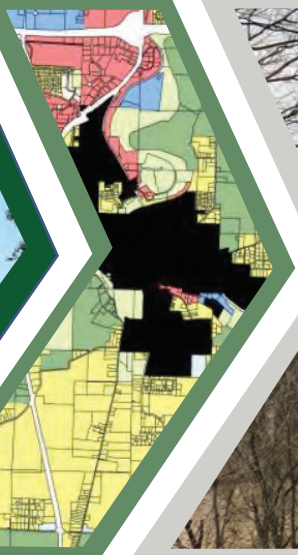

# HARRISON COUNTY 2040
## LONG RANGE TRANSPORTATION PLAN

LOCHMUELLER GROUP


HARRISON
HIGHWAY DEPT.
COUNTY

**RESOLUTION NO. 7**

**RESOLUTION ADOPTING THE HARRISON COUNTY LONG RANGE TRANSPORTATION PLAN**

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A RESOLUTION OF THE BOARD OF COMMISSIONERS OF HARRISON COUNTY, INDIANA
ADOPTING THE LONG RANGE TRANSPORTATION PLAN OF HARRISON COUNTY, INDIANA

WHEREAS, the Harrison County Board of Commissioners has identified adequate reason to prepare a Long Range Transportation Plan, and

WHEREAS, the Harrison County Board of Commissioners has engaged Lochmueller Group to define and describe the transportation issues, advise us of our options, and make recommendations to address issues in the near future, and

WHEREAS, the Harrison County Board of Commissioners has reviewed the process and completed study thoroughly and is satisfied with the services performed, information contained therein, and methodology applied; and

WHEREAS, the Harrison County Highway Department did on February 21, 2019 hold a legally advertised public meeting, and

WHEREAS, the Harrison County Highway Engineer did on August 5, 2019 recommend to the Harrison County Board of Commissioners adoption of the Harrison County Long Range Transportation Plan; therefore,

BE IT RESOLVED by Harrison County that the final document is hereby approved.

DULY ADOPTED BY THE HARRISON COUNTY BOARD OF COMMISSIONERS, ON THIS THE 5th DAY OF August, 2019.

| | | |
|---|---|---|
| Charlie Crawford | Kenny Saulman | Jim Heitkemper |
| Commissioner | Commissioner | Commissioner |
| *District 1* | *District 2* | *District 3* |

Attest: _____
Chad Shireman
Auditor

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# 1.0 Introduction

Sources: Harrison County Parks

Transportation infrastructure not only plays an integral role in supporting regional economic activities, but it is also essential to improving the quality of life for local residents. The transportation system includes roads, transit, nonmotorized facilities and intermodal facilities.

An efficient transportation system saves time and money for individuals and businesses; promotes safety; serves a crucial role in the production and distribution of goods; and supports economic growth. In an effort to provide transportation improvements, regional decision-makers face difficult challenges such as identification of system needs, prioritizing transportation investments, coordination between stakeholders, and funding.

The purpose of the Harrison County Long Range Transportation Plan (LRTP) is to assess the existing transportation infrastructure in the County, and develop a strategy to maintain and enhance the regional transportation assets through the plan horizon year of 2040. With inputs from the Harrison County Highway Department, Harrison County government officials, the Harrison County Economic Development Corporation, regional stakeholders, and the public; the plan identifies existing transportation needs, establishes a vision for the region's transportation system, and prioritizes investments to facilitate a safe, efficient, multi-modal, and sustainable transportation system.

The LRTP also evaluates the demographic profile of the region, documents the existing multi-modal transportation system, anticipates the impact of future socio-economic growth and land use changes on transportation, and sets a plan to achieve the regional transportation goals and objectives. The 2040 Harrison County LRTP is an update to the previous Harrison County LRTP, adopted in 2003. A periodic revision cycle ensures the transportation planning process reflects the ever-changing community conditions.

Figure 1.1: LRTP Planning Area

## LRTP PLANNING AREA

As a project funded through the Harrison County Council, this plan covers the entirety of Harrison County. The County is located in southeastern Indiana (**Figure 1.2**), and is situated approximately 20 miles west of Louisville, KY. The Ohio River forms the southern boundary of the county with Kentucky, Crawford County forms the western boundary, Washington County forms the northern boundary, and Floyd County forms the eastern boundary. There are 10 incorporated communities within the County: Corydon, Palmyra, Milltown, Lanesville, Elizabeth, Crandall, New Middletown, Mauckport, Laconia, and New Amsterdam.

The Harrison County LRTP applies to surface transportation facilities within the jurisdiction of the County, excluding the incorporated communities, with regard to federal-aid transportation projects and programs. Figure 1.1 provides a map of the planning area.

## FEDERAL AND STATE TRANSPORTATION PLANNING REQUIREMENTS

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act (FAST Act). It is the first law in the past ten years that provides long-term funding for surface transportation, and removes the uncertainty of future federal funding for state and local highway and transit projects. Overall, the FAST Act mostly maintains the program structures and funding shares between highways and transit established in the previous transportation authorization legislation, Moving Ahead for Progress in the 21st Century (MAP-21).

The Safe, Accountable, Flexible, Efficient, Transportation Equity Act (SAFETEA-LU), the federal surface transportation bill preceding MAP-21, established eight factors that must be considered as part of the planning process. The planning factors were carried forward in both MAP-21 and the FAST Act.

They include:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of all motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

**Figure 1.2: Harrison County**

The FAST Act adds two additional planning factors to be considered in the regional planning process:

- Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts on surface transportation; and
- Enhance travel and tourism.

The Indiana Department of Transportation's (INDOT) long-range transportation plan, Indiana's 2013-2035 Future Transportation Needs Report- "Keeping Indiana Moving" is an evolving document that is updated on an as-needed basis. The plan provides a vision for the future development of the state transportation system and outlines a strategy for future investments in the state highway system, with the intent of providing the highest level of mobility and safety possible, as well as to meet the needs of economic development and quality of life into the next quarter century. INDOT vision statements encompass the following planning factors desribed in **Figure 1.3** to the below.

The vision, goals, objectives, and performance measures developed for the Harrison County LRTP are a result of considering the federal planning factors, INDOT's nine major guiding policy factors, various local planning studies, current professional planning paradigms, and input received from the public and the steering committee.

### Figure 1.3: INDOT Planning Factors

- **Transportation Safety**: Ensure that safety is considered and implemented, as appropriate, in all phases of transportation planning, design, construction, maintenance, and operations.
- **Economic Development:** Improve upon Indiana's transportation system to reduce the cost of moving people, goods, and freight; connect Indiana with regional, national, and international markets; provide communities with an edge in competing for jobs and business location; and connect people with economic opportunities.
- **Transportation Systems Effectiveness:** Develop an efficient and well integrated multi-modal transportation system.
- **New Technology:** Provide leadership for the State of Indiana to develop and deploy advanced transportation technologies.
- **Demographic Changes and Quality of Life:** Develop a multi-modal transportation system that responds to demographic changes and contributes to an improved quality of life.
- **Transportation Finance:** Supports adequate and reliable funding for Indiana's transportation system from all sources: federal, state, local government, and the private sector.
- **Bicycle and Pedestrian Facilities:** Support non-motorized modes of travel as a means to increase system efficiency of the existing surface transportation network, reduce congestion, improve air quality, conserve fuel and promote tourism benefits.
- **Natural Environment and Energy:** Establish and maintain a transportation system in a manner to support the state's commitment to protect the environment.
- **Intergovernmental Coordination:** Actively solicit coordination and cooperation with other agencies, units of government and other stakeholders with the goal of developing a state transportation plan and program, which will guide the selection of investments that offer the best value while providing support for Indiana's continued economic growth.

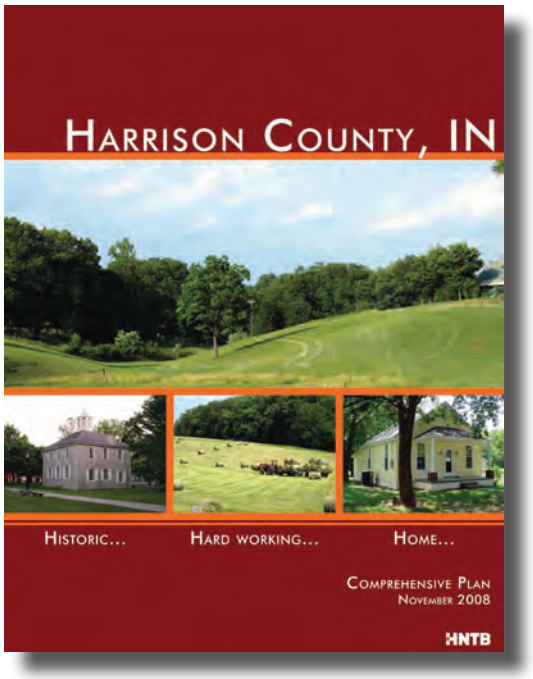
## LOCAL TRANSPORTATION AND LAND USE PLANS

The process outlined in MAP-21 and the FAST Act, require transportation decision-making based on the 3-C process ("Continuing, Cooperative, and Comprehensive") that takes into account the regional comprehensive plans and other related transportation planning documents in the region. The current LRTP should be in compliance wherever possible with recommendations developed in these plans. Recent planning documents within the County include:

**Figure 1.4: Harrison County 2003 LRTP**


- Harrison County Long Range Transportation Plan: the most recent transportation plan was adopted in 2003 as a replacement for the Transportation Section of the 1996 Harrison County Comprehensive Plan. The Transportation Plan looks at the transportation needs of Harrison County's citizens and proposes roadway improvement projects designed to meet these needs for 10 and 20 year horizons. Roadway improvement projects and funding sources were identified as part of the the final recommendations.

**Figure 1.5: Harrison County 2008 Comprehensive Plan**




- Harrison County Comprehensive Plan: the most recent comprehensive plan was adopted in 2009. This plan was developed for the unincorporated portions of Harrison County, with the exception of a small buffer area around the Town of Corydon. The document provides long-term land use and infrastructure goals, with a horizon year of 2030. Comprehensive plans are key policy guides for public and private decision makers to evaluate if proposed individual developments are in agreement with the long-term vision provided by the County.

Figure 1.6: Harrison County 2013 Comprehensive Plan Addendum

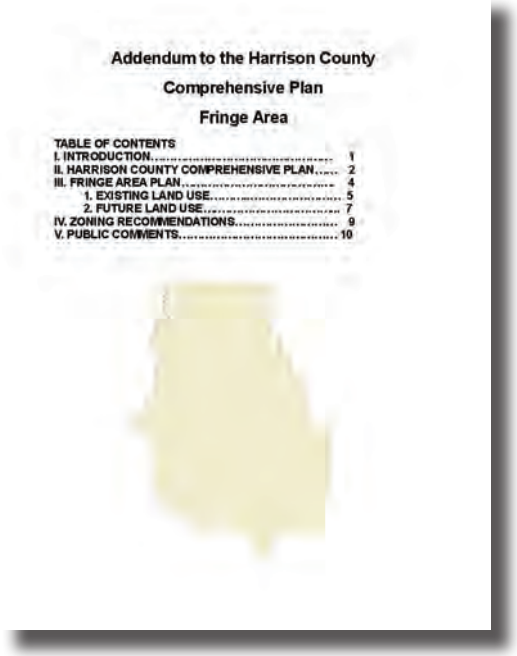

Addendum to the Harrison County
Comprehensive Plan
Fringe Area

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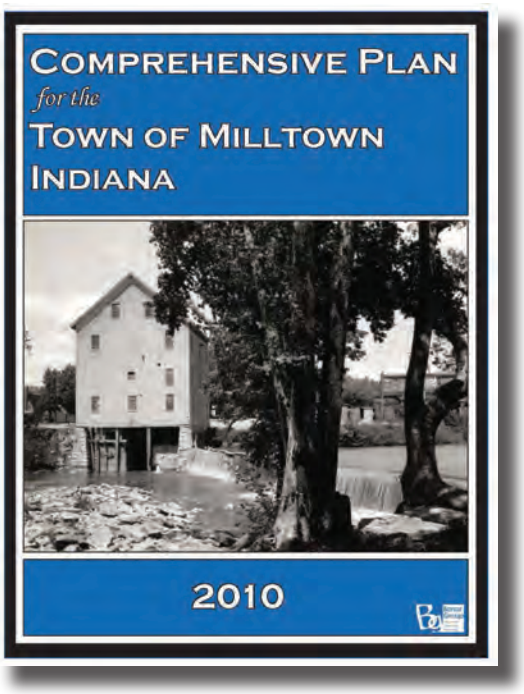
Figure 1.7: Corydon 2015 Comprehensive Plan


- Addendum to the Harrison County Comprehensive Plan: This document focuses planning efforts on an area around the boundaries of the Town of Corydon. This area is likely to be the highest growth area, both in terms of population and employment, within the County for the foreseeable future, and has the greatest mix of uses outside of an incorporated area. Therefore, specialized land use recommendations were developed to guide development in a thoughtful way.

- Town of Corydon Comprehensive Plan: the Corydon Comprehensive Plan was adopted in late 2015, making it the most recent planning document in the County. The document provides guidance on future land use within the community, but also provides detailed analyses of the transportation system, utilities, and economic development priorities. The implementation section describes various responsibilities, funding sources, timeframes, and action steps for each project identified within the comprehensive plan.

Figure 1.8: Milltown 2010 Comprehensive Plan




- Town of Milltown Comprehensive Plan: the town's comprehensive plan was adopted in 2010 and seeks to "improve the quality of life for its existing and future residents, focusing on the existing benefits within the community and developing a plan for future growth". The document guides future development within the Town and within the extraterritorial expansion in a way that protects existing resources and agricultural land, while providing adequate areas for thoughtful growth.

## LONG RANGE PLAN PROCESS

The long range planning process identifies the long-term vision of the region and provides the framework for future maintenance, operations, and construction or reconstruction of the transportation network through 2040. This plan requires 1) performing a substantial analysis of existing conditions; 2) identifying transportation needs; and 3) prioritizing transportation projects based on anticipated funding. The development of the Harrison County long-range plan involved an extensive public involvement process and stakeholder engagement. To aid the plan development process, a steering committee was formed comprising elected officials; Harrison County staff; partners from the Town of Corydon, the State of Indiana; local landowners and farmers; the Harrison County Economic Development Corporation; and industry partners.

This section discusses the process and reasoning for decision making throughout the LRTP's development. The outcomes of these decisions, in terms of identifying needs, analyzing scenarios, by selecting projects and programs, are discussed in subsequent chapters. Public involvement, in addition to steering committee meetings, the planning team reached out to the community throughout the planning process through public meetings and online public engagement methods. Figure 2 presents the steps involved in the long range planning process.

The plan commenced with analyses of socio-economic conditions, review of existing plans and policies, and assessments of the existing infrastructure and safety statistics. The second step of the planning process involved developing goals and objectives to set forth a direction to the community's vision.

A SWOT (Strengths, Weaknesses, Opportunities & Threats) analysis was performed at a public workshop to highlight the local positive or negative factors impacting the regional transportation infrastructure. The goals and objectives were based on the SWOT analysis results, consistent with FAST Act priorities, INDOT transportation policy factors, local knowledge, and current local planning efforts. Subsequently, land-use and transportation scenarios were developed to support these goals and objectives. Visual techniques such as display boards, illustrations, and a public survey were utilized during workshops and presentations to gather public input.

The steering committee, along with Harrison County staff reviewed the different improvements and identified a final project list for the cost feasible plan. Once the recommendations were developed, the transportation projects were prioritized based on financial feasibility and overall impact of the project on the multi-model transportation in the County.

In addition to supporting goals and objectives dedicated to preserving the existing system, many of the recommendations in this plan included projects focused on improving the current system, and providing new connections to the existing multimodal system.

**Figure 1.9: SWOT Diagram**


**Figure 1.10: Public Open House**

# 2.0 Area Profile and Regional Trends

Sources: Harrison County Parks

The Area Profile documents current and projected population and employment trends that play an important role in transportation planning. The scale and characteristics of population and employment growth dictate the future needs of the transportation system. Where people live, how people get to work, and the patterns of commercial growth all influence where transportation investments should be directed.

## DEMOGRAPHICS

Harrison County is a vibrant area experiencing an influx of investment and growth, driving the need for an in-depth analysis of the transportation system. There exists a strong relationship between regional demographics, socioeconomic factors, land use, and transportation infrastructure. The distribution of population in the region; household characteristics such as age, income, vehicle ownership; employment growth by sector; and commute-to-work patterns have a direct impact on the travel demand and dictate the future needs of the transportation system. This chapter provides an overview of the socioeconomic trends and land use information in Harrison County.

