In 2010, 1,045 bicyclists were involved in Indiana motor vehicle collisions, a 7 percent increase from 2009 (975). Approximately 9 percent of these individuals experienced serious or life threatening injuries, with 14 suffering fatal injuries and 81 suffering incapacitating injuries (Table 1). Each year, in partnership with the Indiana Criminal Justice Institute, the Center for Criminal Justice Research (CCJR) produces a series of traffic safety reports for Indiana. These reports discuss various aspects of traffic collisions, including alcohol-related crashes, light and large trucks, dangerous driving, child passenger safety, motorcycles, occupant protection, and young drivers. During the winter of 2011, Bicycle Indiana requested the assistance of CCJR in analyzing Indiana collisions involving bicycles. This fact sheet summarizes data trends at the national, state, and local levels on traffic collisions involving bicycles between 2006 and 2010. Indiana data were extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2011.

**OVERVIEW**

The National Highway Traffic Safety Administration (NHTSA) reports that, nationally, in 2009, 51,000 bicyclists were injured in motor vehicle collisions. Bicyclists killed in 2009 traffic collisions (630) represented slightly less than 2 percent of the 33,808 traffic fatalities in the United States.

Table 1 shows that, between 2006 and 2010, bicyclists represented 1.3 percent of Indiana traffic fatalities. While the number of Indiana bicyclist fatalities resulting from Indiana collisions increased between 2009 (7) and 2010 (14), the number of Indiana bicyclist fatalities decreased 7.4 percent annually on average between 2006 and 2010.

Since 2006, non-motorists (pedestrians and bicyclists) represented only 1 percent of all individuals involved in Indiana traffic collisions and 9.4 percent of all Indiana traffic fatalities. Figure 2 illustrates the percent of individuals killed or injured in collisions by person type between 2006 and 2010. Among bicyclists involved in collisions in 2010, 1.6 percent were killed and 9.3 percent suffered an incapacitating injury.

### Table 1. Injury status among bicyclists involved in Indiana collisions, 2006-2010

<table>
<thead>
<tr>
<th>Bicyclist injuries</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Total</th>
<th>% change ('09 -'10)</th>
<th>Average annual % change ('06-'10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All bicyclists</td>
<td>1,024</td>
<td>1,170</td>
<td>1,100</td>
<td>975</td>
<td>1,045</td>
<td>5,314</td>
<td>7.2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Fatalities</td>
<td>19</td>
<td>13</td>
<td>16</td>
<td>7</td>
<td>14</td>
<td>69</td>
<td>100.0%</td>
<td>-7.4%</td>
</tr>
<tr>
<td>Incapacitating injuries</td>
<td>89</td>
<td>84</td>
<td>66</td>
<td>64</td>
<td>81</td>
<td>384</td>
<td>26.6%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Non-incapacitating injuries</td>
<td>763</td>
<td>875</td>
<td>809</td>
<td>739</td>
<td>768</td>
<td>3,954</td>
<td>3.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other injuries</td>
<td>14</td>
<td>24</td>
<td>20</td>
<td>9</td>
<td>12</td>
<td>79</td>
<td>33.3%</td>
<td>-3.8%</td>
</tr>
<tr>
<td>Not injured</td>
<td>139</td>
<td>174</td>
<td>189</td>
<td>156</td>
<td>170</td>
<td>828</td>
<td>9.0%</td>
<td>5.2%</td>
</tr>
<tr>
<td>% Fatal</td>
<td>1.9%</td>
<td>1.1%</td>
<td>1.5%</td>
<td>0.7%</td>
<td>1.3%</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

Source: Indiana State Police
BICYCLE COLLISIONS BY AGE
NHTSA reports that the average age of bicyclists killed in U.S. traffic collisions in 2009 was 41.2 Bicyclists ages 16 and under represented 13 percent of all bicyclists killed in 2009 collisions nationally. In Indiana, the average age of bicyclists involved in 2010 collisions was 28, and the average age of bicyclists killed was 33. The 8 to 15 year-old age group represented the largest number of bicyclists (284) involved in 2010 collisions. Considering all individuals involved in collisions by age group, the younger age groups (8 to 20 years old) had the highest percentages of bicyclists suffering fatal and incapacitating injuries (Table 2).

