INTRODUCTION

In 2013, 1,031 bicyclists were involved in Indiana motor vehicle collisions, an 8 percent decrease from 2012 (1,118). More than 9 percent of these individuals experienced serious or life threatening injuries, with 15 bicyclists killed and 82 suffering incapacitating injuries (Table 1). Between 2009 and 2013, nearly 61 percent of Indiana bicyclist fatalities in collisions occurred in urban areas, 13 percent in suburban areas, 15 percent in exurban areas, and 11 percent in rural areas (Figure 1). Each year, in partnership with the Indiana Criminal Justice Institute, the Indiana University Public Policy Institute (Institute) produces a series of traffic safety publications. These reports discuss various characteristics of traffic collisions, including impaired driving, speeding, seatbelt usage, child passenger safety, and motorcyclist and young driver involvement in collisions. Bicycle Indiana, a statewide organization that advocates for laws, policies, and infrastructure to increase bicycling and improve bicycle safety in Indiana, requested the assistance of the Institute in analyzing Indiana bicycle commuter characteristics, bicyclist involvement in Indiana collisions, and current efforts to create bicycle-friendly communities throughout the state. This fact sheet summarizes data trends at state and local levels on traffic collisions involving bicycles between 2009 and 2013, and provides a summary of select community efforts to promote bicycling and improve bicycle safety. Indiana collision data were extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014.

Figure 1. Bicyclist fatalities in Indiana collisions, by locale, 2009-2013

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014

Note: Census locale: *Urban* is defined as Census 2000 Urban Areas (2007-2009) or Census 2010 Urban Areas (2010-2011), *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).
The National Highway Traffic Safety Administration (NHTSA) reports that, nationally, in 2012, 726 bicyclists were killed in U.S. motor vehicle collisions, and 49,000 bicyclists were injured (DOT HS 812 018). Bicyclists killed in 2012 traffic collisions represented 2 percent of the 33,561 traffic fatalities in the United States.

Since 2009, non-motorists (pedestrians and bicyclists) represented only 1 percent of all individuals involved in Indiana traffic collisions and 10 percent (384 of 3,751) of all Indiana traffic fatalities. Figure 2 illustrates the percent of individuals killed or injured in collisions by person type between 2009 and 2013. Among bicyclists involved in collisions in 2013, 1.5 percent were killed and 8 percent suffered an incapacitating injury.

### Table 1. Bicyclists involved in Indiana collisions, by injury status, 2009-2013

<table>
<thead>
<tr>
<th>Bicyclist injuries</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Annual rate of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All bicyclists</td>
<td>975</td>
<td>1,045</td>
<td>956</td>
<td>1,118</td>
<td>1,031</td>
<td></td>
</tr>
<tr>
<td>Fatalities</td>
<td>7</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>7.1% 21.0%</td>
</tr>
<tr>
<td>Incapacitating injuries</td>
<td>64</td>
<td>81</td>
<td>82</td>
<td>97</td>
<td>82</td>
<td>-15.5% 6.4%</td>
</tr>
<tr>
<td>Non-incapacitating injuries</td>
<td>739</td>
<td>768</td>
<td>683</td>
<td>782</td>
<td>729</td>
<td>-6.8% -0.3%</td>
</tr>
<tr>
<td>Other injuries</td>
<td>9</td>
<td>12</td>
<td>16</td>
<td>14</td>
<td>10</td>
<td>-28.6% 2.7%</td>
</tr>
<tr>
<td>Not injured</td>
<td>156</td>
<td>170</td>
<td>162</td>
<td>211</td>
<td>195</td>
<td>-7.6% 5.7%</td>
</tr>
</tbody>
</table>

% Fatal: 0.7% 1.3% 1.4% 1.3% 1.5%

### Figure 2. Fatal and incapacitating injuries in Indiana collisions as a percent of all involved, by person type, 2009-2013

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014

Note: Animal-drawn vehicle occupants are excluded.
BICYCLE COLLISIONS BY AGE

According to NHTSA, the average age of bicyclists killed in U.S. traffic crashes was 43 in 2012 (DOT HS 812 018). In Indiana, the average age of bicyclists involved in 2013 collisions was 37, and the average age of bicyclists killed was 45. The 15-to-20 year-old age group represented the largest number of bicyclists (195) involved in 2013 collisions. Considering all individuals involved in collisions by age group, the younger age groups (4 to 14 years old) had the highest percentages of bicyclists suffering fatal injuries (Table 2). Individuals in the 45 to 64 year old age group accounted for 60 percent of bicyclists killed in 2013 collisions.