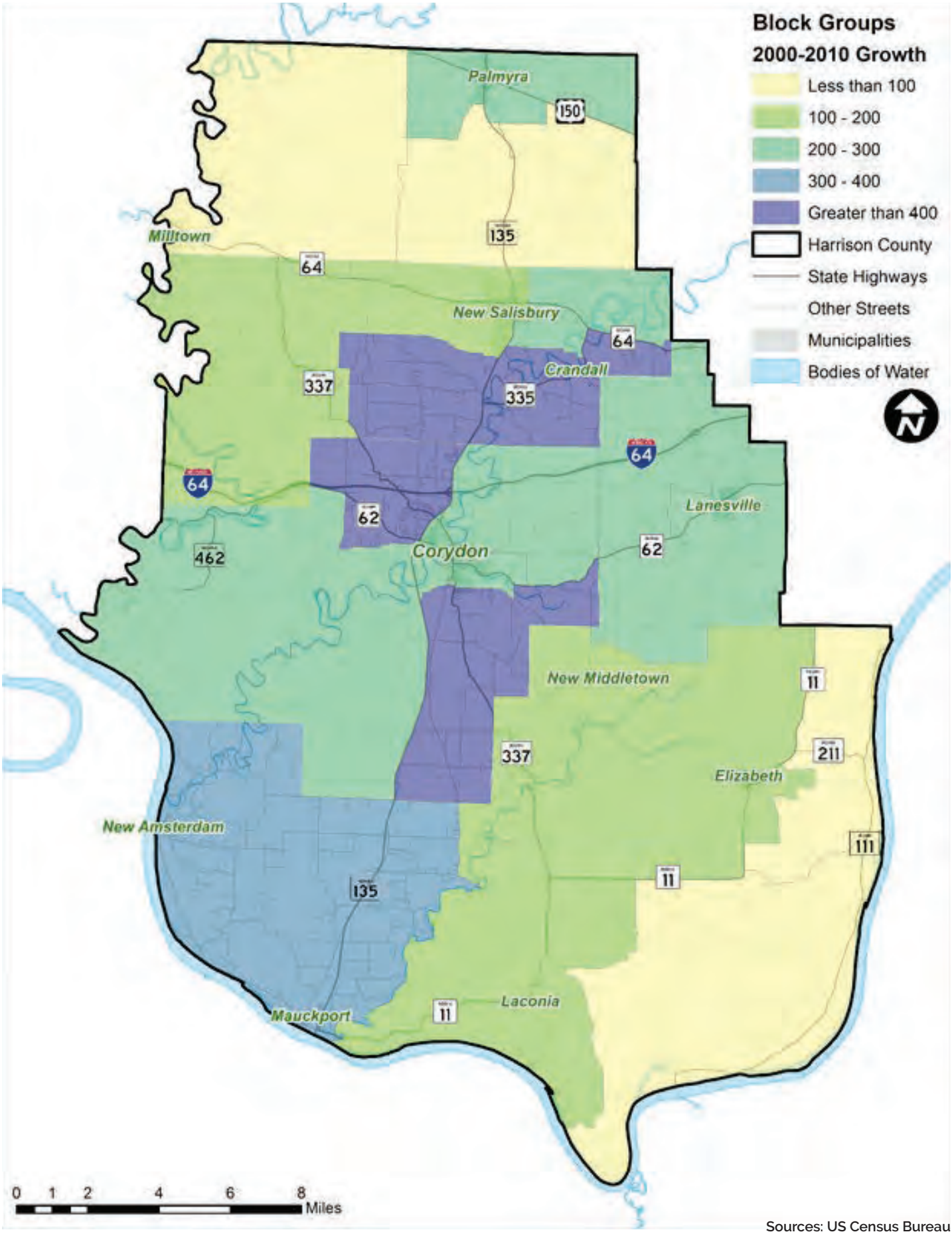
### *Population Characteristics*

According to the 2010 Census, Harrison County has a population of 39,364 and the latest 5-year estimates of the American Community Survey (ACS) developed by the U.S. Census Bureau in 2016 indicate a population of 39,370. The area around Corydon and stretching up SR 135 to New Salisbury makes up the Corydon, IN Urban Cluster , which had a population of 5,506 in the 2010 Census. Also, a very small portion of eastern Harrison County is a part of the Louisville/Jefferson County, KY-IN Urban Area that had a total population of 832,366 in the 2010 Census. Approximately 99.2% of the population in the County reside in 14,524 households with an average household size of 2.69 persons. The remaining 0.8% of the population (293 people) live in group quarters, which include correctional facilities, senior housing, and nursing homes.

An 'urban cluster' is a census designation defined as an area of at least 2,500 people and less than 50,000 people with an average population density of at least 1,000 people per square mile.

An 'urban area' is a census designation defined as an area of at least 50,000 people with an average population density of a least 1,000 people per square mile.

Figure 2.1: 2000-2010 Population Growth by Block Group



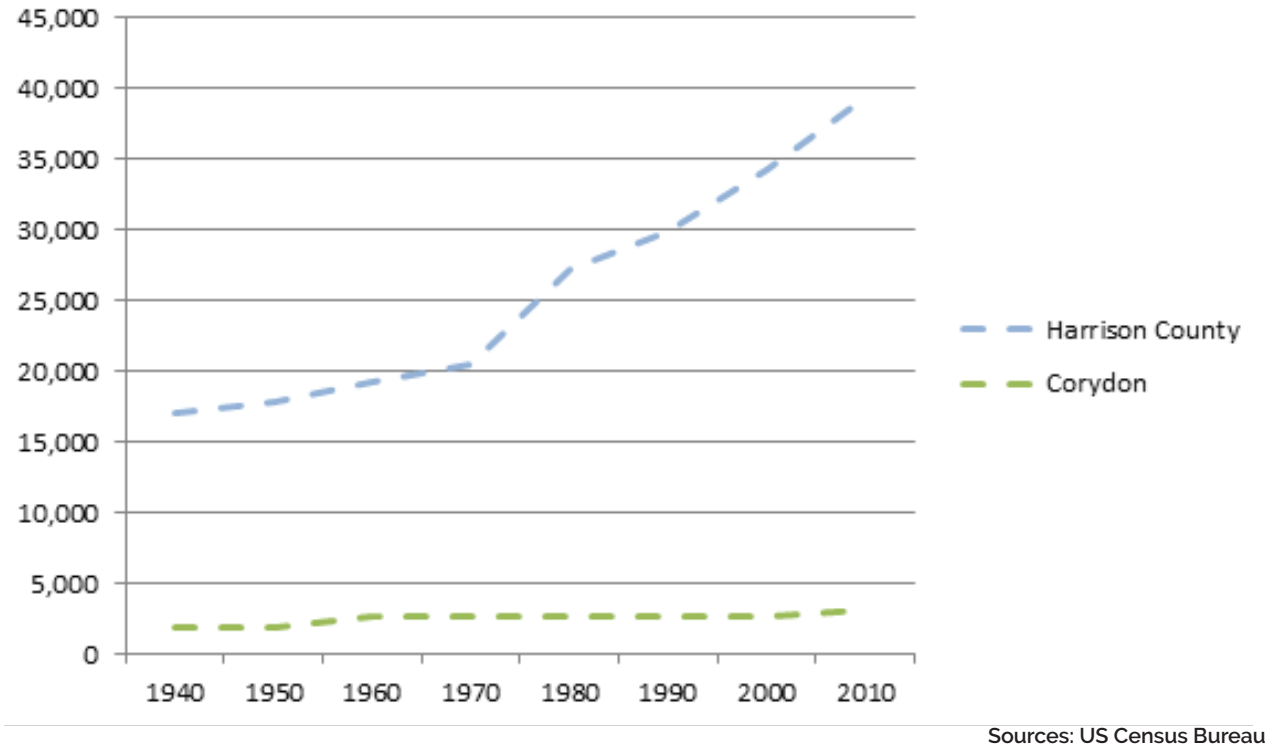

Sources: US Census Bureau

Table 2.1: Regional Population Forecasts

| Region | 2000 | 2010 | Forecasted 2040 |
|---|---|---|---|
| Harrison County | 34,325 | 39,364 | 48,352 |

Sources: US Census Bureau, Woods & Poole

Figure 2.2: Historical Population Growth




Sources: US Census Bureau

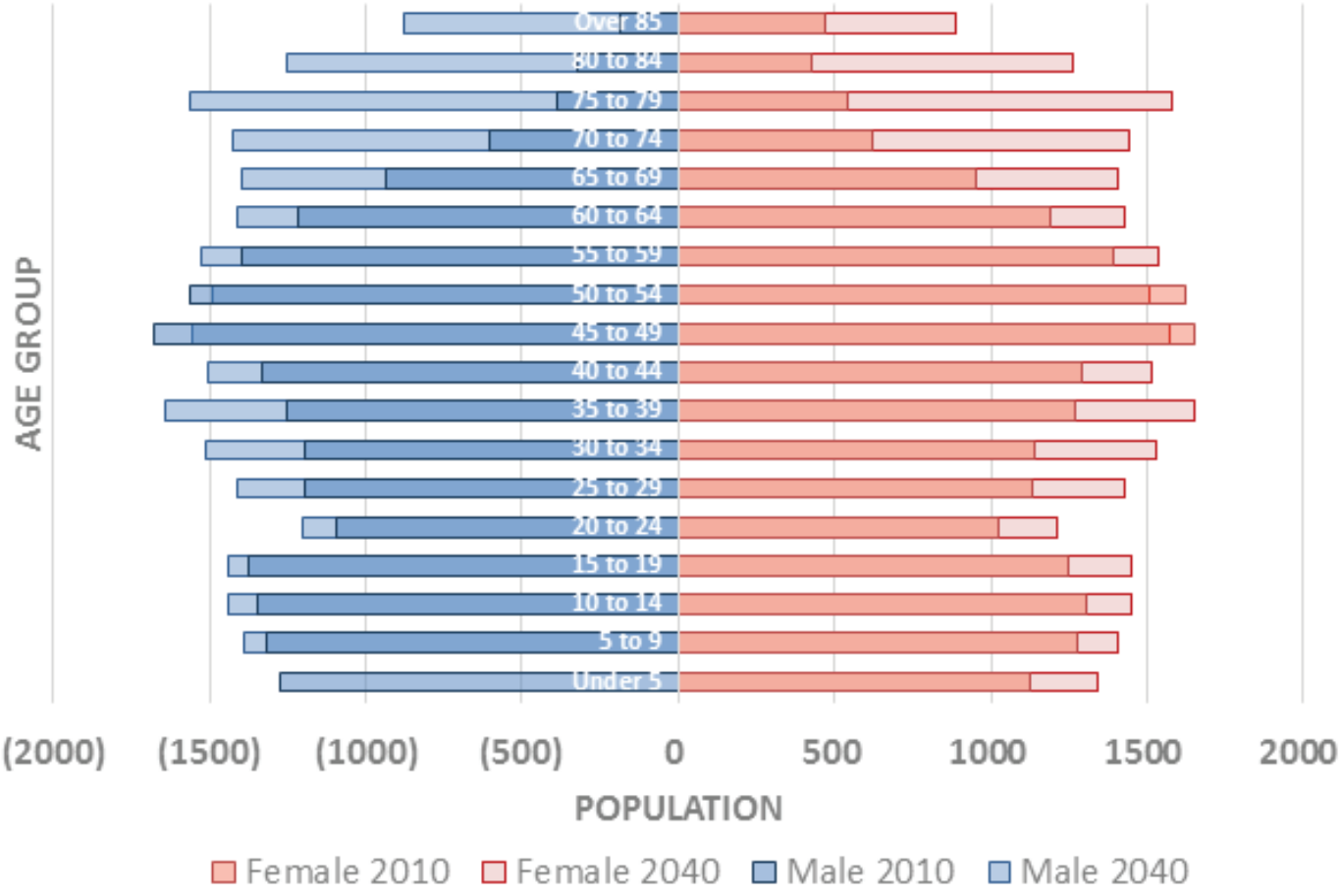
The population of Harrison County has been increasing over past decades, however not all areas are growing at the same rate. **Figure 2.1** provides the change in population between 2000 and 2010. In general, the areas north and south of Corydon, which are easily accessible by I-64 have been growing the fastest when compared to other block groups in the County. In particular, the areas along the SR 135 corridor are seeing the highest growth rates. The far southeastern parts of the County, along the Ohio River, and the northern parts of the county, north of SR 64, have seen the slowest growth.

The population forecasts for the long-range plan horizon year of 2040 were generated using multiple sources including the historic growth trend lines from Census data, the Indiana Business Research Center (IBRC) county population projections, and Woods & Poole (W&P) county population projections. The historical and forecasted population in Harrison County is presented in **Table 2.1.** The population in the County is estimated to grow by approximately 8,988 people by the year 2040 to a total population of 48,352. This represents an annual growth of 0.69% through the year 2040. **Figure 2.2** shows the historical growth of population in Harrison County and the Town of Corydon over the past seven decades.

## AGE AND GENDER

The distribution of age in the region has significant impacts on housing needs and transportation planning. Older populations generally require different housing than younger populations, as well as more transit options and access to medical facilities. **Figure 2.3** presents the age and gender of the population in the County in the year 2010, as well as the forecasted distribution in the year 2040 based on W&P projections. The figure also shows the shift in population distribution in the County by 2040. Similar to other regions in the country, the elderly population is expected to substantially rise by 2040. The percent of persons age 65 and above in the County was about 13.8% in the year 2010, and is expected to increase to 26.1% by 2040. This trend is very typical of the nation as a whole, and would add approximately 7,000 seniors within the County. As the senior population in the community increases, the need for transit and other alternatives to single-occupancy vehicles becomes essential to ensure sufficient access for the aging population.

### Figure 2.3: Age and Gender Pyramid




Sources: US Census Bureau, Woods & Poole

**Table 2.2** provides the working age population within Harrison County. The population between the ages of 20 and 64 remained steady at 60% between 2000 and 2010. However, that time period saw a noticeable increase in older working age people (45 to 64) and a drop in younger working age people (25 to 44). The lack of replacement of younger workers could pose an issue for the County going forward. The working age population is projected to decrease to 53% by the year 2040.

## RACE AND ETHNICITY

The ethnic makeup of the population in Harrison County is predominantly white. Based on the 2010 Census, the County is significantly less racially diverse than the average for the United States. Table 3 presents the ethnic breakdown of Harrison County and the United States. The racial diversity is fairly consistent between 2000 and 2010. The largest racial group in 2010 is white, at 97.4%, followed by Two or More Races at 1.0%. African American, Asian and Hispanic population percentages are predicted to increase substantially by 2040, though are still relatively minor overall. The white population percentage not expected to change relative to other races by 2040.

### Table 2.2: Population Age Distribution

| Population | 2000 | | 2010 | | 2040 | |
|---|---|---|---|---|---|---|
| Under 5 | 2,215 | 6% | 2,397 | 6% | 2,646 | 5% |
| Age 5 to 19 | 7,696 | 22% | 7,879 | 20% | 8,506 | 17% |
| Age 20 to 24 | 1,970 | 6% | 2,120 | 5% | 2,399 | 5% |
| Age 25 to 44 | 10,366 | 30% | 9,810 | 25% | 12,097 | 24% |
| Age 45 to 64 | 8,149 | 24% | 11,707 | 30% | 11,932 | 24% |
| Age 65 and Over | 3,929 | 11% | 5,451 | 14% | 12,990 | 26% |
| Total Population | 34,325 | | 39,364 | | 50,165 | |

Sources: US Census Bureau, Woods & Poole

### Table 2.3: Distribution of Race and Ethnicity

| Race | Harrison County | | | United States | | |
|---|---|---|---|---|---|---|
| | 2000 | 2010 | 2040 | 2000 | 2010 | 2040 |
| White | 98.4% | 97.4% | 97.4% | 75.1% | 72.4% | 52.1% |
| Black or African American | 0.4% | 0.5% | 1.3% | 12.3% | 12.6% | 13.5% |
| American Indian/Alaska Native | 0.3% | 0.2% | 0.2% | 0.9% | 0.9% | 0.8% |
| Asian | 0.2% | 0.4% | 1.2% | 3.6% | 4.8% | 8.6% |
| Native Hawaiian/Pacific Islander | 0.0% | 0.0% | | 0.1% | 0.2% | |
| Other Race | 0.2% | 0.5% | - | 5.5% | 6.2% | - |
| Two or More Races | 0.6% | 1.0% | - | 2.4% | 2.9% | - |
| *Hispanic of Any Race* | *1.0%* | *1.5%* | *3.6%* | *12.5%* | *16.3%* | *24.9%* |

Sources: US Census Bureau, Woods & Poole

## HOUSEHOLDS AND MEDIAN INCOME

The location of households in the MPA and the household size are indicators of population distribution and density, which play an important role in regional transportation planning. The change in the number of households and household size in Harrison County between 2000 and 2010 are presented in **Table 2.4**. One and two-person households grew by 1,855, while three and four plus-person households grew more moderately by 420. The average household size in the region declined between 2000 and 2010 from 2.63 to 2.56, and is expected to further decrease to 2.38 by the year 2040.

Household income has a direct impact on the regional travel demand and is an important indicator for the needs of alternate transportation options. Lower income households are more likely to be dependent on public transit as a primary mode of transportation. Alternatively, higher income households generate twice as many daily vehicle trips compared to low income households. **Table 2.5** presents the median income for households in Harrison County as well as the Town of Corydon. The median household income in the County is nearly the same as the median household income in the United States, though Corydon itself is below the national average. In Corydon, The median income is lowest for the 15-25 age bracket, with income rising for the ages 25-44 and 44-64 age brackets due to the level of education and additional years of work experience. In Harrison County, however, median incomes are relatively high for the 15-25 year cohort and plateau from ages 25 to 64. As the data indicates, income typically declines after age 65 due to individuals leaving the workforce and living on fixed incomes.