BICYCLISTS INVOLVED IN COLLISIONS BY COLLISION TYPE
Bicyclists are at a greater risk for serious injury relative to vehicle occupants, particularly among certain types of collisions. Table 3 depicts the number and percentage of individuals injured or killed in Indiana traffic collisions in 2010 by person type, collision type, and injury status. An estimated 1.3 percent of bicyclists involved in 2010 collisions were killed, compared to only 0.2 percent of vehicle occupants, indicating that a bicyclist is 6 times more likely to be killed in a collision than a vehicle occupant. Likewise, bicyclists involved in hit-and-run collisions were 17 times more likely to be killed than vehicle occupants. The relative risk of fatal injury to bicyclists in distracted driving collisions was 80 times greater than that of vehicle occupants.

Figure 2. Individuals seriously injured in Indiana collisions, by person type, 2006-2010

Source: Indiana State Police
Note: Vehicle occupant include drivers, injured occupants, and animal-drawn vehicle operators. Individuals with null values or reported as died of natural causes in the injury status field are excluded from percentage calculations.
Table 3.  Individuals involved in Indiana collisions by age group, bicyclist involvement, and injury status, 2010

<table>
<thead>
<tr>
<th>Age group</th>
<th>All involved</th>
<th>Fatal injuries</th>
<th>Incapacitating injuries</th>
</tr>
</thead>
</table>
|           | Total indivi-
| duals involved | Bicyclists involved | Bicyclists as % of total | Total indivi-
| duals involved | Bicyclists involved | Bicyclists as % of total | Total indivi-
| dals involved | Bicyclists involved | Bicyclists as % of total |
| < 1       | 831          | 1 | 0.1 | 3 | 0 | 0 | 12 | 1 | 8.3 |
| 1 - 3     | 562          | 1 | 0.2 | 4 | 0 | 0 | 28 | 0 | 0.0 |
| 4 - 7     | 888          | 31 | 3.5 | 6 | 0 | 0 | 47 | 4 | 8.5 |
| 8 - 15    | 3,347        | 284 | 8.5 | 20 | 1 | 5 | 148 | 15 | 10.1 |
| 16 - 20   | 47,885       | 171 | 0.4 | 96 | 5 | 5.2 | 472 | 11 | 2.3 |
| 21 - 24   | 32,587       | 105 | 0.3 | 67 | 0 | 0.0 | 344 | 8 | 2.3 |
| 25 - 34   | 59,233       | 122 | 0.2 | 105 | 2 | 1.9 | 641 | 9 | 1.4 |
| 35 - 44   | 51,508       | 94 | 0.2 | 110 | 3 | 2.7 | 520 | 10 | 1.9 |
| 45 - 54   | 49,748       | 139 | 0.3 | 124 | 0 | 0.0 | 538 | 15 | 2.8 |
| 55 - 64   | 35,508       | 69 | 0.2 | 80 | 2 | 2.5 | 367 | 7 | 1.9 |
| 65 - 74   | 17,327       | 19 | 0.1 | 67 | 1 | 1.5 | 185 | 0 | 0.0 |
| 75 and over | 11,526     | 5 | 0.0 | 71 | 0 | 0.0 | 138 | 1 | 0.7 |
| Unknown   | 281          | 4 | 0.1 | 1 | 0 | 0.0 | 3 | 0 | 0.0 |
| Total     | 311,231      | 1,045 | 0.3 | 754 | 14 | 1.9 | 3,443 | 81 | 2.4 |

Source: Indiana State Police

Note: Unknown age group is excluded from the Lo-Hi categorization of bicyclists as a % of total.

Table 2. Individuals involved in Indiana collisions, by collision type, person type, and injury status, 2010