Table 2. Individuals involved in Indiana collisions by age group, bicyclist involvement, and injury status, 2013

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total individuals involved</th>
<th>Bicyclists involved</th>
<th>Bicyclists as % of total</th>
<th>Total fatalities</th>
<th>Bicyclists involved</th>
<th>Bicyclists as % of total</th>
<th>Total individuals involved</th>
<th>Bicyclists involved</th>
<th>Bicyclists as % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>629</td>
<td>3</td>
<td>0.5</td>
<td>2</td>
<td>0</td>
<td>0.0</td>
<td>6</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>1 - 3</td>
<td>468</td>
<td>0</td>
<td>0.0</td>
<td>8</td>
<td>0</td>
<td>0.0</td>
<td>29</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>4 - 7</td>
<td>912</td>
<td>36</td>
<td>3.9</td>
<td>8</td>
<td>1</td>
<td>12.5</td>
<td>35</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>8 - 14</td>
<td>2,217</td>
<td>181</td>
<td>8.2</td>
<td>17</td>
<td>1</td>
<td>5.9</td>
<td>127</td>
<td>17</td>
<td>13.4</td>
</tr>
<tr>
<td>15 - 20</td>
<td>42,606</td>
<td>195</td>
<td>0.5</td>
<td>87</td>
<td>1</td>
<td>1.1</td>
<td>454</td>
<td>15</td>
<td>3.3</td>
</tr>
<tr>
<td>21 - 24</td>
<td>34,484</td>
<td>123</td>
<td>0.4</td>
<td>84</td>
<td>0</td>
<td>0.0</td>
<td>377</td>
<td>6</td>
<td>1.6</td>
</tr>
<tr>
<td>25 - 34</td>
<td>60,681</td>
<td>142</td>
<td>0.2</td>
<td>131</td>
<td>1</td>
<td>0.8</td>
<td>592</td>
<td>10</td>
<td>1.7</td>
</tr>
<tr>
<td>35 - 44</td>
<td>50,099</td>
<td>90</td>
<td>0.2</td>
<td>104</td>
<td>1</td>
<td>1.0</td>
<td>503</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>45 - 54</td>
<td>48,465</td>
<td>132</td>
<td>0.3</td>
<td>105</td>
<td>4</td>
<td>3.8</td>
<td>583</td>
<td>11</td>
<td>1.9</td>
</tr>
<tr>
<td>55 - 64</td>
<td>37,476</td>
<td>92</td>
<td>0.2</td>
<td>109</td>
<td>5</td>
<td>4.6</td>
<td>408</td>
<td>9</td>
<td>2.2</td>
</tr>
<tr>
<td>65 - 74</td>
<td>19,854</td>
<td>23</td>
<td>0.1</td>
<td>53</td>
<td>0</td>
<td>0.0</td>
<td>195</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>75 and over</td>
<td>11,768</td>
<td>14</td>
<td>0.1</td>
<td>69</td>
<td>1</td>
<td>1.4</td>
<td>134</td>
<td>5</td>
<td>3.7</td>
</tr>
<tr>
<td>Unknown</td>
<td>316</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>na</td>
<td>0</td>
<td>0</td>
<td>na</td>
</tr>
<tr>
<td>Total</td>
<td>309,975</td>
<td>1,031</td>
<td>0.3</td>
<td>777</td>
<td>15</td>
<td>1.9</td>
<td>3,443</td>
<td>82</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of March 21, 2014

Note: Unknown age group is excluded from the Lo-Hi categorization of bicyclists as a % of total.
Table 3 shows the number and percentage of individuals killed or injured in Indiana traffic collisions in 2013 by person type, collision type, and injury status. An estimated 1.5 percent of bicyclists involved in 2013 crashes were killed, compared to only 0.2 percent of vehicle occupants. Ten percent of bicyclists involved in alcohol-impaired were killed, compared to 1.8 percent of vehicle occupants. When considering distracted driving collisions, 5.6 percent of bicyclists experienced fatal injuries and only 0.2 percent of vehicle occupants were killed in this type of collision.