Table 2.4: Households by Household Size

| Household Size | 2000 | | 2010 | |
|---|---|---|---|---|
| | # of Households | % of Households | # of Households | % of Households |
| **Total Households** | **12,917** | **100.0%** | **15,192** | **100.0%** |
| 1-person household | 2,673 | 20.7% | 3,463 | 22.8% |
| 2-person household | 4,470 | 34.60% | 5,535 | 36.4% |
| 3-person household | 2,473 | 19.1% | 2,587 | 17.0% |
| 4+ person household | 3,301 | 25.6% | 3,607 | 23.7% |

Sources: US Census Bureau

Table 2.5: Median Income by Age of Householders

| Age of Householder | Harrison County | Corydon | United States |
|---|---|---|---|
| 15 to 25 Years | $50,807 | $26,071 | $26,465 |
| 25 to 44 Years | $58,210 | $39,184 | $57,132 |
| 45 to 64 Years | $58,652 | $43,125 | $63,398 |
| 65 Years and Older | $33,836 | $28,276 | $33,906 |
| **Average Median Income** | **$51,272** | **$37,801** | **$51,914** |

Sources: US Census Bureau

## EDUCATION, POVERTY AND DISABILITY

**Table 2.6** presents the educational attainment for the population age 25 years and older in Harrison County and the Town of Corydon, based on the 2010 Census. Just under 20% of the population has a bachelor's degree or higher. 85-90% of the total population are high school graduates, which is about the same as the national average.

As part of the planning process, identifying targeted populations, such as the low-income population or the population with disabilities, is important to evaluate alternate transportation options in order to meet the mobility needs of these users that traditional transportation planning has underserved. **Table 2.7** presents the poverty status by age in Harrison County and the Town of Corydon. In the year 2010, 31.9% of Harrison County's population was low income (annual household income falling below $35,000), 13.2% were identified to be under the poverty line, 17.9% qualify for disability status, and 13.8% are senior population over the age of 65, making it imperative to address any potential transportation inequities in the regional transportation policy.

Table 2.6: Edcuational Attatinment for Population 25 and Older

| Educational Attainment (2016) | Town of Corydon | | | | Harrison County | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Total % | Total | Male | Female | Total % |
| Less than high school graduate | 394 | 80 | 314 | 16.6% | 3,112 | 1,620 | 1,492 | 11.3% |
| High school graduate | 915 | 501 | 414 | 38.7% | 3,355 | 6,443 | 5,066 | 41.9% |
| Some college | 403 | 227 | 176 | 17.0% | 2,071 | 2,756 | 3,098 | 21.3% |
| Associate's degree | 143 | 84 | 59 | 6.0% | 850 | 806 | 1,535 | 8.5% |
| Bachelor's degree | 233 | 80 | 153 | 9.9% | 1,221 | 1,265 | 1,665 | 10.7% |
| Graduate or professional degree | 277 | 109 | 168 | 11.7% | 570 | 655 | 1,056 | 6.2% |
| **Total** | **2,162** | **1,081** | **1,284** | | **27,457** | **12,902** | **13,307** | |

Sources: US Census Bureau

Table 2.7: Poverty Status by Age

| Age | Town of Corydon | | Harrison County | |
|---|---|---|---|---|
| | 2010 | 2016 | 2010 | 2016 |
| Under 5 Years | 26.1 | 32.1 | 12.9 | 16.4 |
| 5 to 17 Years | 43.4 | 28.5 | 16.6 | 13.5 |
| 18 to 64 Years | 25.8 | 31.0 | 8.9 | 14.0 |
| 65 to 74 Years | 7.3 | 9.9 | 2.7 | 8.6 |
| 75 Years and Older | 1.8 | 10.5 | 7.7 | 9.1 |

Sources: US Census Bureau

## EMPLOYMENT CHARACTERISTICS

As shown in **Figure 2.4**, education, health and social services are currently the largest employment sector in Harrison County making up 21% of the jobs market followed close behind by the manufacturing sector. According to the US Census, currently more than 20% of the employment in Harrison County is in manufacturing, compared to 6.9% in the United States as a whole. With more than double the national average, the manufacturing sector will continue to play a prominent role in transportation planning in the County.

The largest employers in Harrison County are:

- Horseshoe Southern Indiana
- Tyson Foods
- Walmart Super Center
- North Harrison Community School Corp.
- Physicians Referral Service
- Harrison County Hospital
- Icon Metal Forming
- Harrison County Government
- Jac C Food Stores

**Figure 2.5** presents the locations of major employers in the region. The 2016 employment information by sector was established based on the most recent Census Longitudinal Employer-Household Dynamics (LEHD) data.

Figure 2.4: 2016 Employment by Sector

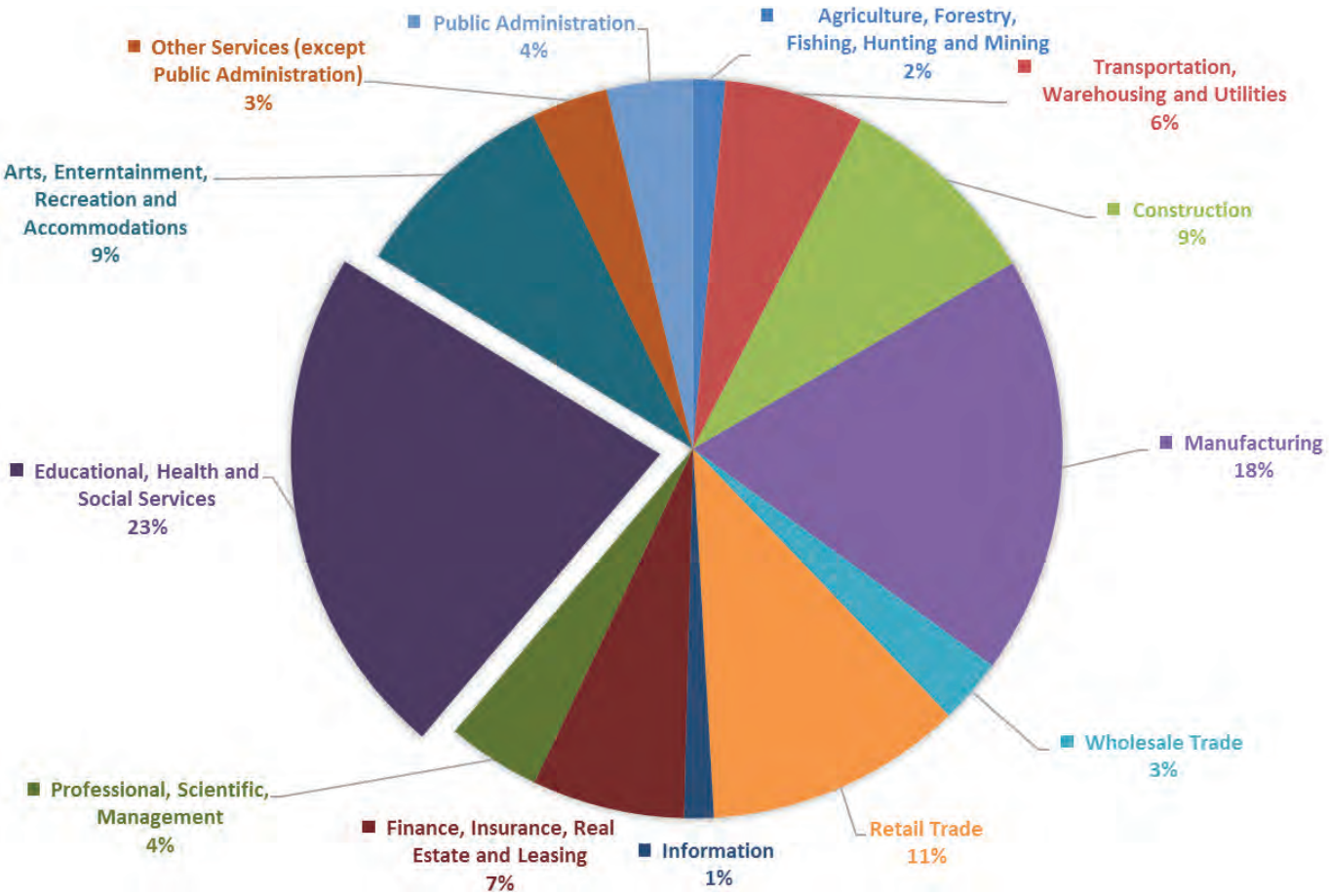
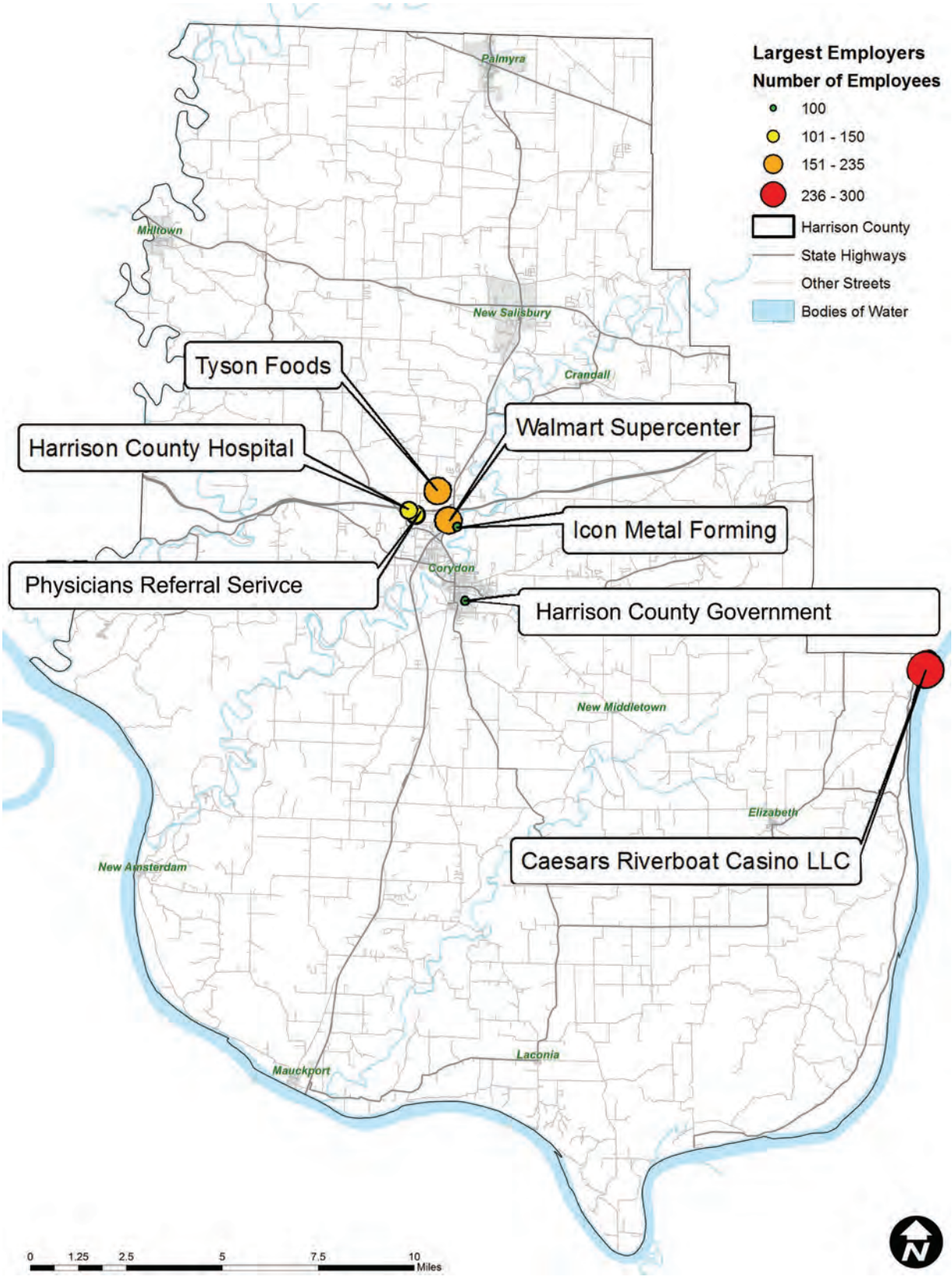


Figure 2.5: Sample of Largest Employers




Source: Hoosiers by the Numbers

## COMMUTE TO WORK PATTERNS

**Table 2.9** and **Table 2.10** present the commute patterns for Harrison County. About 65.4% of Harrison County workers live and work within the county. Over 34.5% of the people residing in Harrison County commute to other counties for work, primarily to counties in Kentucky but also Floyd, Clark, and Crawford Counties in Indiana. This trend has a lot to do with the affordable cost of living in Harrison County and its close proximity to Louisville Metro, which is the regional economic hub for healthcare, logistics, and manufacturing.

It is important to understand regional commuting patterns as part of the regional planning process. Mode of travel to work and vehicle ownership are important factors to understand the regional travel needs and to assess the availability of alternatives to automobiles in the County. Nearly 4 % of households in Harrison County do not own vehicles. The majority of the households in the region are two-vehicle households (37%), followed by one-vehicle households (24.3%).

The average commute time in Harrison County is 30.2 minutes which is slightly above the national average of 25.4 minutes. Over 30% of Harrison County workers reported a commute time of less than 20 minutes, while 25% indicate a commute of 45 minutes or more as shown in **Table 2.X.**

Harrison County is predominantly automobile-oriented, with 86% of commuters using a single-person vehicle to commute to work. Less than 1% reported walking to work and 0% using public transportation due to the lack of available infrastructure and lack of public transportation available to people other than the elderly and persons with disabilities. A full breakdown of mode of travel for commuting is provided in **Table 2.11.**

Table 2.8: Commute Patterns by County of Employment

| County of Residence | County of Work | % of Total |
|---|---|---|
| Harrison County | Harrison County | 87.1% |
| Floyd County | Harrison County | 3.3% |
| Crawford County, IL | Harrison County | 2.9% |
| Kentucky | Harrison County | 1.9% |
| Clark County | Harrison County | 1.6% |
| Other | Harrison County | 1.8% |

Table 2.9: Commute Patterns by County of Residence

| County of Residence | County of Work | % of Total |
|---|---|---|
| Harrison County | Harrison County | 66.6% |
| Harrison County | Kentucky | 12.5% |
| Harrison County | Floyd County | 9.1% |
| Harrison County | Clark County | 6.5% |
| Harrison County | Crawford County | 0.8% |
| Harrison County | Other | 4.5% |

Figure 2.10: Travel Time to Work

| Travel Time | % of Total |
|---|---|
| Less than 5 min. | 2.70% |
| 5 to 9 min. | 7.60% |
| 10 to 14 min. | 11.20% |
| 15 to 19 min. | 9.20% |
| 20 to 24 min. | 11.30% |
| 25 to 29 min. | 6.30% |
| 30 to 34 min. | 13.40% |
| 35 to 39 min. | 6% |
| 40 to 44 min. | 7.90% |
| 45 to 59 min. | 17.10% |
| 60 to 89 min. | 6.10% |
| 90 or more min. | 1.30% |

Source: US Census Bureau

Table 2.11: Means of Transportation to Work

| Total Commuters | Harrison County | United States |
|---|---|---|
| Drove Alone | 86% | 76.4% |
| Carpooled | 9% | 9.6% |
| Public Transportation | 0% | 5.1% |
| Walked | 0% | 2.8% |
| Taxi, Motorcycle, Bicycle, Other | 1% | 1.8% |
| Worked at Home | 3% | 4.4% |

Sources: US Census Bureau

## RELEVANT CONCLUSIONS

- Harrison County's population has grown significantly over the past decade due to Harrison County's convenient proximity to Louisville Metropolitan area and good quality of life. Transportation projects should include elements that preserve the natural environment while accommodating growth to sustain or enhance the local quality of life.
- The County's population is expected to age in coming decades, increasing the need for alternate modes of transportation.
- 6 of the largest employers in the County are located in and around Corydon with easy access to I-64 and SR 135 corridors. This makes transportation projects that support freight and commercial movement around the City a key factor in continued economic development for Harrison County.
- There is a high level of commuting interaction between Harrison County and Kentucky. Ensuring SR 135 and the Matthew E. Welsh Bridge, as well as  and I-64  and the Sherman Minton Bridge continue to function with a high level of service is critical for the future of Harrison County.