<table>
<thead>
<tr>
<th>Collision type/person type</th>
<th>All involved</th>
<th>Fatal</th>
<th>Incapacitating</th>
<th>Non-incapacitating</th>
<th>Other</th>
<th>% Fatal</th>
<th>Relative risk of bicyclist fatality</th>
</tr>
</thead>
<tbody>
<tr>
<td>All collisions</td>
<td>309,434</td>
<td>692</td>
<td>3,192</td>
<td>42,885</td>
<td>262,665</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Bicyclist</td>
<td>1045</td>
<td>14</td>
<td>81</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.09</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>308,389</td>
<td>678</td>
<td>3,111</td>
<td>42,117</td>
<td>262,483</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.3%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>1.8%</td>
<td>0.1%</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>Alcohol-impaired</td>
<td>7,268</td>
<td>126</td>
<td>251</td>
<td>1,818</td>
<td>5,073</td>
<td>1.7%</td>
<td>0.0</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>7,268</td>
<td>126</td>
<td>251</td>
<td>1,818</td>
<td>5,073</td>
<td>1.7%</td>
<td>0.0</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>7,268</td>
<td>126</td>
<td>251</td>
<td>1,818</td>
<td>5,073</td>
<td>1.7%</td>
<td>0.0</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.8%</td>
<td>0.2%</td>
<td>0.0%</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>Speed-related</td>
<td>27,924</td>
<td>139</td>
<td>555</td>
<td>5,355</td>
<td>21,875</td>
<td>0.5%</td>
<td>0.0</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>27,900</td>
<td>139</td>
<td>551</td>
<td>5,337</td>
<td>21,873</td>
<td>0.5%</td>
<td>0.0</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>27,900</td>
<td>139</td>
<td>551</td>
<td>5,337</td>
<td>21,873</td>
<td>0.5%</td>
<td>0.0</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.7%</td>
<td>0.3%</td>
<td>0.0%</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>Disregard traffic signal</td>
<td>8,909</td>
<td>15</td>
<td>128</td>
<td>2,337</td>
<td>6,429</td>
<td>0.2%</td>
<td>0.0</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>8,903</td>
<td>15</td>
<td>128</td>
<td>2,331</td>
<td>6,429</td>
<td>0.2%</td>
<td>0.0</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>8,903</td>
<td>15</td>
<td>128</td>
<td>2,331</td>
<td>6,429</td>
<td>0.2%</td>
<td>0.0</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.0%</td>
<td>na</td>
<td></td>
</tr>
<tr>
<td>Hit-and-run</td>
<td>18,145</td>
<td>16</td>
<td>99</td>
<td>1,874</td>
<td>16,156</td>
<td>0.1%</td>
<td>16.7</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>18,006</td>
<td>17</td>
<td>139</td>
<td>2,840</td>
<td>15,010</td>
<td>0.1%</td>
<td>79.9</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>18,006</td>
<td>17</td>
<td>139</td>
<td>2,840</td>
<td>15,010</td>
<td>0.1%</td>
<td>79.9</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.2%</td>
<td>11.8%</td>
<td>2.9%</td>
<td>0.6%</td>
<td>0.0%</td>
<td>na</td>
<td></td>
</tr>
</tbody>
</table>

Source: Indiana State Police

Notes: Vehicle occupant includes drivers and passengers of all motor vehicles (including motorcycles) and animal-drawn vehicles. Pedestrians are excluded.

Relative risk of bicyclist fatality is calculated as % fatal - bicyclist/% fatal - vehicle occupant.
BICYCLE COLLISIONS BY TIME OF DAY AND DAY OF WEEK
The distribution of bicycle collision counts by time of day and day of week follows a similar pattern to the distribution of all collisions. Figure 3 illustrates peaks in bicycle collision counts occur during the same periods that peaks occur in overall collision counts, particularly during evening rush hour when traffic levels are elevated and exposure to collisions is greater.

BICYCLE COLLISIONS BY MONTH AND TIME OF DAY
The largest number of bicycle collisions in 2010 occurred during summer months, indicating the seasonal nature of bicycle usage and higher exposure to collisions in warmer months (Figure 4). August accounted for the largest monthly total of day time bicycle collisions (102), and the months of July (50) and September (50) accounted for the largest monthly total of night time bicycle collisions. On average, monthly counts of day time bicycle

Figure 3. Indiana collisions, by bicycle involvement, hour, and day of week, 2010

Figure 4. Indiana traffic collisions involving bicycles by month and day/night, 2010

Source: Indiana State Police
Notes: Data exclude collisions with invalid time reported.
AM is defined as 12:00am (midnight) to 11:59am. PM is defined as 12pm (noon) to 11:59pm.
Source: Indiana State Police
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.
collisions are higher than counts of bicycle collisions occurring at night. The average monthly count of bicycle collisions occurring during day hours in 2010 was 58 compared to an average count of 28 for bicycle collisions occurring during night hours. Both day time and night time bicycle collision counts exceeded monthly averages during the months of May through October. Day time bicycle collision counts also exceeded the monthly average in April.

**The Geography of Indiana Bicycle Collisions**

**Bicycle Collisions by Locale**

In 2011, CCJR developed a new 4-category (urban, suburban, exurban, rural) locale element that improves upon the existing ARIES 2-category (urban, rural) locale element by providing a more informative characterization of the location of collisions. Locale is of particular importance in planning traffic safety initiatives and reducing motor vehicle collisions and resulting injuries and deaths. Urban is defined as Census Urban Areas, suburban as areas within 2.5 miles of urban boundaries, exurban as areas within 2.5 miles of suburban boundaries, and rural as areas beyond exurban boundaries (i.e., everything else).

