER (DRIVER) - EXPLAIN IN NARRATIVE
SPEED TOO FAST FOR WEATHER CONDITIONS
UNSAFE BACKING
BASE LAYERS
MUNICIPAL BOUNDARY
ROAD
Northwestern Indiana
Regional Planning Commission
6100 Southport Rd, Portage, IN

Education

- Set up an extensive media campaign for Northwest Indiana directed toward issues such as impaired driving, distracted driving, aggressive driving, weather conditions and rural roads. That can be achieved by creating banners, bumper stickers, billboards and other means to promote safety.
- Conduct a safety event that can be targeted toward occupant protection, elimination ofdistractions while driving and elimination ofaggressive driving.
- Participate in training and educational events in rural communities in Northwest Indiana in an effort to maximize communication with the rural areas.

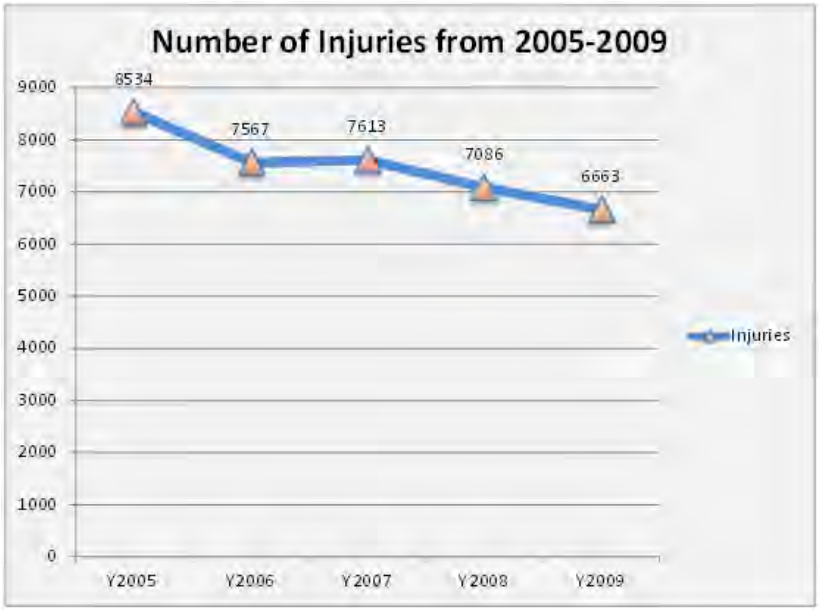
Enforcement

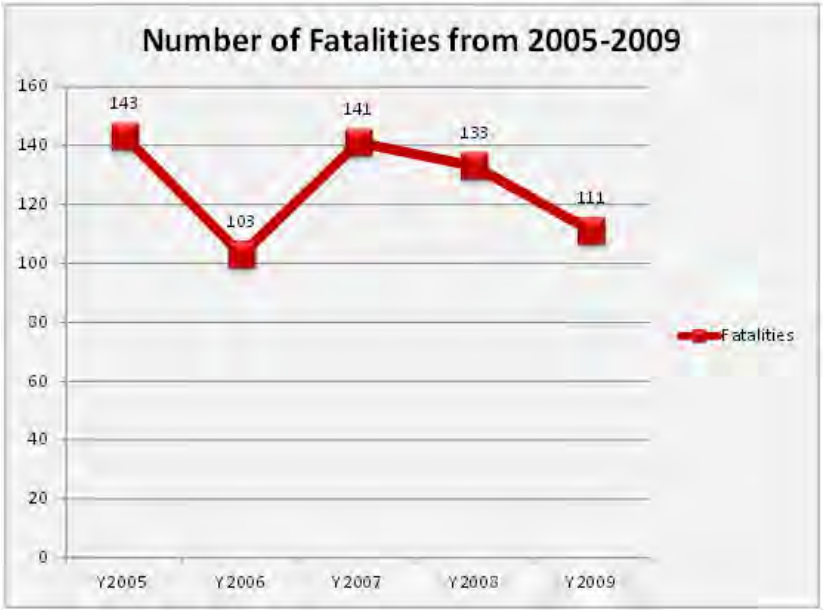
- NIRPC will develop and participate in training courses through the state for local law enforcement responders regarding issues affecting transportation safety and traffic control.
- NIRPC will support law enforcement campaigns targeted to specific locations, driver behaviors and travel seasons.