Table 3. Individuals involved in Indiana collisions, by collision type, person type, and injury status, 2013

<table>
<thead>
<tr>
<th>Collision type/person type</th>
<th>Total involved</th>
<th>Fatal</th>
<th>Incapacitating</th>
<th>Non-incapacitating</th>
<th>Other</th>
<th>% Fatal</th>
</tr>
</thead>
<tbody>
<tr>
<td>All collisions</td>
<td>308,183</td>
<td>706</td>
<td>3,236</td>
<td>40,643</td>
<td>263,393</td>
<td>0.2%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>1,031</td>
<td>15</td>
<td>82</td>
<td>729</td>
<td>205</td>
<td>1.5%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>307,152</td>
<td>691</td>
<td>3,154</td>
<td>39,914</td>
<td>263,393</td>
<td>0.2%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.3%</td>
<td>2.1%</td>
<td>2.5%</td>
<td>1.8%</td>
<td>100.0%</td>
<td>na</td>
</tr>
<tr>
<td>Alcohol-impaired</td>
<td>6,857</td>
<td>123</td>
<td>227</td>
<td>1,682</td>
<td>4,805</td>
<td>1.8%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>10</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>10.0%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>6,827</td>
<td>122</td>
<td>222</td>
<td>1,678</td>
<td>4,805</td>
<td>1.8%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.1%</td>
<td>0.8%</td>
<td>2.2%</td>
<td>0.2%</td>
<td>0.0%</td>
<td>na</td>
</tr>
<tr>
<td>Speed-related</td>
<td>28,061</td>
<td>210</td>
<td>573</td>
<td>5,420</td>
<td>21,858</td>
<td>0.7%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>30</td>
<td>0</td>
<td>3</td>
<td>25</td>
<td>2</td>
<td>0.0%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>28,031</td>
<td>210</td>
<td>570</td>
<td>5,395</td>
<td>21,856</td>
<td>0.7%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.1%</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>na</td>
</tr>
<tr>
<td>Disregard traffic signal</td>
<td>9,292</td>
<td>19</td>
<td>128</td>
<td>2,382</td>
<td>6,763</td>
<td>0.2%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0.0%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>9,288</td>
<td>19</td>
<td>128</td>
<td>2,379</td>
<td>6,762</td>
<td>0.2%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>na</td>
</tr>
<tr>
<td>Hit-and-run</td>
<td>18,531</td>
<td>17</td>
<td>103</td>
<td>1,922</td>
<td>16,489</td>
<td>0.1%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>143</td>
<td>3</td>
<td>9</td>
<td>89</td>
<td>42</td>
<td>2.1%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>18,388</td>
<td>14</td>
<td>94</td>
<td>1,833</td>
<td>16,447</td>
<td>0.1%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.8%</td>
<td>17.6%</td>
<td>8.7%</td>
<td>4.6%</td>
<td>0.3%</td>
<td>na</td>
</tr>
<tr>
<td>Distracted driving</td>
<td>17,432</td>
<td>39</td>
<td>167</td>
<td>2,743</td>
<td>14,483</td>
<td>0.2%</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>36</td>
<td>2</td>
<td>3</td>
<td>27</td>
<td>4</td>
<td>5.6%</td>
</tr>
<tr>
<td>Vehicle occupant</td>
<td>17,396</td>
<td>37</td>
<td>164</td>
<td>2,716</td>
<td>14,479</td>
<td>0.2%</td>
</tr>
<tr>
<td>% Bicyclist</td>
<td>0.2%</td>
<td>5.1%</td>
<td>1.8%</td>
<td>1.0%</td>
<td>0.0%</td>
<td>na</td>
</tr>
</tbody>
</table>

Source: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of March 21, 2014

Notes:
1) Vehicle occupant includes drivers and passengers of all motor vehicles (including motorcycles).
2) Pedestrians and animal-drawn vehicles are excluded.
3) A collision is considered alcohol-impaired when any vehicle operator involved has a BAC test result at or above 0.08 g/dL. A non-motorist, such as a bicyclist, can be identified as a driver in the ARIES database.
BICYCLE COLLISIONS BY TIME OF DAY AND DAY OF WEEK

The distribution of bicycle collisions 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 such as evening rush hour roughly between the hours of 4pm and 6pm. Hourly bicycle collision counts continue to be higher, however, into the 7pm hour when overall collision counts typically begin to fall.