Bicycle collision counts in 2010 were higher in Indiana urban (891) locales than in surrounding suburban (63), exurban (21) and rural (23) areas. The rate of bicycle collisions per 1,000 total collisions was also higher in urban locales (7.8) than in other, less densely populated areas (Figure 5). However, 2010 rates of serious injury bicycle collisions per 1,000 total bicycle collisions were higher in suburban (238.1), exurban (238.1) and rural (173.9) locales than in areas designated as urban (74.1).

**Bicycle Collisions by Road Class**

Bicycle collision counts were highest on local/city roads (806 in 2010) and no bicycle collisions occurred on interstates. Figure 6 shows that the rate of bicycle collisions per 1,000 total collisions was also higher on local/city roads (9.4) than on U.S. routes (3.0), county roads (2.3), and state roads (2.3). However, rates of serious injury bicycle collisions were highest on county roads (245.3) and state roads (229.5).
Bicycle Collisions by County

Map 1 illustrates Indiana county rates of bicycle collisions in 2010. Forty-five of 92 Indiana counties had a bicycle collision rate greater than the median county bicycle collision rate per 1,000 total county collisions of 3.0, with LaGrange County representing the highest bicycle collision rate (12.6). A number of counties with high rates of bicycle collisions are the locations of large universities (Monroe, Vigo, Delaware, and Tippecanoe) where bicycle usage as a primary mode of transportation is greater than in other locations. Counties with large Amish populations (LaGrange, Elkhart, Daviess, and Rush) also had high rates of bicycle collisions.

Density analyses of motor vehicle collisions involving bicycles (i.e., bicycle-involved collisions) in five Indiana metropolitan areas (Indianapolis region, Ft. Wayne, Evansville, Bloomington, Columbus) indicate that these types of collisions cluster around existing and proposed bicycle paths as might be expected. CCJR researchers extracted location coordinates for collisions involving bicycles from the ARIES database, and these data were imported into the ArcMap GIS to identify high-density clusters of bicycle collisions. Bicycle path data were provided by each regional metropolitan planning organization separately and thus the data are not uniform. For example, some cities included park and off-road bicycle trails in their bicycle path data while others did not. This analysis did not consider different types of bicycle paths separately.

The greatest densities appear to be around bicycle paths that are also in high-traffic areas. For example, in Indianapolis, the most dense areas of bicycle collisions were located around the Indianapolis Cultural, Michigan Avenue, New York Street, and White River Greenway trails in downtown Indianapolis, radiating outward from the intersection of N Delaware and E Ohio Street (Map 2). Similarly, the greatest densities in Fort Wayne radiate outward from the Wayne and S Calhoun Street intersection (Map 3). Though several clusters are apparent in Evansville, the greatest density is observed around the Franklin-Virginia bicycle route near the intersection of W Franklin Road and N Fulton Avenue (Map 4). Similarly, Bloomington exhibits clustering in several areas, but the greatest clustering is observed along the high-traffic Walnut Street corridor from Grimes Street to the south and extending north through the Indiana University campus to E 17th Street (Map 5). Only 11 bicycle-involved collisions occurred in Columbus, Indiana in 2010, with the greatest clustering observed radiating outward from the intersection of Lafayette Avenue and 16th Street (Map 6).
Map 1. Indiana bicycle collisions per 1,000 total collisions, 2010

Median rate = 3.0
n = 1,031 bicycle collisions

Per 1,000 total county collisions

Source: Indiana State Police
Map 2a. Density of collisions (2010) involving bicycles relative to bicycle paths, Indianapolis-Central Indiana region

Sources: Indiana State Police (collisions) Indianapolis Metropolitan Planning Organization (bike paths)
Map 2b. Density of collisions (2010) involving bicycles relative to bicycle paths, Marion County

Sources: Indiana State Police (collisions) Indianapolis Metropolitan Planning Organization (bike paths)
Map 3. Density of collisions (2010) involving bicycles relative to bicycle paths, Fort Wayne-Allen County, Indiana

Sources: Indiana State Police (collisions) Northeastern Indiana Regional Coordinating Council (bike paths)

Sources: Indiana State Police (collisions) Evansville Metropolitan Planning Organization (bike paths)
Map 5. Density of collisions (2010) involving bicycles relative to bicycle paths, Bloomington, Indiana