# 3.0 LAND USE

Source: Harrison County Parks

## LAND USE CONSIDERATIONS

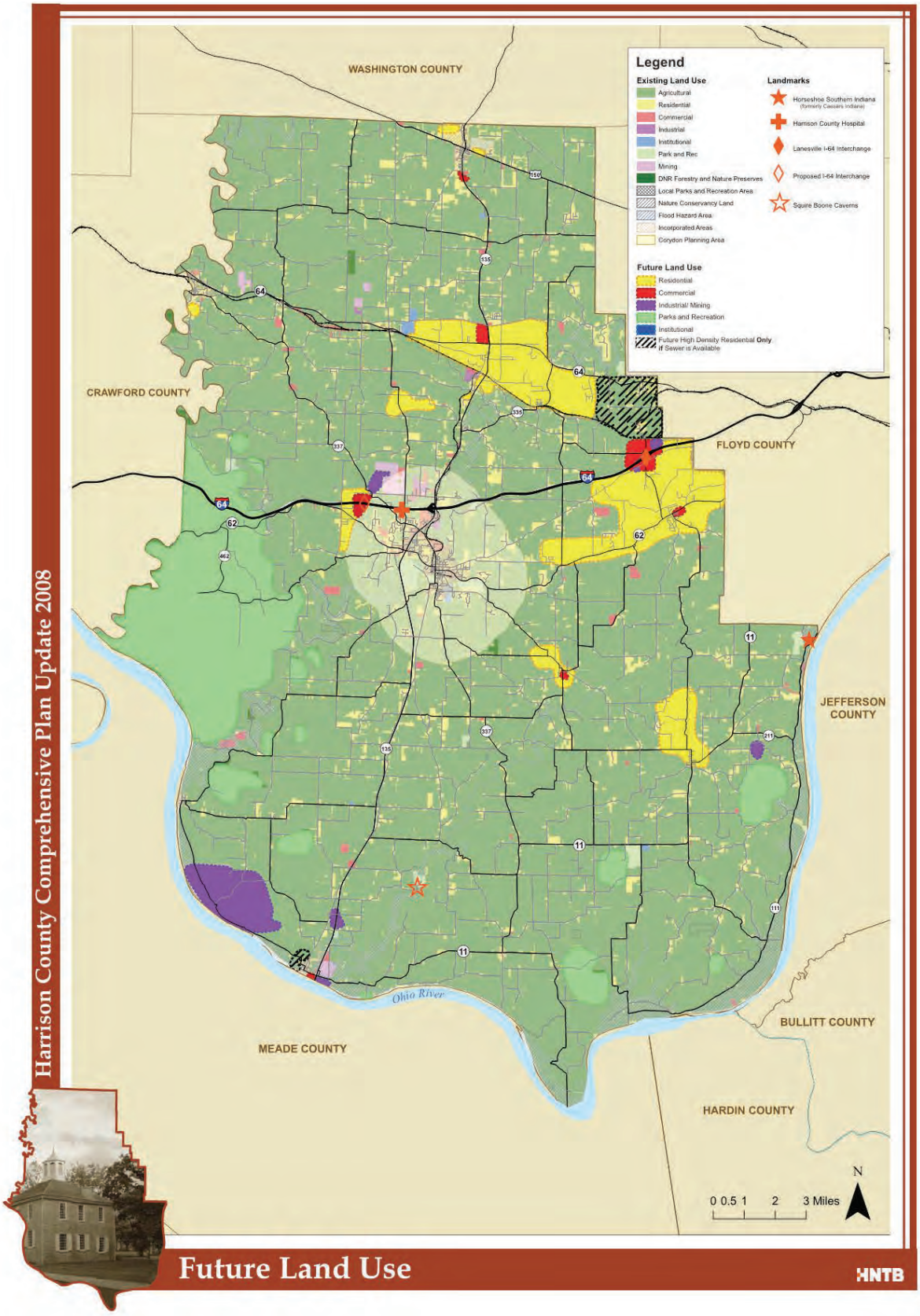
There is a strong and fundamental relationship between land use planning and transportation planning. While transportation planning decisions affect land use development, land use conditions also have an impact on travel demand. In other words, development generates new trips, and the new trips generate the need for additional transportation infrastructure, which in turn increases accessibility and attracts further development.

The transportation infrastructure, mobility needs, and accessibility features differ by land use type. Manufacturing and industrial land uses require direct connections to interstates via wide roadways to support truck traffic. Residential and institutional land uses, such as schools, require calm traffic and quality bicycle and pedestrian facilities. Retail land uses need convenient accessibility and connections to residential land uses.

Effective land use planning such as higher densities, urban design, activity scale, and contiguousness of development help reduce vehicular travel by reducing trip frequencies and increasing non-motorized modes of travel. Land use patterns are commonly impacted by factors such as population and economic growth, planning and zoning policies, housing costs, transit service, individual needs, and geographic or topographic conditions.

The Harrison County Plan Commission is responsible for comprehensive land use planning for Harrison County. Their comprehensive plans address the local land use and transportation issues, as well as establish a basis for future development, making them crucial inputs into the Harrison County long range planning process. The Harrison County Comprehensive Plan was adopted in early 2009 and includes the envisioned land use distribution for the unincorporated portions of Harrison County. **Figure 3.1** on the following page presents the envisioned 2030 land use map for the County.

Figure 3.1: Harrison County Comprehensive Plan Future Land Use Map



Major findings from the 2030 plan include the following:

- Throughout the majority of the county, rural and agricultural uses will continue to be the predominant land uses. However, there are a select number of areas, which are slated for growth in the future:
- Residential growth south of the Lanesville interchange and along SR 62 east of Corydon;
- Residential growth between SR 64 and the Norfolk Southern railroad tracks in the vicinities of New Salisbury and Crandall;
- Residential growth around Elizabeth;
- Commercial growth around the Lanesville Interchange and near I-64 and SR 337 (should an interchange be developed at that location);
- Commercial growth near the intersection of SR 64 and SR 135; and
- Industrial growth on the northwest side of Corydon as well as in the southwestern portion of the county along the Ohio River.

In addition to the Harrison County Comprehensive Plan, an addendum was created to provide special guidance on the "fringe area" around the Town of Corydon. **Figure 3.2** of the follow page shows the future land use map from the comprehensive plan addendum. Substantial growth areas are envisioned around existing major roadways leading into and out of Corydon, while areas that are not as accessible are expected to remain largely agricultural in nature. Substantial residential growth is anticipated to occur south of Corydon along the SR 135 and SR 337 corridors, as well as along SR 62 east and west of Corydon. A small amount of residential growth could also occur east of SR 135 north of I-64. Commercial growth is expected to continue to predominantly occur along the I-64 corridor, and industrial growth is expected to largely occur northwest of the interchange of I-64 and SR 135.

Accompanying **Figure 3.2** on the next page, **Figure 3.3** presents the future land use plan for the Town of Corydon. Since the land within the boundaries of the Town of Corydon is largely built out, the future land use is quite similar to the existing land use. However, large portions of the downtown area are slated for mixed-use development, as is most of the land along SR 337 south of Indian Creek. Additionally, the area on both sides of SR 62 east of 135, as well as east of Downtown Corydon, is slated for commercial development in areas that are predominantly residential at the current time.

Figure 3.2: Corydon ETJ Future Land Use

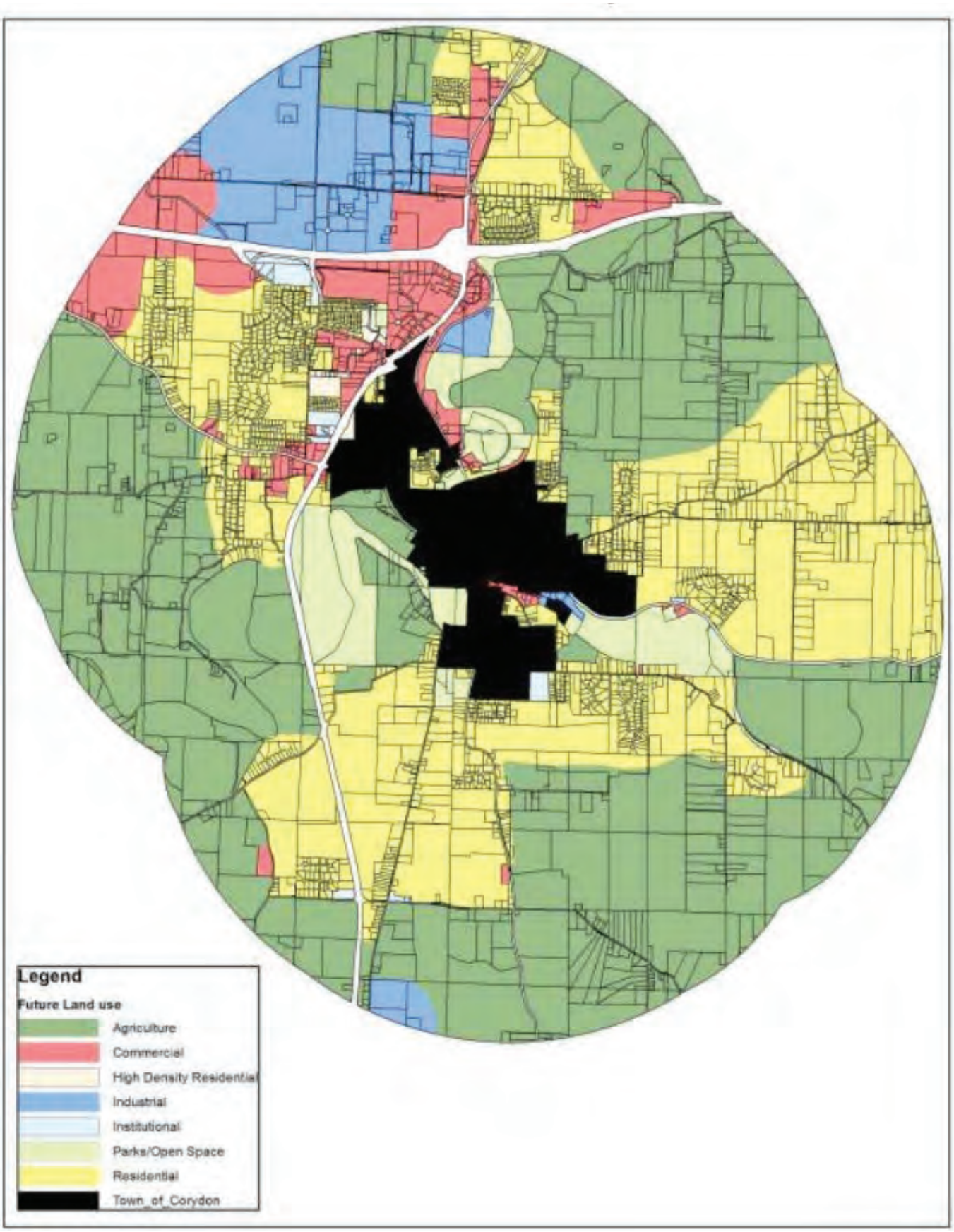


Figure 3.3: Corydon Future Land Use

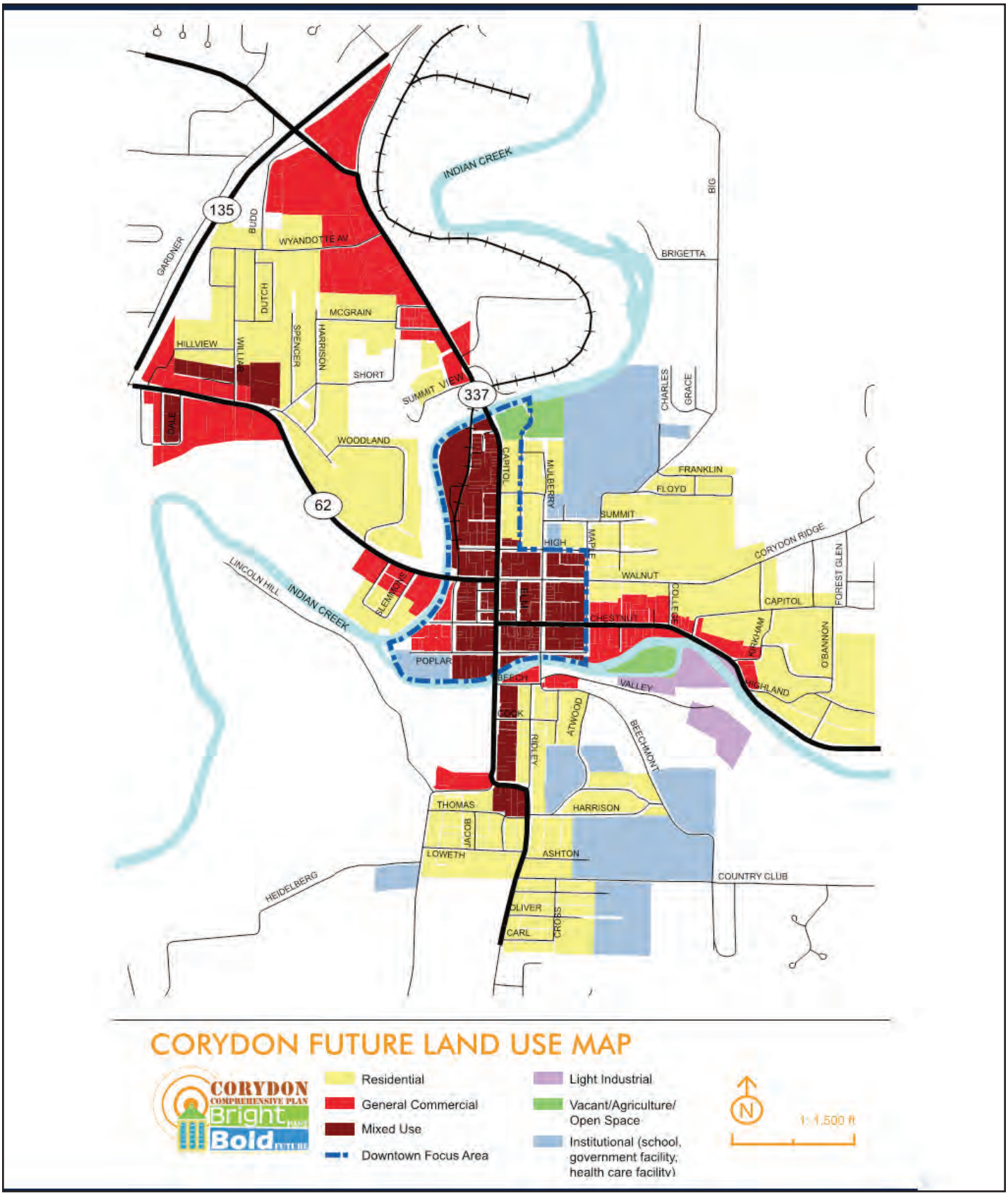


**Figure 3.4** and **Figure 3.5** on the opposite page shows the future land use map for Milltown and its extraterritorial jurisdiction. Within the Town of Milltown itself, very few changes in land use are expected within the planning horizon of the plan. However, some small areas of multi-family housing and commercial development are anticipated along the SR 64 corridor. Within the extraterritorial jurisdiction, however, more substantial growth areas are identified. Along SR 64 east of Milltown, residential growth is expected around the intersection with Milltown Road/Weathers Road; commercial growth is also expected in this area. Both light and heavy industrial development is identified along SR 64 and the Norfolk Southern railroad between Milltown Road/Weathers Road and Depauw. Additional growth areas are identified north and west of Milltown; however, these areas are not located within Harrison County.