Figure 3. Indiana collisions, by bicycle involvement, hour, and day of week, 2013

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014

Notes:
1) Data exclude collisions with invalid time reported.
2) AM is defined as 12:00am (midnight) to 11:59am. PM is defined as 12pm (noon) to 11:59pm.
BICYCLE COLLISIONS BY MONTH AND TIME OF DAY

The highest monthly count of bicycle collisions in 2013 occurred during spring and summer months, indicating the seasonal nature of bicycle usage and higher exposure to collisions in warmer months (Figure 4). August and September accounted for the largest monthly total of daytime bicycle collisions (110 and 107, respectively), and the months of September (47), July (45), and August (44) accounted for the largest monthly total of nighttime bicycle collisions. On average, monthly counts of daytime bicycle collisions are higher than counts of bicycle collisions occurring at night. The average monthly count of bicycle collisions occurring during day hours in 2013 was 59 compared to an average count of 26 for bicycle collisions occurring during night hours. Both daytime and nighttime bicycle collision counts exceeded monthly averages during the months of May through October.

Figure 4. Indiana traffic collisions involving bicycles by month and day/night, 2013

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.
THE GEOGRAPHY OF INDIANA BICYCLING

BICYCLE COLLISIONS BY LOCALE

Bicycle collision counts in 2013 were higher in Indiana urban (949) and suburban (32) areas than surrounding exurban (18) and rural (12) locales. The rate of bicycle collisions per 1,000 total collisions was also higher in urban locals (7.3) than in other less densely populated areas (Figure 5). However, rates of fatal and incapacitating injury collisions per 1,000 total collisions were higher in rural (583.3), suburban (250.0), and exurban (222.2) locales than in areas identified as urban (82.2).

BICYCLE COLLISIONS BY ROAD CLASS

In 2013, bicycle collision counts were highest on local/city roads (824) and lowest on interstates (2). Figure 6 shows that the rate of bicycle collisions per 1,000 total collisions was also higher on local/city roads (9.5) than on U.S. routes (2.5), state roads (2.4), and county roads (1.8). Rates of fatal and incapacity injury bicycle collisions were higher on county roads (289.5) and U.S. routes (191.5) than on other road types.

Figure 5. Indiana traffic collisions, by bicycle involvement and locale, 2013

Figure 6. Indiana traffic collisions, by bicycle involvement and road class, 2013
**Bicycling by County**

Map 1 illustrates the 5-year average (2008 to 2012) rates of bicycle commuters per 10,000 workers by Indiana county, and Map 2 shows the cumulative (2009 to 2013) 5-year county rates of collisions involving bicyclists per 1,000 total collisions. The median county bicycle commuter rate per 10,000 workers was 20. LaGrange County, located in northern Indiana, had the highest bicycle commuter rate during this period (810 per 10,000), and many primarily rural Indiana counties clustered in the western and southern portions of the state had no bicycle commuters.

Between 2009 and 2013, the median bicycle collision rate per 100,000 county population was 36.4, with Monroe County representing the highest bicycle collision rate (1164.91.5). A number of counties with both high rates of bicycle commuters and collisions involving bicyclists are the locations of large universities (Delaware, Monroe, St. Joseph, Tippecanoe, and Vigo) where bicycle usage is a primary mode of transportation. Counties with large Amish populations (LaGrange and Manns) also had both high rates of bicycle commuters and collisions.

Figure 7 examines the bivariate relationship between county bicycle commuters and the number of county collisions involving bicyclists. Without controlling for other county characteristics that may be contributors to bicycle collisions, Figure 7 illustrates a positive relationship exists between the number of bicycle commuters and bicycle collisions. The equation suggests that the number of county bicycle commuters explains 61 percent of the variation in county bicycle collisions. For every three bicycle commuters in a given county, one collision involving a bicyclist occurred.