Sources: Indiana State Police (collisions) Bloomington/Monroe County Metropolitan Planning Organization (bike paths)
Map 6. Density of collisions (2010) involving bicycles relative to bicycle paths, Columbus, Indiana

Sources: Indiana State Police (collisions) Columbus Area Metropolitan Planning Organization (bike paths)
Though bicycle-involved collisions tended to cluster around existing and proposed bicycle paths in each of the five cities examined, the proximity of these collisions to bicycle paths varied by city, and the densities are predictably higher in areas with more widely developed bike paths. For example, 90 percent of all bicycle-involved collisions in Bloomington occurred within a quarter mile of bicycle paths, compared to 21 percent in Evansville (Figure 7). Nearly all bicycle-involved collisions occurred within one mile of bicycle paths in Bloomington (94 percent) and Indianapolis (96 percent), while a much smaller proportion occurred within a mile in Columbus (73 percent), Evansville (82 percent), and Fort Wayne (84 percent).

In trying to understand the causes of bicycle-involved collisions, it may be just as instructive to examine low density areas near bicycle paths as high density areas, because low density areas may reveal mitigating factors that are contributing to a reduced likelihood of bicycle-involved collisions around those paths. For instance, bicycle paths in low density areas might share common characteristics such as better path design, lower usage rates, different usage types and better rider safety, little or no motor vehicle traffic, and/or slower traffic speeds. It should be noted that for this analysis, some paths are incomplete or have only been proposed. Thus, the absence of bicycle collisions near some paths may be due to low or no usage, rather than a safer riding environment on or around paths.

**CONCLUSION**

Research findings suggest that bicyclists involved in Indiana collisions are at greater risk of serious bodily injuries than motorists (Table 3). This higher vulnerability among bicyclists is due in part to increased protection provided to motorists through the availability of effective safety devices such as seatbelts, airbags, and other safety features included in motor vehicles specifically to protect vehicle occupants and, more obviously, to the large differential between the mass and weight of bicycles versus motor vehicles. NHTSA emphasizes that each state should implement a comprehensive highway safety program to include a pedestrian and bicycle safety program that promotes safe pedestrian and bicycling practices, educates drivers to share the road safely with other road users, and provides safe facilities for pedestrians and bicyclists through a combination of policy, enforcement, communication, education, incentive, and engineering strategies.Various Indiana statutes have been enacted to encourage bicycle safety on a variety of issues including the use of proper safety equipment and sharing the roadways between bicyclists and motor vehicle operators (see text box, Indiana Bicycle Laws). The mission of Bicycle Indiana is to promote safe bicycling; educate bicyclists, motorists, and policy-makers; and advocate for laws, policies, and infrastructure to increase bicycling in Indiana. Bicycle Indiana continues to work with legislators, state and local agencies, and other stakeholder organizations to improve bicycle safety in Indiana.
INDIANA BICYCLE LAWS

IC 9-21-11-1 Children and wards; bicycles; violations
Sec. 1 (a) The parent of a child and the guardian of a protected person may not authorize or knowingly permit the child or protected person to violate this chapter.
(b) Subject to the exceptions stated, the provisions of this chapter applicable to bicycles apply whenever a bicycle is operated upon a highway or a path set aside for the exclusive use of bicycles.

IC 9-21-11-2 Riding on roadways; rights and duties
Sec. 2. A person riding a bicycle upon highway has all the rights and duties under this article that are applicable to a person who drives a vehicle. Except the following:
(1) Special regulations of this article.
(2) Those provisions of this article that by their nature have no application.

IC 9-21-11-3 Seats
Sec. 3. (a) A person propelling a bicycle may not:
(1) Ride other than upon the permanent and regular seat attached to the bicycle; or
(2) Carry any other person upon the bicycle who is not seated upon a firmly attached and regular seat on the bicycle.
(b) A person may not ride upon a bicycle unless seated under this section.

IC 9-21-11-4 Passengers
Sec. 4. A bicycle may not be used to carry more persons at one (1) time than the number for which the bicycle is designed and equipped.

IC 9-21-11-5 Hitching Rides on Motor vehicles or street cars
Sec. 5. A person upon a bicycle, a coaster, roller skates, or a toy vehicle may not attach the bicycle, coaster, rollers skates or toy vehicle or the person to a street car or vehicle upon a roadway.