Figure 3.4: Milltown Comprehensive Plan Future Land Use

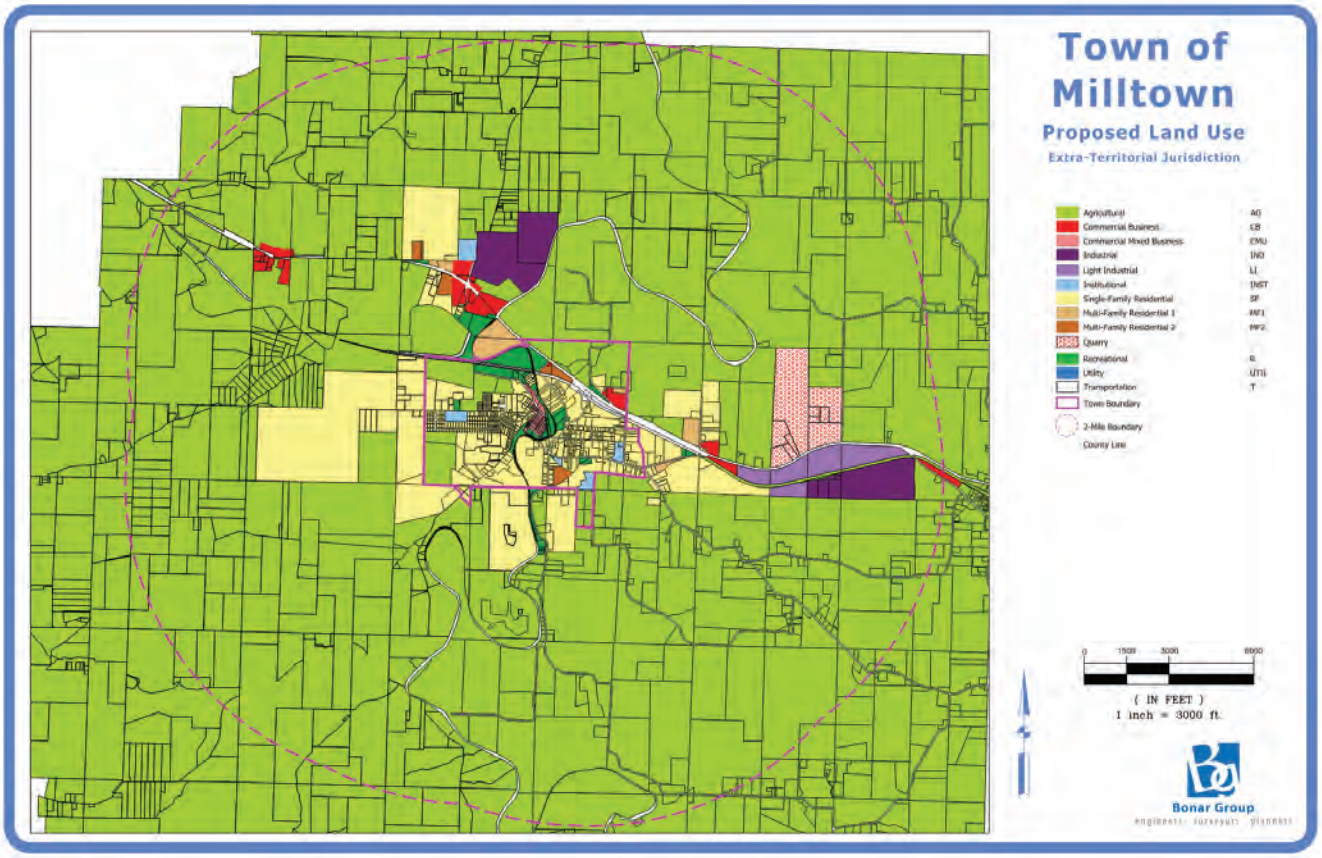
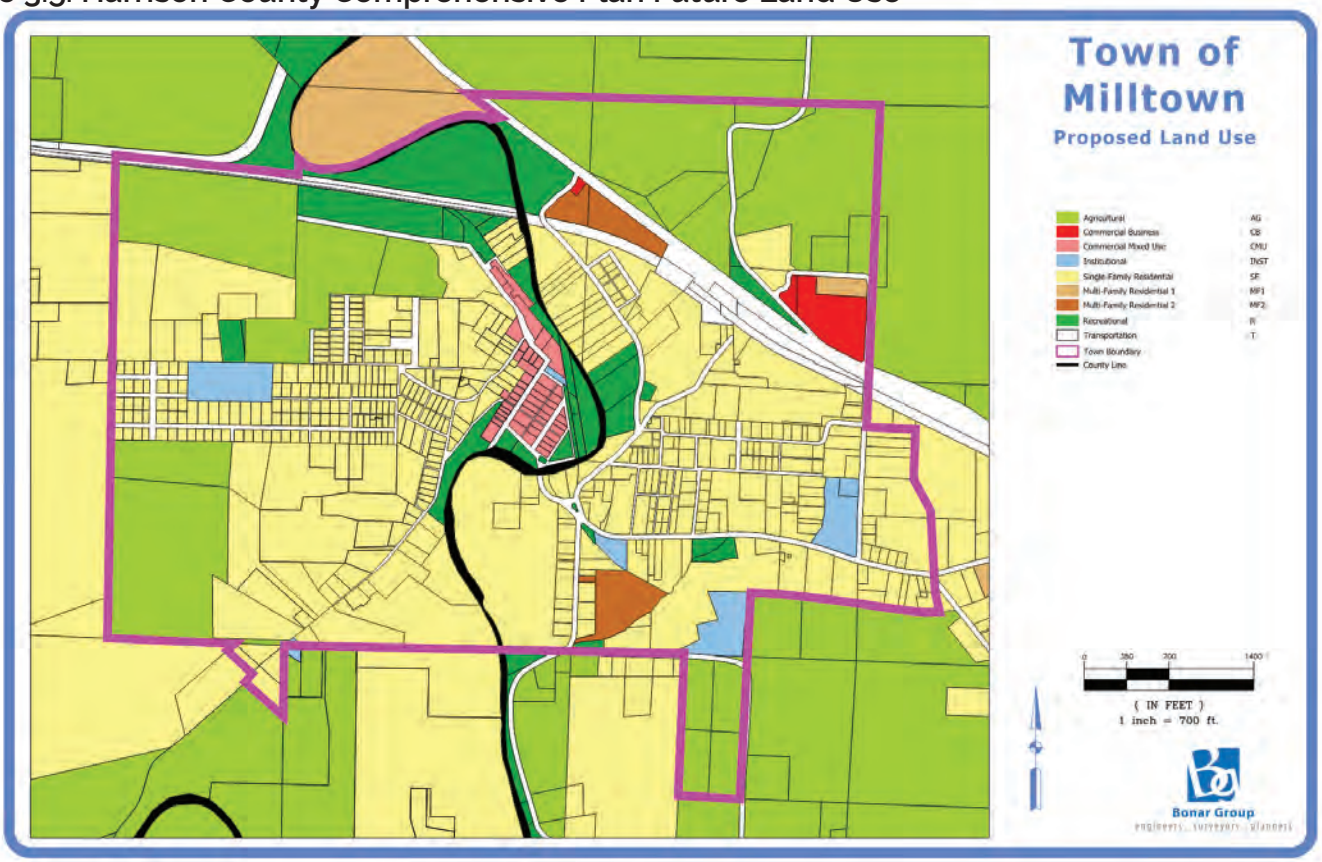



Figure 3.5: Harrison County Comprehensive Plan Future Land Use



## ENVIRONMENTAL CONSIDERATIONS

Preserving and enhancing the natural environment should be one of the primary regional goals when considering transportation investments. As part of the long-range planning process, it is crucial to identify the impact of transportation projects on environmental resources, ideally by making planning decisions that preserve and enhance these natural systems. Additionally, all transportation projects that include federal funding are subject to federal environmental regulations. These regulations include provisions for the protection of wetlands, floodplains, endangered species, historic structures and any other significant environmental effects, as well as the project's effect on air quality.

The 1990 Federal Clean Air Act Amendments (CAAA) requires counties within air quality "non-attainment" or "maintenance" areas to perform air quality conformity determinations prior to approving major transportation investments in their long-range plans. A conformity determination demonstrates that the transportation program and projects are consistent with the State Implementation Plan (SIP) for attaining National Ambient Air Quality Standards (NAAQS). Harrison County currently meets federal air quality standards and the region is in "attainment" for each of the six airborne pollutants; carbon monoxide (CO), lead (Pb), nitrogen dioxide ($NO_2$), particulate matter ($PM_{10}$ and $PM_{2.5}$), ozone ($O_3$), and sulfur dioxide ($SO_2$). **Figure 2.6** shows nonattainment counties in the United States.

Figure 3.6: EPA Designated Air Quality Nonattainment Counties

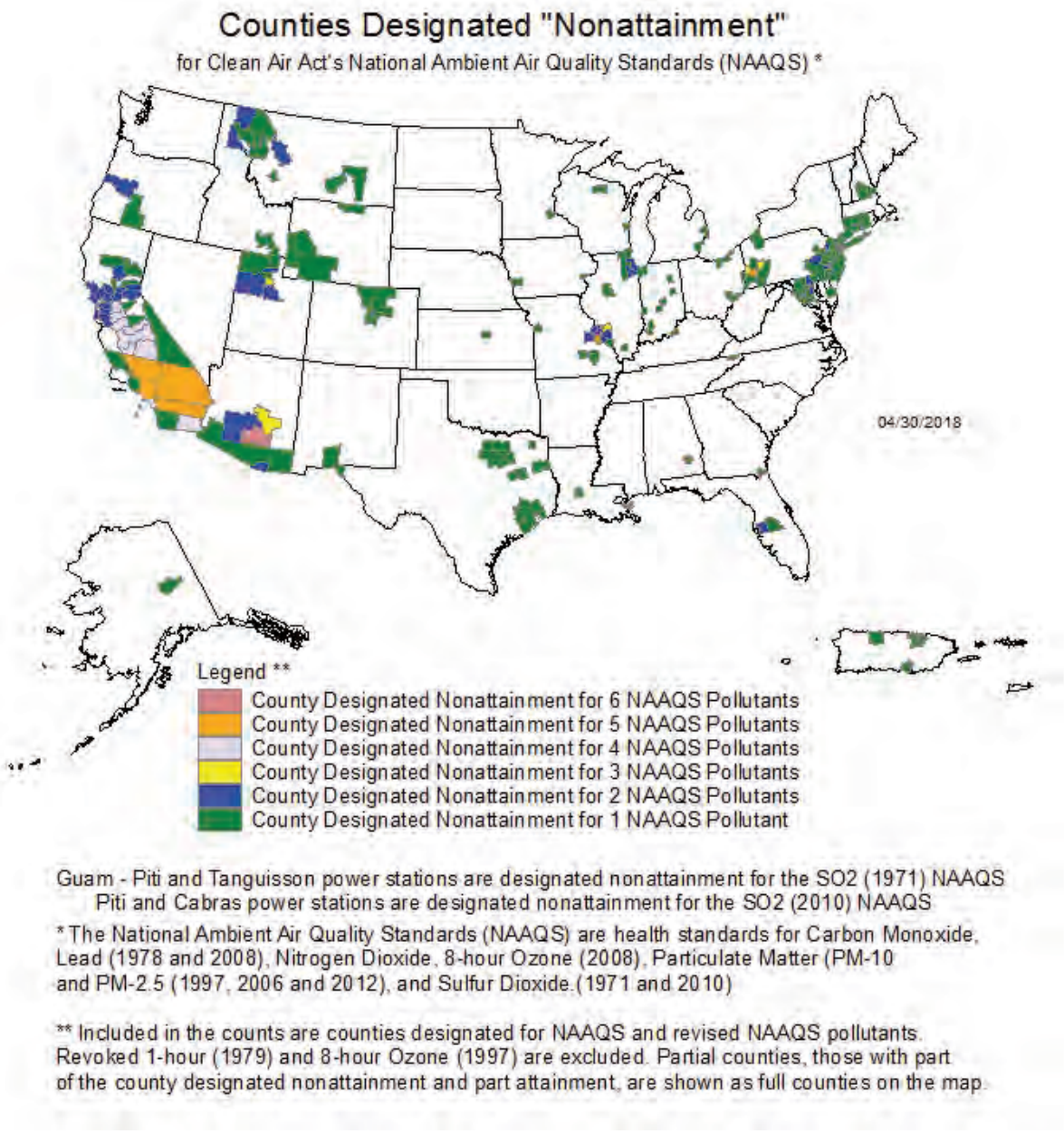
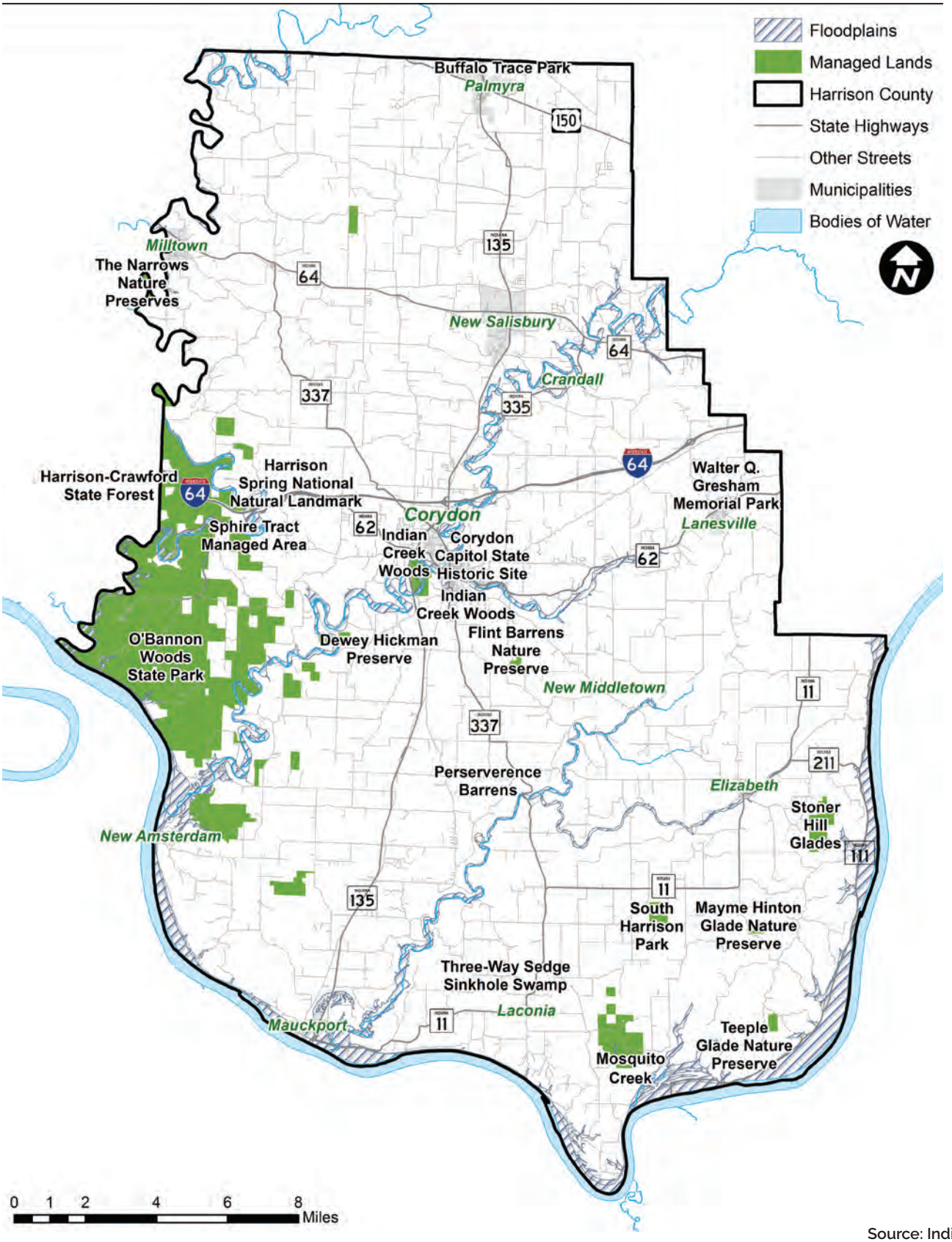


Figure 3.7: Wetland Features


Source: IndianaMap

**Figure 3.10** and **Figure 3.11** present the wetland features and floodplain/managed lands in Harrison County, respectively. In addition to natural resources, cultural and historic resources should also be considered, and steps should be taken to minimize damage, destruction, or removal of these features.

Figure 3.8: Floodplains and Managed Lands




Source: IndianaMap

Due to the hilly topography of the southern portion of Harrison County, there are only isolated areas of wetlands along the Ohio River and along some of the smaller tributaries that flow into the river. Similarly, the northern portion of the County only has isolated areas of wetlands; however, there are some substantial clusters of wetlands southeast of Palmyra between the SR 135 and US 150 corridors. Transportation projects near these areas will be under an elevated level of scrutiny to ensure that they do not have any adverse effects on wetland areas; otherwise, mitigation strategies must be implemented.

The largest areas of floodplain are along the banks of the Ohio River in the southern part of the county. The tributaries flowing into the Ohio River cut relatively narrow floodplains through the southern half of the County. The northern half of the county has relatively few floodplains. The majority of land uses will not develop in floodplains and special accommodations will be needed to ensure that any transportation investments in these areas will need to be resistant to flooding.

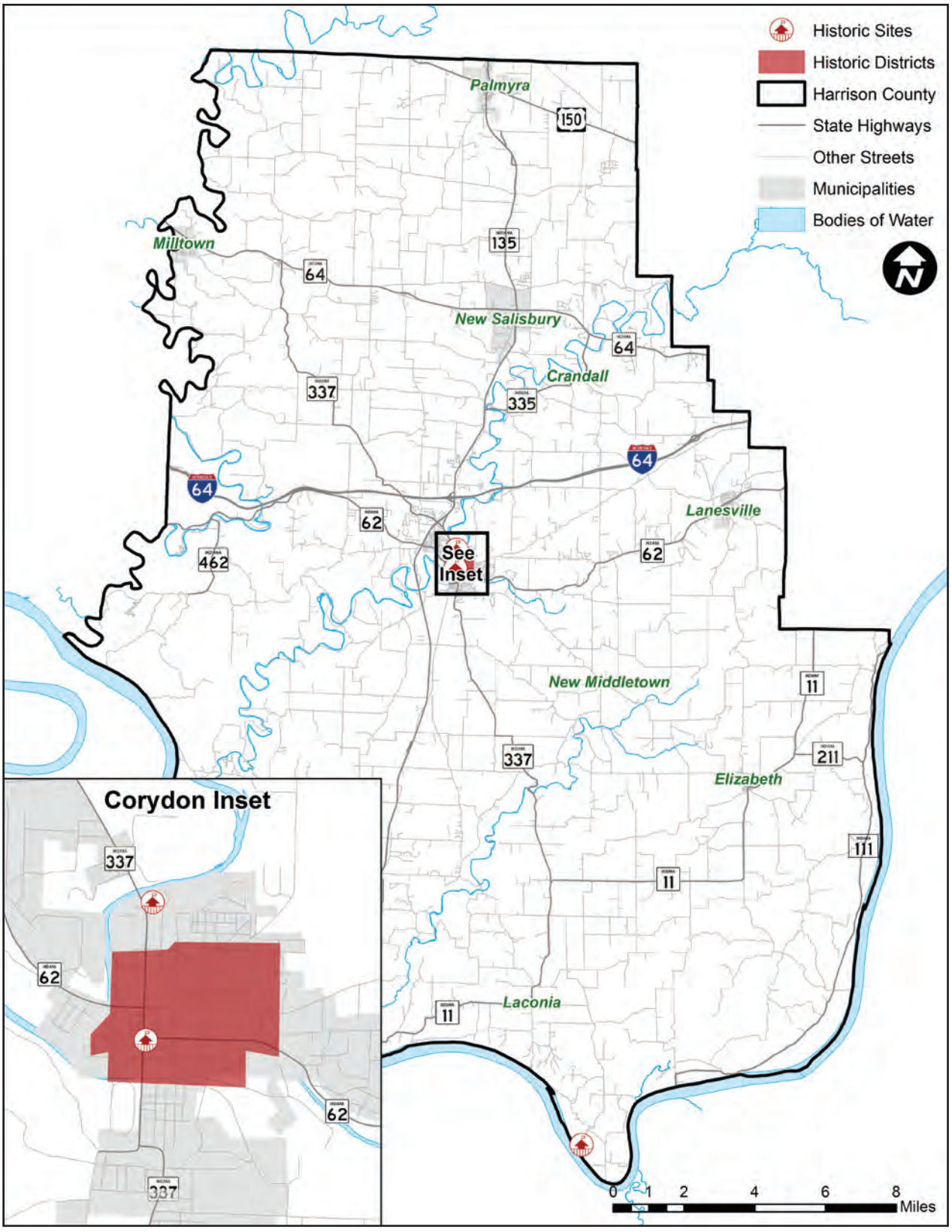
There are substantial portions of Harrison County that are considered 'Managed Lands', including several state and national sites in the western portion of the County (Harrison-Crawford State Forest, O'Bannon Woods State Park, and Harrison Spring National Natural Landmark). There are also several smaller areas of managed lands throughout the southern half of the County and around Corydon. These areas will not support any growth, but transportation investments should be targeted to make these areas accessible to tourists.