Emergency Services

- NIRPC will support the region's effort to improve crash management through appropriate enforcement, emergency response, roadside assistance and Intelligent Transportation Systems (ITS) techniques.

Supporting Data





Failure to yield ROW

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
US 30 & US 41	161	US 6 & Willowcreek Road	44	US 421 & US 20	72
Calumet Ave & Ridge Road	107	US 30 & SR 130	41	US 421 & CR 400 N	59
45th Ave & Calumet Ave	90	US 6 &McCool Road	34	SR 2 & SR 35	49
US 30 & SR 53	77	Vale Park rd & Calumet Road	34	SR 2 & Tyler st.	38
SR 51 & Central Ave	76	SR 49 & Indian Boundary Road	30	US 421 & Barker Road	32

Following too Closely

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
Indianapolis Blvd & Main st.	142	US 30 & CR 600 W	39	US 20 & US 421	54
US30 & US 41	141	SR 130 & US 30	39	CR 400 N & US 421	29
SR 53 & US 30	138	US 6 & Willowcreek Road	35	US 35 & SR 2	33
Calumet & 45th Ave	129	US 30 & CR 500 W	35	michigan Road & jackson st.	26
US 30 & Mississippi st.	118	CR 475 & US 30	34	US 421 & Barker Road	26
		SR 49 & Indian Boundary Road	34		

Other (Driver)

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
Ridge & Indianapolis Blvd	54	SR 49 & Indian Boundary Road	54	US 20 & US 421	20
Calumet Ave & US 30	46	US 30 & SR 130	31	US 421 & Village Road	18
US 30 & Mississippi st.	45	Ridge and County Line	29	SR 2 & Audlrey st.	17
912 & I-80/94	41	Calumet Ave & CR 400 N	19	SR 2 & SR 4	16
Coloroado Ave & US 30	40	US 30 & Silhavy Road	18	US 35 & Truesdell st.	13

Unsafe Backing

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
US 20 & SR 51	49	US 20 & Wagner Road	33	SR 2 & Audlrey st.	42
Burr st. & 25th Ave	39	Calumet Road & Broadway	31	US 421 & Meijer Drive	31
US 41 & 67th Ave	37	Indian Boundary Road & SR 49	27	US 421 & US 20	28
SR 55 & Birch St.	35	US 20 & I-94	20	US 421 & Lakespur Road	27
US 30 & Calumet Ave	32	SR 130 & CR 400 N	20	US 421 & Barker Road	26

Unsafe Speed for Weather Conditions

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
SR 912 & I-80/94	55	SR 49 & I-94	25	US 20 & I-94	37
I-65 & US 231	44	I-94 & SR 249	24	I-80/90 at CR 700 N	16
I-80/94 & Calumet Ave	40	I-94 at CR 500 E	23	I-80/90 over US 35	15
SR 53 & I-80/94	38	I-94 at CR 425 E	20	I-80/90 & SR 39	14
I-65 & 61st Ave	33	US 30 & CR 475 W	18	I-94 over Johnson rd.	13
		Calumet Road & US 6	18		

Animal/ Object in Roadway

Lake County		Porter County		Laporte County	
Intersection	Number of Incidents	Intersection	Number of Incidents	Intersection	Number of Incidents
I-94 & I-65	27	US 6 & Calumet Road	33	County Line Road & I-80/90	16
SR 912 & I-94	19	SR 130 & Sturdy Road	22	I-80/90 & Woznak Road	16
US 30 & SR 51	18	CR 400 E & US 6	16	US 20 & Motts PKWY	12
I-94 Over I-80/90	18	Divison Road & Meridian st.	15	US 20 & Meers Road	10
US 231 & I 65	15	US 20 & Waverly Road	15	I-94 & US 421	10
				SR 212 & CR 800 N	10