Sources:
Collisions (2009-2013) - Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of March 21, 2014
Commuters - U.S. Census Bureau; American Community Survey, 2012, American Community Survey 5-Year Estimates, Table SO801
Note: Points represent each of the 92 Indiana counties: count of collisions involving bicyclists by count of commuters.

\[ y = 0.3201x + 7.226 \]
\[ R^2 = 0.61105 \]
Map 1. Indiana bicycle commuters per 10,000 workers, 2008-2012 (5-year average)

U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table SO801
Map 2. Indiana collisions involving bicyclists per 100,000 population, by county, 2009-2013

Sources:
Collisions - Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014
Population (2013 estimates) - U.S. Census Bureau

Median rate per 100,000 = 36.4
Mean rate per 100,000 = 47.6
n = 5,057 collisions involving bicyclists

Bicycle collisions per 1,000 total collisions

Sources:
Collisions - Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014
Population (2013 estimates) - U.S. Census Bureau
INDIANA BICYCLE-FRIENDLY COMMUNITIES

The League of American Bicyclists (the League) is a national advocacy organization that “represents bicyclists in the movement to create safer roads, stronger communities, and a bicycle-friendly America.” The League facilitates Bicycle Friendly America, a program designed to provide a framework, technical assistance, and recognition for states, communities, universities and businesses that engage in activities aimed at making bicycling “a real transportation and recreation option for all people.”

Each year, the League assesses communities, businesses, and universities in all 50 states through a voluntary application process. The League provides feedback and access to technical assistance to all applicants. The assessment and designation of communities as “bicycle-friendly” is based on the 5 Es, a set of criteria across five categories:

1. **Engineering**: Creating safe and convenient places to ride and park
2. **Education**: Giving people of all ages and abilities the skills and confidence to ride
3. **Encouragement**: Creating a strong bike culture that welcomes and celebrates bicycling
4. **Enforcement**: Ensuring safe roads for all users
5. **Evaluation & Planning**: Planning for bicycling as a safe and viable transportation option

According to Bicycle Indiana, presently, eight Indiana communities have been designated by the League as bicycle-friendly (Map 3). These include:

- Carmel
- Bloomington (silver designation)
- Indianapolis/Marion County
- Columbus
- Fort Wayne
- Goshen
- South Bend
- Warsaw/Winona Lake

These are communities that have implemented program, activities, and events that are viewed by the League as bicycle-friendly. A sample of these programs and activities are highlighted below:

**ENGINEERING**

**Carmel, Indiana**, is currently constructing two multi-use path projects (one along 136th Street and the other along Main Street) that will add about 2.25 miles of pathway to our 125 mile public path network. Carmel is also in the process of designing/permitting another path project, along 106th Street, that is planned to be constructed next year. It will be approximately 1.1 miles of added path. Carmel received a grant to construct another path along 126th Street from Keystone to Hazel Dell in state fiscal year 2019. The path will be about 2.2 miles. The City of Carmel has worked with the Indiana Department of Transportation (INDOT) to provide multi-use path connections across each intersection with US 31. INDOT is in the process of constructing the new US 31 configuration and is expected to complete the northern section in Carmel this winter. They anticipate finishing the Carmel portion of the project by next December. Once complete, every US 31 intersection in Carmel from 106th Street to 146th Street, will have a separated bike/pedestrian connection across the highway.

This year the City of Carmel installed three public fix stations and four public bike pumps along the Monon Trail. These stations have been well received by the community, and the Carmel Parks Department plans to install more stations in the coming year. Carmel enacted a bicycle parking ordinance in 2005 requiring all new developments to include bicycle parking. The City of Carmel has been compiling a bike parking inventory and has recorded about 1,100 bike parking spaces to date.