IC 9-21-11-6 Riding two abreast
Sec. 6. A person riding a bicycle upon a roadway may not ride more than two (2) abreast except on paths or parts of roadways set aside for the exclusive use of bicycles.

IC 9-21-11-7 Carrying articles
Sec. 7. A person who rides a bicycle may not carry a package, a bundle or an article that prevents the person from keeping both hands upon the handlebars.

IC 9-21-11-8 Bells or other audible signal devices
Sec. 8. A person may not ride a bicycle unless the bicycle is equipped with a bell or other device capable of giving a signal audible for a distance of at least one hundred (100) feet. A bicycle may not be equipped with and a person may not use upon a bicycle a siren or whistle.

IC 9-21-11-9 Lamps and reflectors
Sec. 9 A bicycle operated on a highway from one-half hour after sunset until one-half hour before sunrise must be equipped with the following:
(1) A lamp on the front exhibiting a white light visible from a distance of at least five hundred (500) feet to the front.
(2) A lamp on the rear exhibiting a red light visible from a distance of five hundred (500) feet to the rear or a red reflector visible from a distance of five hundred (500) feet to the rear.

IC 9-21-11-10 Brakes
Sec. 10. A bicycle must be equipped with a brake that will enable the person who operates the bicycle to make the braked wheels skid on dry, level, clean pavement.

IC 9-21-11-11 Traffic regulation and requirements
Sec. 11. A person who operates a bicycle upon a highway shall observe the regulations and requirements of this article.

IC 9-21-11-14 Violations
Sec. 14. A person who violates this chapter commits a Class C infraction.

IC 9-13-2-14 Bicycle
Sec. 14. “Bicycle” means any foot-propelled vehicle, irrespective of the number of wheels in contact with the ground.

Source: http://www.in.gov/legislative/ic_iac/

2NHTSA, DOT HS 811 386.
4Densities were not normalized to account for different usage rates between bicycle paths. Maps presented here use a half-mile search radius and one-tenth-mile cell size. The size of the search radius is inversely related to observed density variation; that is, larger search radii result in fewer high density clusters as neighboring clusters that would be separate using a smaller search. Radii combine to form a single cluster when using a larger search radius.
This publication was prepared on behalf of Bicycle Indiana by the Indiana University Center for Criminal Justice Research (CCJR), and funded in part by a grant awarded to Bicycle Indiana by the Federal Highway Administration, Indiana Department of Transportation, and the Indiana State Department of Health. Please direct any questions concerning information in this document to CCJR at 317-261-3000.

An electronic copy of this document can be accessed via the CCJR website (www.ccjr.iupui.edu), or you may contact the Center for Criminal Justice Research at 317-261-3000.

BICYCLE INDIANA
Bicycle Indiana promotes safe bicycling; educates bicyclists, motorists, and policy-makers; and advocates for laws, policies, and infrastructure to increase bicycling in Indiana. The purpose of Bicycle Indiana is to legitimize the bicycle in the State of Indiana through a cohesive state organization that represents the interest of all bicycle users and addresses all areas of concern to bicycle users (www.bicycleindiana.org).

Bicycle Indiana was founded in 1993 as a non-profit organization serving Indiana bicyclists and is a state-wide organization open to individuals and organizations who support the mission and purposes of the organization. Bicycle Indiana is governed through a Board of Directors, elected at an annual meeting, consisting of a Chairperson, Vice Chairperson, Secretary, Treasurer, two Regional Directors for each of the following areas (Northern, Central, Southern Regions) and two At-Large Directors.

INDIANA UNIVERSITY PUBLIC POLICY INSTITUTE
The Indiana University (IU) Public Policy Institute is a collaborative, multidisciplinary research institute within the Indiana University School of Public and Environmental Affairs (SPEA), Indianapolis. The Institute serves as an umbrella organization for research centers affiliated with SPEA, including the Center for Urban Policy and the Environment and the Center for Criminal Justice Research. The Institute also supports the Indiana Advisory Commission on Intergovernmental Relations (IACIR).

THE CENTER FOR CRIMINAL JUSTICE RESEARCH
The Center for Criminal Justice Research, one of two applied research centers currently affiliated with the Indiana University Public Policy Institute, works with public safety agencies and social services organizations to provide impartial applied research on criminal justice and public safety issues. CCJR provides analysis, evaluation, and assistance to criminal justice agencies; and community information and education on public safety questions. CCJR research topics include traffic safety, crime prevention, criminal justice systems, drugs and alcohol, policing, violence and victimization, and youth.

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