There are three historic structures within Harrison County (the Kintner-McGrain House and the Kintner House Hotel in Corydon, and the Kintner-Withers House in the extreme southern portion of the County along the Ohio River). Additionally, a larger portion of central Corydon is designated as a historic district. Transportation projects should not negatively affect the character or environment near these historic areas due to federal restrictions. Additionally, the historic character of central Corydon, in particular, is a source of tourism income and measures should be taken to avoid negatively impacting the area. **Figure 3.11** presents locations of structures and sites that are on the National Register of Historic Places.

**Figure 3.9: Historic State Capitol Building**

**Figure 3.10: Morgan's Raiders Battlefield**

Figure 3.11: National Register of Historic Places




Source: IndianaMap

## RELEVANT CONCLUSIONS

- The bulk of the future growth in Harrison County is anticipated to occur along the I-64 and SR 64 corridors, as shown in the future land use maps from the various comprehensive plans. Improving accessibility to these areas will be imperative in the coming decades.
- While the impacts of wetlands and floodplains are relatively minor in Harrison County, care should be taken to not promote development in these areas.
- Access to managed lands will be important for promoting tourism in the area; however, it will be important to not negatively affect those managed lands in the process.
- Transportation projects should be designed to preserve the historic nature of the central area of Corydon. Transportation projects should be designed to remove truck traffic and through traffic from central city streets, which detracts from the historic character of the downtown area.

# 4.0 TRANSPORTATION INFRASTRUCTURE


This chapter of the LRTP details the infrastructure, land use and multi-modal options in Harrison County. The following sections describe the existing transportation network in the region, as well as traffic conditions.

Fostering and investing in a safe and efficient multi-modal transportation system is crucial to improve economic conditions in an increasingly competitive economy, and at the same time enhance accessibility and quality of life for residents.

Located west of Louisville, the location of Harrison County along Interstate 64 in close proximity to a major metropolitan area puts it in an advantageous position with easy access to regional and national infrastructure. I-64 is a major national east-west corridor running from Virginia to Missouri, where it terminates at I-70, which extends west to Utah. The County is also located near I-65, which is one of the most heavily utilized north-south corridors in the country, running from Mobile, AL to Chicago, IL.

## ROADWAY INFRASTRUCTURE

The County is served by a roadway network consisting of everything from local roadways to major state and interstate highway routes, including roadways which are part of the National Highway System (NHS). The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The NHS was developed by the United States Department of Transportation (USDOT) in cooperation with the states, local officials, and MPOs. As shown in **Figure 4.1** I-64 is the only facility in the County that is a part of the NHS.

While I-64 is adequate for current travel demands, many of the supporting state and county facilities have safety and environmental concerns associated with them. Some of these smaller facilities are characterized by narrow lane widths, sharp curves, outdated signage, and flooding issues throughout the year. These supporting routes are important for transporting people and goods from the rural areas of the county to the surrounding urbanized areas and I-64.

Figure 4.1: National Highway System Facilities


Source: Federal Highway Administration

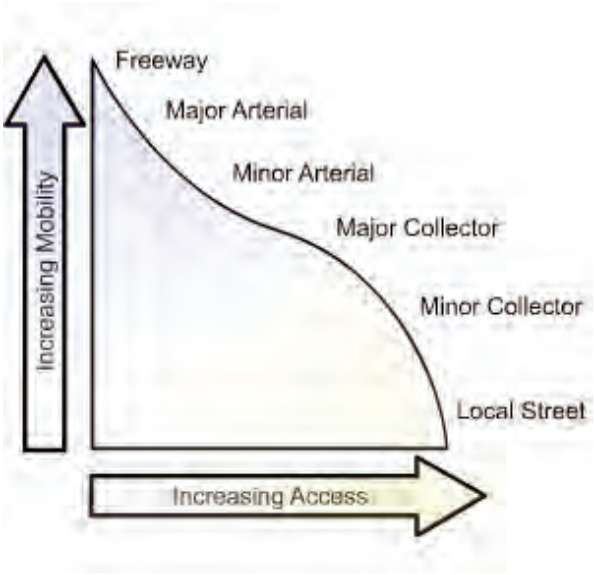
### *FHWA Functional Classification and Access Management*

The Federal Highway Administration (FHWA) recommends grouping the roadway network into a hierarchical functional classification system based on the characteristics of the roadway, as well as the service the roadway is intended to provide. The transportation system is classified into freeways/interstates, arterials, collectors, and local roadways. **Figure 4.2** shows the relationship between land access and mobility for the different categories. For example, I-64 represents the highest degree of mobility and very limited access to land uses, promoting long distance travel with minimum disruption to traffic. On the other end of the spectrum, local streets support short-distance, low-speed traffic representing the lowest degree of mobility, but highest degree of access to land uses.

The process for assigning a functional classification to a roadway is relatively standardized and consistent across the nation, and is the responsibility of INDOT in cooperation with local agencies, and FHWA. FHWA recommends seven basic functional classifications, five of which are present in Harrison County. **Table 4.1** provides a brief description of the functional classifications and how many miles of each are present in the County.

INDOT, and Harrison County as a result, use the FHWA functional classification terminology to

Figure 4.2: Functional Classification Mobility/Access




Source: Federal Highway Administration

Table 4.1: Functional Classification Breakdown in Harrison County

| Functional Classification | Miles | % of Total | Services Provided |
|---|---|---|---|
| Interstate | 18.7 | 1.3% | Full access control, high speed travel |
| Other Freeways & Expressways | 0 | 0.0% | Similar to Interstate, full access control, high speed |
| Principal Arterials | 0 | 0.0% | High speeds and long, uninterrupted travel |
| Minor Arterials | 36.4 | 2.6% | Slower speeds than principal arterial, often provide connections between principal arterials |
| Major Collectors | 175.0 | 12.6% | Collects traffic from local roads, distributes to arterials |
| Minor Collectors | 94.7 | 6.8% | Collects traffic from local roads, distributes to arterials |
| Local Road or Street | 1,062.2 | 76.7% | Provides access to land, little or no through traffic |

identify the function of each roadway as a part of the transportation system county-wide. Several factors are considered when establishing functional classification. These factors include traffic volumes, trip lengths, and type of use (short or long distance travel). **Figure 4.3** illustrates the distribution of functional classification categories in the County.

Maintaining proper connections between the roadways is important for efficient flow of traffic in the regional transportation system. Ideally, driveways should connect to local roads and collectors and not to arterial roadways. Land access should be provided across low-speed, low-volume roads rather than high-speed corridors. The higher the functional classification, the fewer the number of access points that should be allowed. Proper access management can help improve the flow of traffic, increase safety, and reduce the number of conflict points for all roadway users.

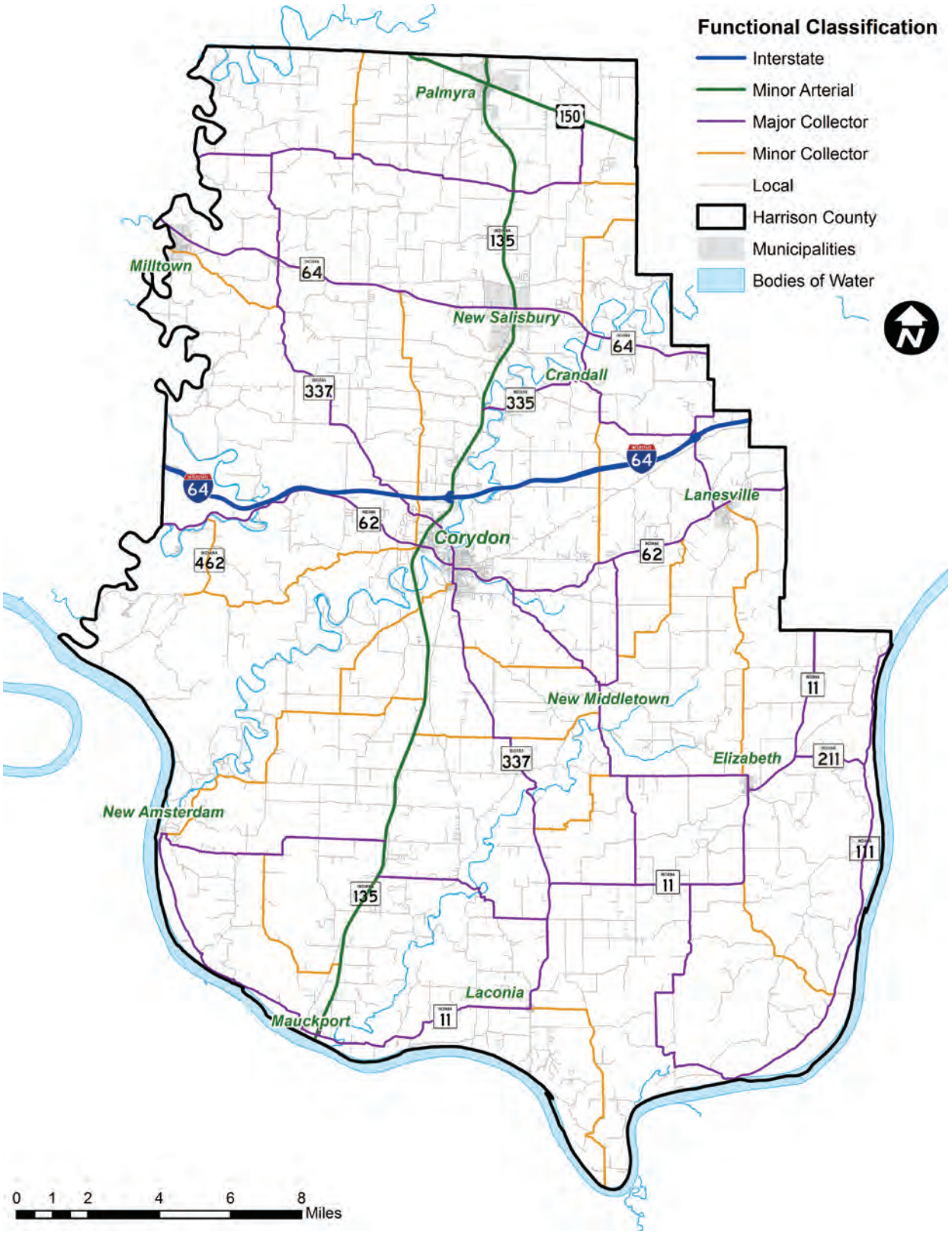
***Vehicular Traffic***

The traffic volume on the transportation system varies based on the functional classification of the roadway. For example, I-64 moves a large amount of traffic compared to collectors or local streets. The Average Daily Traffic (ADT) in Harrison County is continually collected by INDOT as well as periodic counts by the County and local municipalities. **Figure 4.4** on the following page represents the available recent ADT counts for many of the interstates, arterials and collectors in the county.

The heaviest traveled roadway in Harrison County is I-64 with an ADT ranging from 18,000 – 33,500 vehicles. Harrison County has a relatively high rate of commuting with the greater Louisville area to the east, so this corridor connecting Corydon and Lanesville to Louisville is very well utilized. The next highest facility is SR 135, which ranges greatly from 3,800 ADT in the extreme northern part of the County, to 15,300 ADT near the interchange with I-64. This large variability indicates that SR 135, with lower volumes at the north and south ends of the County and higher volumes around Corydon, indicates that SR 135 is a very important commuter and freight route for the majority of the County, and provides the primary access to I-64.

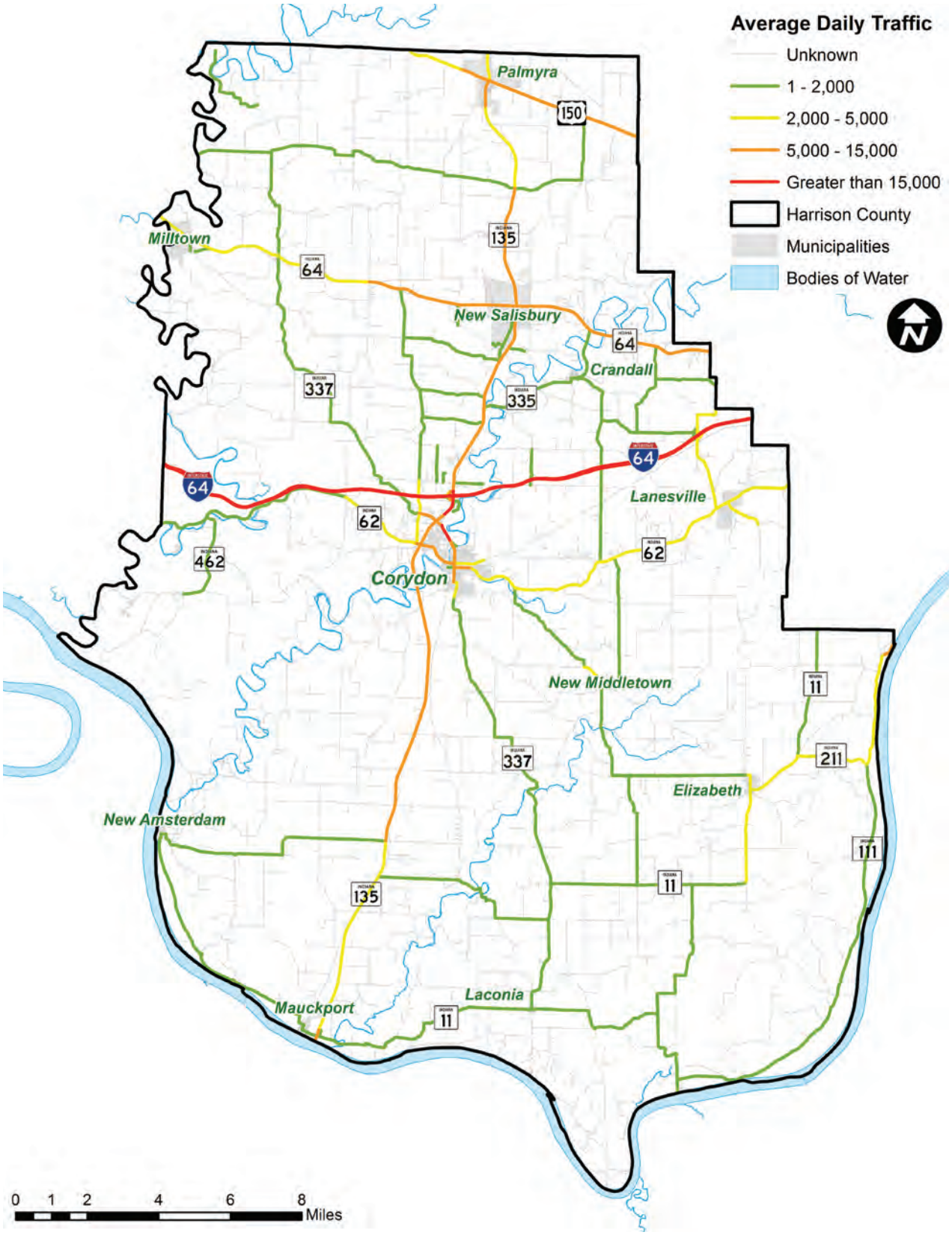
SR 64 and US 150 gain substantial levels of traffic between the central portions of the County and the eastern border with Floyd County, indicating that they are both also primary routes of access between Harrison County communities and the greater Louisville area. Finally, there is a large drop in traffic volumes on SR 111 around the Casino (7,800 ADT to 3,200 ADT), indicating that the Casino is the substantial driver of traffic along that corridor.

Figure 4.3: Functional Classification Designations




Source: INDOT

Figure 4.4: Average Daily Traffic




Source: INDOT

The usage of the roadway network in a region is commonly measured using Vehicle Miles of Travel (VMT). VMT is defined as the distance traveled by all vehicles in a given area over a specific period of time. Historically, the VMT in Harrison County has declined slightly during the 20-year span between 1997 and 2017 (the most recent data available), despite moderate gains in population in the County. This is most likely due to the recession of the late 2000's, as there is a peak in VMT in the early 2000's that is still above the most recent VMT measurements. However, 2017 saw the highest VMT in several years, indicating that growth may be occurring in travel in the County. The majority of the population in Harrison County uses a personal vehicle as their primary mode of transportation. As employment continues to increase and the County's population grows, the corresponding rise in VMT will result in an increase in traffic congestion, additional safety concerns, and the need for additional investment in infrastructure as well as increased operation and maintenance needs for existing infrastructure.