**Source: City of Carmel, Indiana**

**EDUCATION**

**Columbus, Indiana**, Safe Routes to School Committee published a Bike Rodeo Guide to assist local community groups such as the boy scouts in planning and operating a bike rodeo. Typically, Columbus offers 6-8 bike rodeos per year. In March 2010, the Healthy Communities Initiative of Columbus Regional Hospital (Healthy Communities) was awarded $2.1 million in Communities Putting Prevention to Work (CPPW) funding through the United States Department of Health and Human Services for obesity prevention. Healthy Communities utilized a portion of this funding to purchase helmets and bike lights to encourage and educate the public about the importance of safe cycling. Free helmets or bike lights are available at the Columbus Regional Hospital.”

**Source: City of Columbus, Indiana**
distributed to the public as incentives, and staff and volunteers educate the youth and adult cyclists on the importance of utilizing these tools in their cycling activities. Healthy Communities and Safe Routes to Schools also provide educational talks and materials at a variety of children’s events around the community. The CTPW funding also allowed Healthy Communities, in partnership with the local school district, City of Columbus, Columbus Police Department, and Safe Routes to Schools, to produce a short educational video on bicycle safety catered to children. The video is currently under production and was inspired by a child that was struck by a car on her bike and features students from Columbus area middle and high schools. Healthy Communities is also working with local schools to establish a program to teach safe bicycling to local elementary school students in physical education classes.

Source: Healthy Communities Initiative, Columbus Regional Hospital

ENCOURAGEMENT

In Indianapolis, Indiana, the Indiana Pacers Bikeshare is a public bicycle sharing system where bicycles are available to individuals to use for a fee. The Indiana Pacers Bikeshare is a network of 25 bike stations located within a few blocks of one another on or near the Indianapolis Cultural Trail: A Legacy of Gene and Marilyn Glick. Memberships and passes, which can be bought directly at a kiosk or online, give users access to any of the specially designed bikes at any station. Users can pick up a bike from a bike station and ride it to any other bike station. Indianapolis Cultural Trail, Inc. (ICT, Inc.), a not-for-profit organization, operates the Indiana Pacers Bikeshare.

Source: https://www.pacersbikeshare.org/

South Bend, Indiana, regularly hosts a variety of community bicycle riding events, mountain bike competitions, and road races. Each year, Bike the Bend, a non-competitive ride targeting youth and families, draws about 2,800 recreational bicyclists to the streets of South Bend, Mishawaka, and St. Joseph County. An annual event each spring, Bike the Bend attempts to highlight community amenities and landmarks including the St. Joseph River, historic city neighborhoods, and area parks and college campuses. Bike to Work Week, another city-sponsored event, draws hundreds of cyclists to activities each spring. The active engagement of cyclists in the South Bend area has helped to increase bicycling alternatives and make South Bend a more livable community.

Source: City of South Bend, Indiana

The Warsaw and Winona Lake communities regularly sponsor a number of bicycle-friendly events, including: Bike to Work Week/Day; adult bike skills classes; mountain bike trail races; group family rides; and the Fat and Skinny Tire Fest, a three-day community festival with casual and competitive bike rides of all types.

Source: City of Warsaw, Indiana
ENFORCEMENT

The League’s enforcement criterion focuses on the need to enact basic laws and regulations to ensure the safety of all road users. Indiana communities that have enacted specific safe passage ordinances meant to improve or provide for the safety of bicyclists on roadways are identified below (also shown in Map 3):

- Indianapolis/Marion County
- Carmel
- Fort Wayne
- South Bend
- Elkhart
- Lafayette
- West Lafayette
- Seymour

The Fort Wayne, Indiana, Police Department recently trained a new class of police officers who will patrol on bicycle. These officers received intensive training on area bike laws and bicycle safety. Officers will mainly patrol the city’s trails and the downtown area. Fort Wayne has also enacted a number of safe ordinances to protect the safety of bicyclists on roadways. These ordinances include the following elements:

- Drivers to exercise due care. Every driver of a vehicle shall exercise due care to avoid colliding with any person operating a bicycle or other device propelled by human or animal power, upon any roadway, and shall give warning by sounding the horn only when necessary; and shall exercise proper precautions when sharing the travel lanes with bicyclists.

- Turning right in front of a bicycle. When a motor vehicle and a bicycle are traveling in the same direction on any highway, street, or road, the operator of the motor vehicle overtaking such bicycle traveling on the right side of the roadway shall not turn to the right in front of the bicycle at an intersection or at any alley or driveway until such vehicle has overtaken and is safely clear of the bicycle.

- Turning left in front of a bicycle. The driver of a vehicle within an intersection intending to turn to the left shall yield the right-of-way to a bicycle approaching from the opposite direction and which is within the intersection or so close thereto as to constitute an immediate hazard.

- Passing of bicycles. The operator of a motor vehicle passing a bicycle proceeding in the same direction on a highway, street, or road shall leave a safe distance, but not less than three feet, when passing the bicycle, and shall maintain that distance until safely past the overtaken bicycle. (Ord. G-30-12, passed 9-11-12)

EVALUATION AND PLANNING

In May 2010, the Bloomington, Indiana City Council created the Bloomington Platinum Biking Task Force, charging the City of Bloomington with the task of obtaining a platinum designation from the League by 2016. According to city officials, this act substantially guided the political and community environment toward a more unified approach towards bicycling. The Task Force held 24 public meetings to develop a final report, Breaking Away: Journey to Platinum, that detailed a measurable 50 actions related to the Five E’s for bicycle-friendly communities. The report was unanimously adopted by the Bloomington City Council in November 2011, with 39 community organization sponsors. Since this time, elected officials, boards and commissions, city staff, and the general public have worked to develop a better understanding of the needs, priorities, and reasons for numerous community bicycling programs and initiatives. Bloomington has a long history of planning and policy development that supports bicycling, walking, and public transit. This report has contributed to a renewed emphasis on creating and sustaining a bicycle-friendly community in various arenas including city budget discussions, State of the City Addresses, neighborhood meetings, community board and commission agendas, and non-profit organization program development.

CONCLUSION

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 bicycle 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” (NHTSA, Uniform Guidelines, 2006). Additionally, advocacy organizations, such as the League of American Bicyclists, through communications and educational campaigns, support efforts to create safer roads, stronger communities, and a bicycle-friendly America.

In addition to local ordinances, 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 roadway 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.

IC 9-21-1-3 Powers of local authorities; effective date of ordinances
Sec. 3 (a) A local authority, with respect to private roads and highways under the authority's jurisdiction, in accordance with section 2 of this chapter, and within the reasonable exercise of the police power, may do the following:
(9) Regulate the operation of bicycles and require the registration and licensing of bicycles, including the requirement of a registration fee.
(b) An ordinance or regulation adopted under subsection (a)(4), (a)(5), (a)(6), (a)(7), (a)(8), (a)(10), (a)(11), (a)(12), (a)(13), or (a)(14) is effective when signs giving notice of the local traffic regulations are posted upon or at the entrances to the highway or part of the highway that is affected.

IC 9-21-8-37 Pedestrians and children; due care; caution
Sec. 37 Notwithstanding other provisions of this article or a local ordinance, a person who drives a vehicle shall do the following:
(1) Exercise due care to avoid colliding with a pedestrian or a person propelling a human powered vehicle, giving an audible signal when necessary.
(2) Exercise proper caution upon observing a child or an obviously confused, incapacitated, or intoxicated person.

IC 9-21-3-7 Traffic control signals
Sec 3 (d) If the operator of a motorcycle, motorized bicycle, motor scooter, or bicycle approaches an intersection that is controlled by a traffic control signal, the operator may proceed through the intersection on a steady red signal only if the operator:
(i) Comes to a complete stop at the intersection at least one hundred twenty (120) seconds: and
(ii) Exercises due caution as provided by law, otherwise treats the traffic control signal as a stop sign, and determines that it is safe to proceed.

Source: http://www.in.gov/legislative/ic_iac/
DATA SOURCES AND REFERENCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014

U.S. Census Bureau; American Community Survey, 2012 American Community Survey 5-Year Estimates, Table SO801; using American FactFinder; <http://factfinder2.census.gov>; (14 October 2014).


This publication was prepared on behalf of Bicycle Indiana by the Indiana University Public Policy Institute. Please direct any questions concerning information in this document to the Institute at 317-261-3000.

An electronic copy of this document can be accessed via the Institute website (www.policyinstitute.iu.edu).

**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 nonprofit organization serving Indiana bicyclists and is a statewide 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.

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