## PUBLIC TRANSPORTATION

Public transportation is crucial to providing personal mobility and an inexpensive option for traveling in Harrison County. Transit can accommodate more people than personal vehicles and can potentially help reduce VMT, thereby positively impacting the amount of funds required for maintenance and improvement of transportation infrastructure. Public transportation also provides access opportunities to the elderly and persons with disabilities.

### *Bus Transit*

Minimal public bus transportation is provided by the Southern Indiana Transit System (SITS) within Harrison County. SITS operates a "point deviation" route within Harrison County (as well as Crawford, Scott, and Washington Counties), meaning that service is provided within the County with specific stops, but the path between the stops is unspecified and the vehicle will serve locations within the County upon request. Point deviation routes are effective in areas with specific trip destinations, but dispersed origins. The SITS system is a prime example of this type of service, because it is primarily set up to allow people to access industry sites of Blue River Services (the parent company of SITS), but is open to the public.

The specified locations of SITS stops are provided in **Table 4.2** below, and a map showing the geographic locations of these stops are shown in **Figure 4.6**. All of the stops only have one pick-up time and one drop-off time each day. If an origin or destination is required outside of the designated stops, the passenger must schedule it in advance through SITS dispatch.

Table 4.2: Harrison County SITS Stops

| Pick-Up Location | Address | Pick-Up Time | Drop-Off Time | Days |
|---|---|---|---|---|
| Forestry Lot | 1482 SR 462, Corydon | 6:21 am | 3:51 pm | M, T, TH, F |
| Trinity Church | 500 Shiloh Rd, Corydon | 6:39 am | 4:00 pm | DAILY |
| South Central Elementary | 6595 E SR 11, Elizabeth | 7:00 am | 4:24 pm | DAILY |
| Civic Center | 8128 Hurricane St, Elizabeth | 7:09 am | 4:30 pm | M, T, TH, F |
| Stop Point | 6400 N SR 11, Elizabeth | 7:09 am | 4:30 pm | M, T, F |
| Stop Point | 92 S SR 337, Corydon | 7:36 am | 3:45 pm | T, TH |
| Harrison Center | 405 N Capital Ave, Corydon | - | 4:00 pm | DAILY |

Figure 4.6: Designates SITS Stops in Harrison County


Source: SITS

In addition to the point deviation service, SITS also provides paratransit ("demand response") service for seniors, people with disabilities, and children with special needs. This service does not have any fixed points and operates completely in response to calls for service. The paratransit service provides door-to-door service for anyone that qualifies, as long as the rides are scheduled in advance. Paratransit service is provided between 6 a.m. and 6 p.m., Monday through Friday.

Fares for SITS service is based on distance:

- 0 to 10 miles: $2/one-way trip
- 11 to 20 miles: $3/one-way trip
- 20+ miles (within service area): $4/one-way trip
- Trips outside of the service area are an additional $1.25/one-way trip

Ridership on the SITS service has remained relatively consistent over the past several years; however, 2016, the latest year for which data is available, saw a noticeable decline in ridership. **Table 4.3** on the following page shows the ridership totals for the past five years; this data includes the entire system (Harrison, Crawford, Scott, and Washington Counties).

As of June 1st, 2018, all non-emergency medical transportation for Medicaid participants is provided by Southeastrans instead of SITS. This service provides free transportation to medical appointments, which is then reimbursed to the provider by Medicaid.

**Table 4.3: SITS Annual Ridership**

| Year | Annual Ridership |
|---|---|
| 2012 | 46,168 |
| 2013 | 45,722 |
| 2014 | 46,111 |
| 2015 | 42,081 |
| 2016 | 32,355 |

### *Passenger Rail*

There is currently no passenger rail service in Harrison County, or anywhere in Southern Indiana. The nearest Amtrak stations are located in Cincinnati, OH and Indianapolis, which are both on the Cardinal Route (New York, Washington, Chicago) and Indianapolis is the terminal station of the Hoosier State Route (Chicago – Indianapolis). These stations are both approximately 2 hours from Harrison County. There is also "Thruway" bus service that connects Louisville, KY to Amtrak stations in both Indianapolis and Cincinnati.

### *Intercity Bus*

Greyhound Bus Lines utilizes the Burger King near the I-64/State Road 135 interchange in Corydon as a bus stop within the County. From this station passengers are able to access Louisville, KY to the east and Evansville to the west, which both connect to the larger national Greyhound network. Similarly, Trailways Bus Lines also utilizes the Burger King as a bus station in Corydon to connect to various locations around the region.

### *Passenger Air*

No passenger air service currently exists in Harrison County. The closest location with commercial air service is the Louisville International Airport, located approximately 30 miles from Corydon on the south side of Louisville. This airport has service on Allegiant Air, American Airlines, Frontier, Delta Airlines, OneJet, Southwest, and United Airlines with daily flights to 23 cities around the country.

## NON-MOTORIZED TRANSPORTATION

Bicycling and walking are integral parts of a balanced, sustainable, and efficient multi-modal transportation system. Area sidewalks and designated bike lanes increase mobility and access to jobs and recreational opportunities. Whether for short trips to nearby destinations or for longer, recreational trips to regional parks and open spaces throughout the region, non-motorized transportation can play an important role in several areas:

- Reducing vehicle miles of travel;
- Minimizing wear and tear on vital transportation infrastructure;
- Increasing physical activity;
- Lowering individual's transportation costs;
- Supporting local economic vitality; and
- Improving quality of life.

As Harrison County grows, incorporating non-motorized transportation into future roadway projects will ensure that people of all ages and abilities have the opportunity to travel about their community, regardless of their mode of choice. FHWA has stated that it is federal transportation policy to promote the increased use and safety of bicycling and walking as transportation modes.

### *Trails*

There are a small number of trail segments along Indian Creek in Corydon as well as a short segment along Little Indian Creek. However, construction is ongoing to connect the two longest sections of trail along Indian Creek to create a continuous 3.5 mile trail connecting the Hayswood Nature Preserve to the YMCA of Harrison County north of downtown Corydon. While this trail is mainly recreational in purpose, it does pass through central Corydon and could be extended to connect to more residential streets around the town.

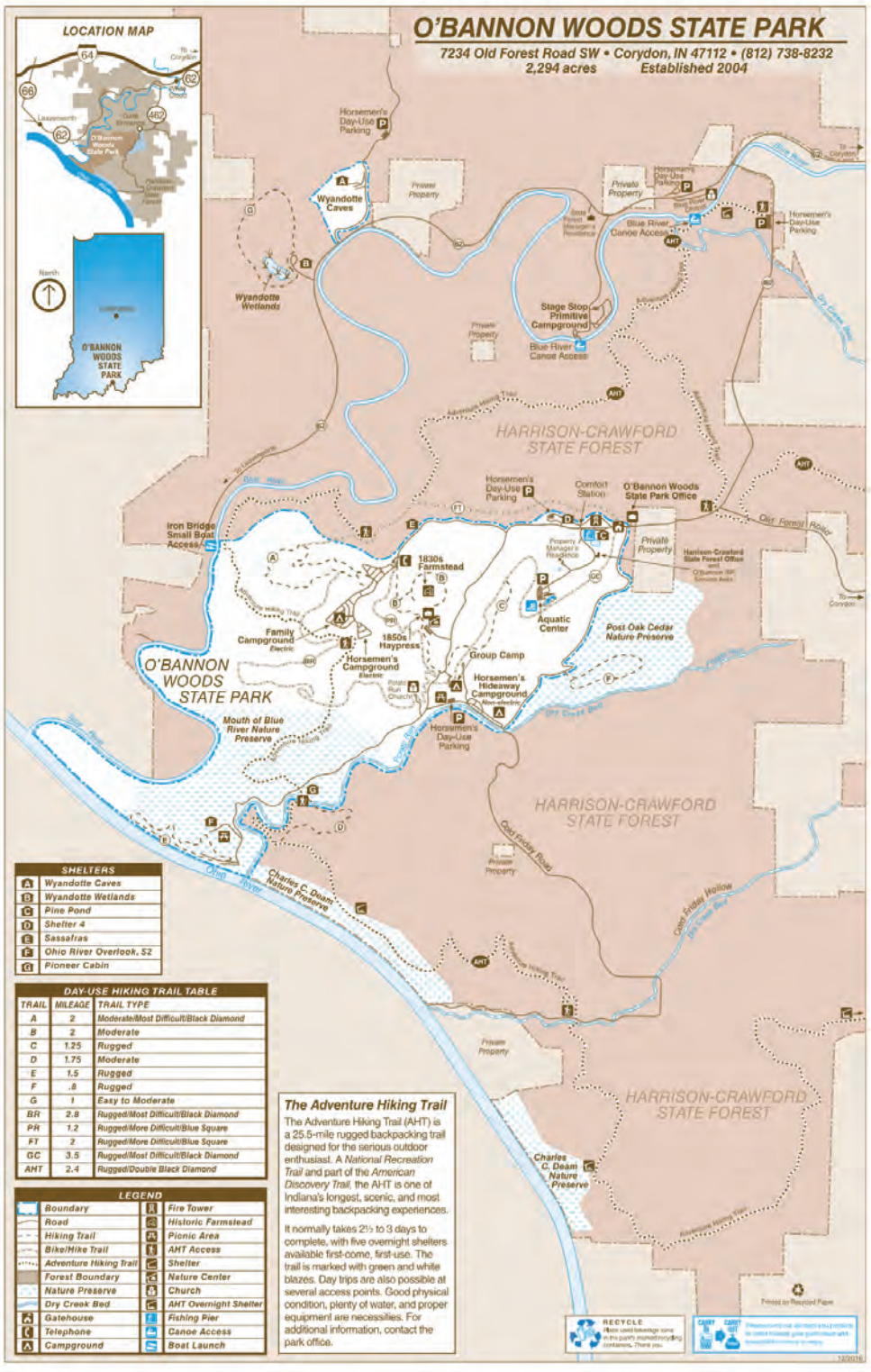
There are also a number of trails in Harrison-Crawford State Forest and O'Bannon Woods State Park in the far western portion of Harrison County. Between the two recreation areas, there are over 30 trails of varying difficulties and over 120 miles of trail. However, these trails are for recreational use and are not meant for commuting purposes. **Figure 4.6** shows the trails located within O'Bannon Woods State Park.

### *Sidewalks*

In general, the condition of sidewalks within the County is relatively poor. Sidewalks in Corydon, Palmyra, and the other more urban areas are inconsistent and pedestrians would likely experience several gaps in sidewalk coverage between their origin and destination. Few sidewalks are in good condition, and even fewer would meet current Americans with Disabilities Act (ADA) standards.

The majority of major roadways, especially state highways, do not have sidewalks or safe crossings for pedestrians, making them barriers to safe pedestrian travel. These roadways have the greatest need for sidewalks in the urban portions of the County because of their higher traffic volumes and speeds, where pedestrians need the most protection.

Figure 4.6:
O'Bannon Woods State Park Trails




Source: IDNR

## RELEVANT CONCLUSIONS

- Ensuring that proper treatments are used on roadways of different functional classifications will be important when implementing transportation improvements in the future. For example, access management principles should be applied to arterial roadways and lower classification roadways should not be used as truck routes.
- I-64 has the highest traffic volumes in the County, followed by SR 135. It should be ensured that transportation projects benefit these roadways so that they can continue to efficiently serve vehicular traffic through the County.
- There are currently few alternate modes of motorized travel in Harrison County, including public transit, intercity buses, rail, or airline service. This lack of options for County residents and employees leads to a heavy reliance on personal vehicles.
- There are small areas within the County that are served by non-motorized transportation infrastructure, but they are disconnected and some areas are in poor condition. A priority going forward should be to create a more connected and integrated non-motorized transportation network.

# 5.0 FREIGHT PLANNING

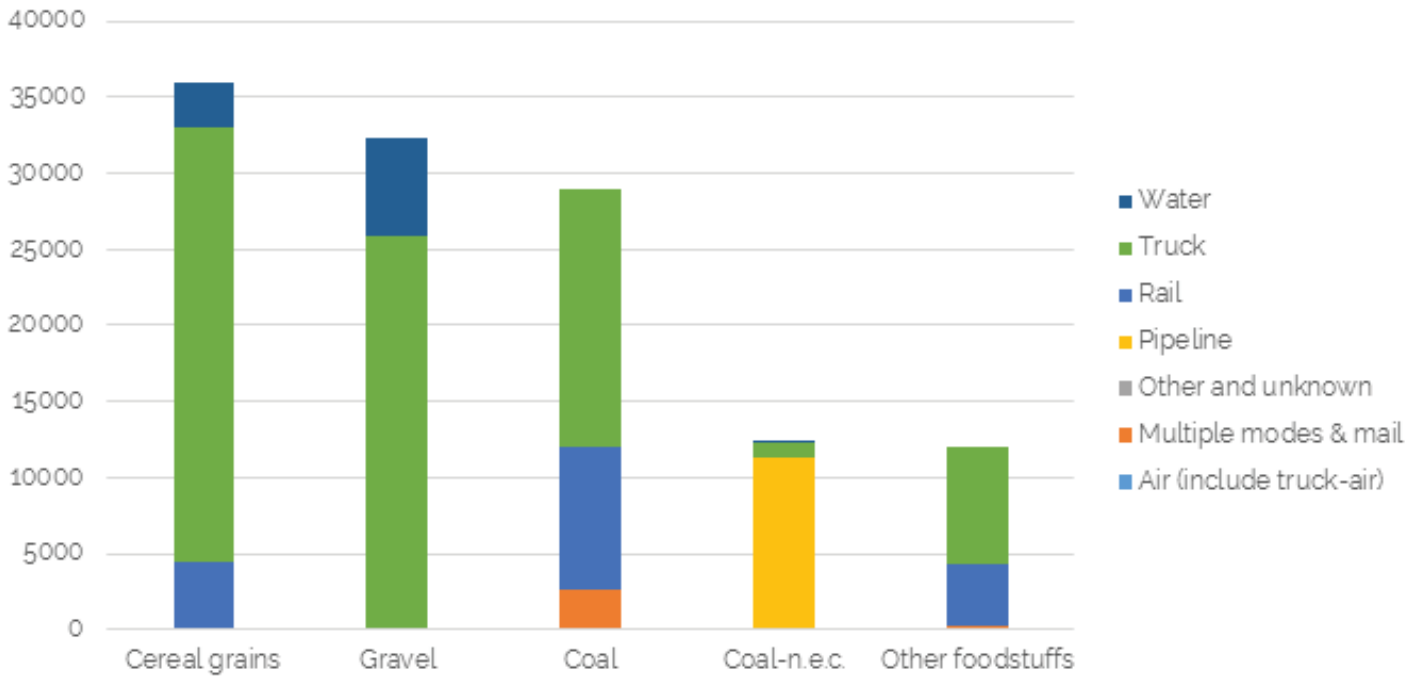
Freight transportation has been significant to the development in Harrison County. Originally, growth in the area communities were driven by access to waterways and proximity to major river ports. Later, cities and towns evolved to serve the developing railroads and the US Interstate system. Freight transportation in Harrison County is a key driver of the local economy and is fundamental to connecting local producers to the global trade network. Local businesses are dependent on moving agricultural products, raw materials, and finished products efficiently on an integrated system of freight transportation and rely on a multimodal freight network to provide a full range of options.

The Federal Highway Administration funds the Center for Transportation Analysis, which releases freight statistics via its Freight Analysis Framework (FAF) system. In Indiana, the Indianapolis, Greater Chicago, and Fort Wayne areas are analyzed separately, while the remaining parts of the state, including Harrison County, are analyzed as one region, known as "Remainder of Indiana". **Figures 5-2** and **5-3** on the following page show the top five export commodities transported in the Remainder of Indiana region in 2016 by weight (thousands of tons, KTons) and by dollar value (in 2016 dollars) and the mode used to transport them. For each of these commodities (except coal-n.e.c.) freight truck was the primary mode of transport. Cereal grains comprised 16.5% of the freight exported from the Remainder of Indiana region by weight in 2016, and were the 8th most valuable commodity. Fewer motorized vehicles (3.2%), mixed freight (1.2%), and plastics/rubber (1.6%) were transported in MTons, but the higher per-ton value of those commodities made them the top 3 most-valuable exports from the region.

**Figure 5.1: Agricultre Trucking**

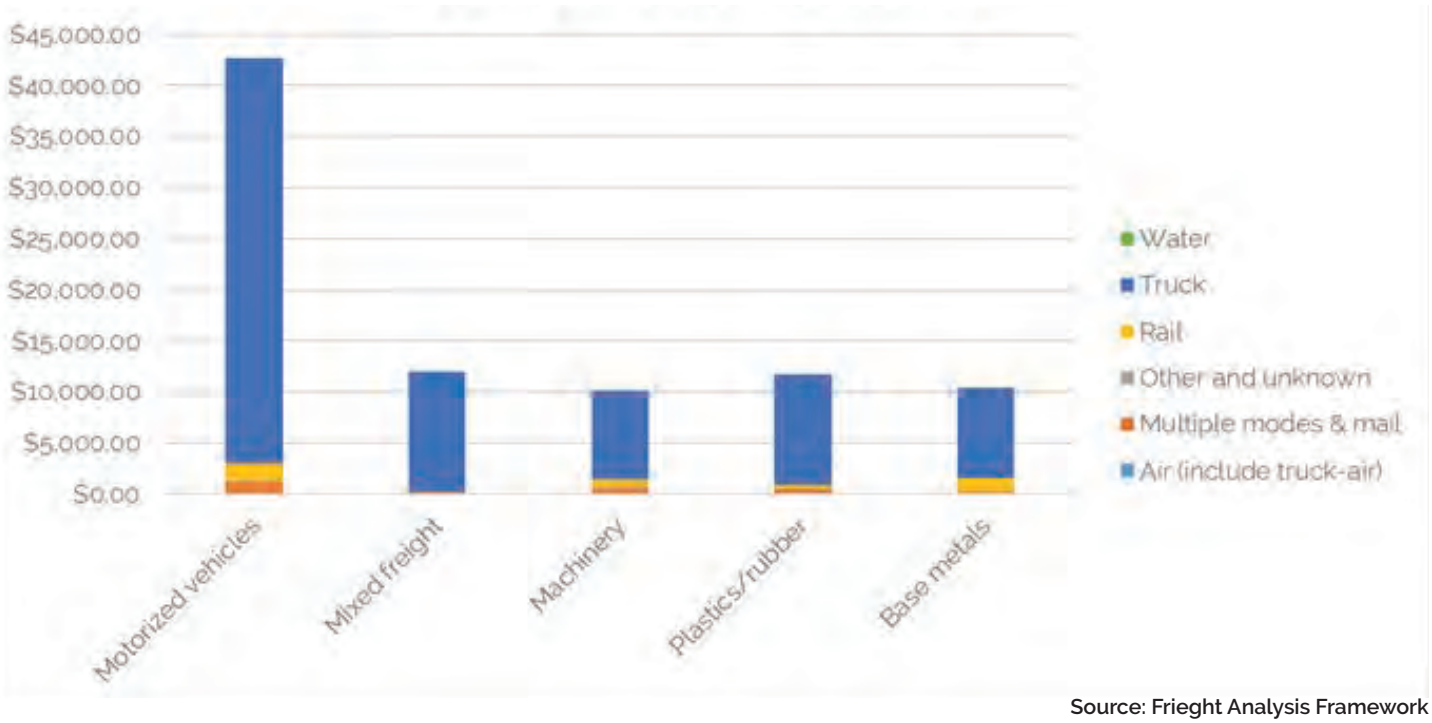
Source: Souix City Journal

Figure 5.2: Freight Export Mode Share By Weight, Remainder of Indiana, 2017




Source: Frieght Analysis Framework

Figure 5.3: Freight Export Mode Share By Value, Remainder of Indiana, 2017



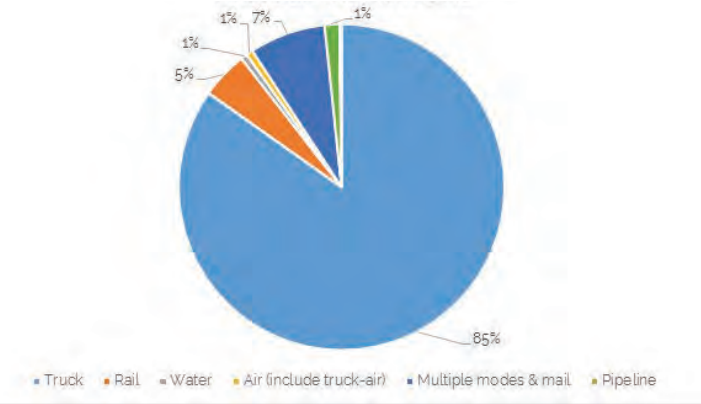

Source: Frieght Analysis Framework

## HIGHWAY TRANSPORTATION

### *Freight by Truck*

One way goods and materials produced in Harrison County are transported across the country is via freight trucks. According to data from the FAF, on road trucks are the most significant method of transporting freight by both weight and value for the Remainder of Indiana FAF Region. 73% of the estimated 218 million tons of freight that left the State from the Remainder of Indiana FAF in 2016 did so via truck (see Figure 5-1). Of the $182 billion worth of freight that departed the Remainder of Indiana region in 2016, $154 billion (85%) did so via truck (see Figure 5-2).

**Figure 5.4: Commodities Export By Mode (By Value), Remainder of Indiana Region, 2017**

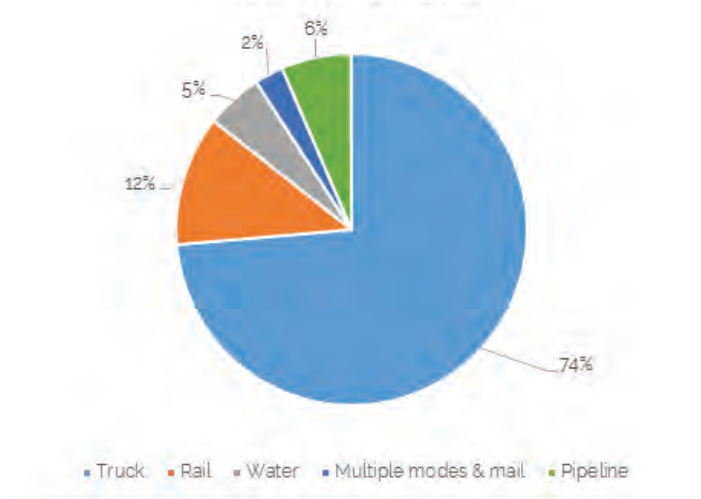



### *Commercial Trucking*

One Interstate Highway (I-64) and several national and state routes pass through Harrison County. Freight carriers rely on the region's road system working in concert with other freight modes to meet deadlines and maintain inventory. Commercial trucking is an important aspect of Harrison County's economy, and many transportation decisions are made with on-road freight transport in mind.

The Indiana State Freight Plan published in 2018 states that that nearly every county, including Harrison, is expected to experience freight growth in the overall amount of goods moved by 2045. On road trucking is expected to pick up most of the unmet demand for freight rail, creating greater burdens on the highway networks. Trucking firms will face challenges with the growing demand because of driver workforce shortages. Higher levels of truck traffic have implications on traffic congestion and on the durability of highways and bridges.

**Figure 5.5: Commodities Exported By Mode (By Weight), Remainder of Indiana Region, 2017**



Shifting more freight to other travel modes will have a positive impact on traffic congestion and required highway maintenance.

In Harrison County, national and state highways facilitate the movement of gravel, crops, and other products to their local, national, or global destinations. Understanding the importance and nature of on-road freight transport is essential to keeping Harrison County economically competitive in the future. As seen in Map 5-1, Average Daily Truck Traffic, the most heavily used routes for on-road freight in order of utilization are as follows:

1. I-64
2. SR 135 from the IN 62 (Ohio River Scenic Byway) to Quarry Road
3. SR 135 from Central to SR 62 (Ohio River Scenic Byway)
4. SR 135 from Spring Branch Rd NE to Buffalo Trace Road
5. SR 62 from Corydon-New Middleton Road to New Middletown Rd NE

Daily truck traffic counts are collected by INDOT, though somewhat less commonly than total traffic. **Figure 5.6** provides the available truck counts on facilities throughout Harrison County, predominantly on state highways. I-64 has the highest truck volumes, ranging between 6,300 and 6,800 trucks. SR 135 around Corydon has truck volumes ranging from 1,200 to 2,000 trucks, which are the second highest truck volumes in the County.

As can be seen in the map, there is no major east-west thoroughfare in the southern portion of Harrison County that conveniently serves truck traffic. Consequentially, most truck traffic must instead use north-south routes (primarily SR 135) to reach their destination. The lack of an east-west connector in the southern portion of the county could result in increased travel time for inter-county freight movement, increased truck congestion on major roads, and detour investment in southern areas of the county.

Federal limits for truck weight is 80,000 pounds gross vehicle weight, 20,000 pounds on a single axle, and 34,000 pounds on a tandem axel. All state routes in Indiana are built to serve maximum vehicle load and are considered viable truck routes. Engineers design truck routes with the size, weight, maneuverability, and clearance requirements of large trucks and tractor trailers in mind. Without these extra design measures, roads used heavily by trucks would rapidly deteriorate.

A system of designated truck routes is in place to restrict heavy truck traffic to highways and roads built to accommodate them. County and local roads are not required to be built to serve fully loaded trucks or act as truck routes; however, trucks do use county and local roads. Overweight and oversize vehicles on these roads accelerate wear, cause damage, and can reduce the lifespan of the system. Designating truck routes to restrict truck and tractor drivers to use only roads built to serve their size, capacity, and maneuverability is one potential solution.

Though Harrison County does not have designated truck routes, such routes could prevent rapid deterioration on rural roads  often used by semi=trailers. Another option would be to re-construct roads that are often used by trucks, such as Corydon-New Middletown Rd SE and Heth Washington Road SW, to an increased weight capacity to improve their ability to serve the local community.

Figure 5.6: Average Daily Truck Traffic


Source: INDOT

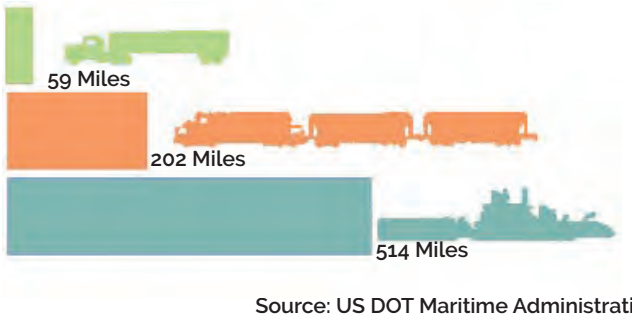
## RIVER TRANSPORTATION

### *Freight By Water*

The Ohio River has long been the signature landmark for residents of Harrison County with its beautiful landscapes and magnificent views. Many people use the river for recreation purposes, such as boating and fishing; however, most know the Ohio River as a working river- a literal water highway. Centuries ago, the river acted as a conduit bringing settlers and explorers westward from the American colonies and north from the Port of New Orleans. Today it provides the region with the ability to create business and distribute products around the globe.

For centuries, the Ohio River has served as a major link for the transport of goods and people into and out of Southern Indiana. To the south of the region, it connects with the Mississippi River and from there to deep draft ports in New Orleans to allow for international trade. To the north, the river extends to Pittsburg where it branches into the Allegheny and Monongahela Rivers. Since 2009, the Ohio River has been designated a major marine highway (M-70) by the US Secretary of Transportation. It was one of 25 marine corridors designated since the system's inception and its goal is to offer alternative routes and relief to the landside transportation corridors that suffer from traffic congestion and excessive air emissions. Marine highways also help conserve energy, improve safety, and reduce highway maintenance costs and aim to also contribute to increased economic and commercial activity in the region by removing barriers to efficient freight transportation. **Figure 5.8** shows the relative fuel efficiencies between road, rail, and river transportation.

**Figure 5.8: Distance One Gallon Of Fuel Can Move One Ton Of Cargo**




Source: US DOT Maritime Administration

**Figure 5.7: Barge Approachign Maukport**

Navigation routes in the Ohio River are maintained by the US Army Corps of Engineers. The Louisville District of the Army Corp is responsible for dredging activities in the stretch of the Ohio River bordering Harrison County. Dredging must be done regularly to remove sediment and soils that have been deposited in the navigation channel due to run-off from farm land, forest, lawn, and city streets into local streams that flow into the Ohio River.

### *Barge Transportation*

Various vessels from canoes and flatboats to paddlewheels and ferry boats have plied the Ohio River since pre-modern times, carrying freight into and out of the region and facilitating trade between different groups. Today, river freight is moved by barge, which is a shallow-draft container pushed by a towboat. All freight that is moved by barge have three things in common: they are high in bulk, low in value compared to their weight, and are not time-sensitive.

**Figure 5.9** shows the top 5 major commodity groups that utilize the river for freight transportation in Indiana. Gravel dominates traffic on the system (55%), followed by cereal grains (26%), milled grain products (9%), and other agriculture products (6%). Freight travels both upriver and downriver. For example, grain from Indiana is shipped downriver to New Orleans, and from there to international markets. Coal, on the other hand, is shipped upriver to power plants along the Ohio from its place of origin.

Due to high cost, congestion and maintenance challenges facing land transportation across the nation, freight movement by barge has seen renewed interest. It is estimated that large quantities of cargo can be moved by barge for one-third the cost of rail and one-fifth the cost of truck. In addition, cargo that is too big or too heavy to be transported over the highways or by rail can be efficiently moved by water.

Figure 5.9: Top Commodoites Transported by River

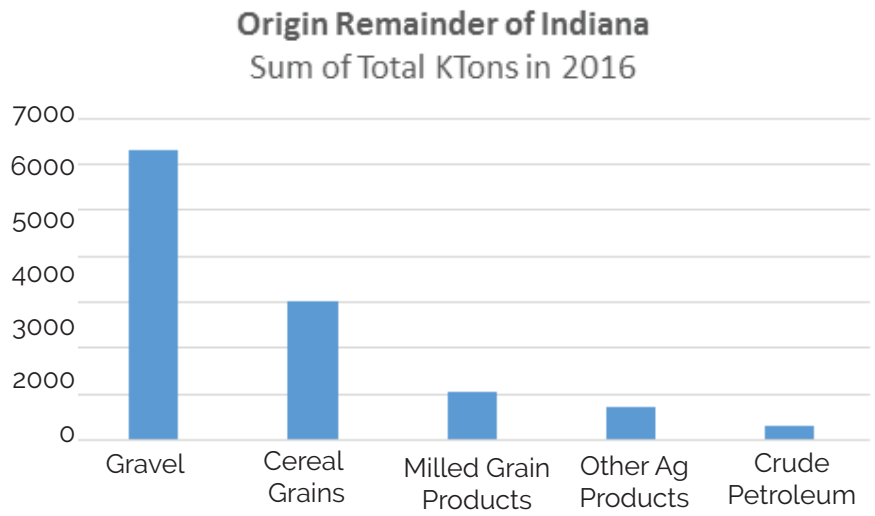


Figure 5.10: Container on Barge

Source: AASHTO

### *Container-On Barge Transportation*

Container-On-Barge (COB) shipping is the most recent development in river transportation. While most of the bulk freight moved by barge is experiencing modest or flat growth, the number of containers needing to be moved is steadily increasing. Container ships that come to the United States from international markets carry their cargo in metal containers. The standard inter-modal container is twenty feet long and 8 feet (2.44 m) wide, and can carry either commodities or consumer goods. They are typically unloaded – without being opened - at ports on the east and west coasts onto rail cars or trucks for transfer to their final destination. In COB, the containers are loaded onto barges for transport through the inland waterway system. This method is less expensive than rail or truck and requires less infrastructure maintenance costs to federal transportation agencies, but takes more time.

The Panama Canal expansion (Panamax) was opened in June 2016 to allow large international container ships easier access from the Pacific markets to the Atlantic, expediting shipping into the ports in New Orleans or the Texas gulf coast. Previously, many of those ships unloaded on the west coast where deep water ports were nearing capacity. With the new container ship access, there is now opportunity for placing the containers on barges and bringing material goods and commodities up the Mississippi River to areas along the inland waterways.

Though limited infrastructure currently exists to service COB freight, there is ample opportunity for river town communities to position themselves as multi-modal transportation hubs if they developed facilities to transfer containers from river to rail or road efficiently.

### *Locks And Dams*

Barge transportation is possible only because of the system of locks and dams. Locks and dams are constructed to overcome the natural fall of the river from its headwaters to its mouth. Harrison County lies between the Cannelton and McAlpine Lock and Dam which are both part of the Ohio River navigation system. Between these two locations, there is a 114' drop in elevation. In total there are 23 locks and dams along the length of the Ohio River; however, none are located within Harrison County. Local officials are advised to play close attention to maintenance and capacity issues affecting both Canneltown and McAlpine Lock and Damn as they may impact river freight transportation and logistics.

## RAIL TRANSPORTATION

Harrison County is served by one common carrier railroad, Norfolk Southern, stretching from Louisville, KY to Mt. Carmel, IL, and one Class III/Shortline railroad service, Lucas Rail Lines, connecting Motts Station to Corydon within Harrison County as seen in **Figure 5.12**

on page 55  As a result, there are 71 at-grade railroad crossings in Harrison County (See Chapter 6 Traffic Safety for more details). There are no vacant or abandoned rail lines currently located in Harrison County.

According to the 2017 Indiana State Rail Plan Update, a number of miles of track and bridges in the State cannot accommodate 286,000 pound railcars, the current standard maximum car weight.  At this time Harrison County's 2.7 miles of shortline railroad (Lucas Rail) cannot accommodate the max rail car. This limits the efficiency and competitiveness of this rail line. Either shippers on these lines must use smaller railcars or they must short-load their railcars.

This railroad system connects to a complex network throughout the State of Indiana which ranks 9th in the nation for railroad miles. Hundreds of millions of dollars worth of cargo is transported via railroad across the region annually. By weight, the region exports more coal via rail than any other commodity (36%), closely followed by cereal grains (17%), other food stuffs (15%), and animal feed (12%). Mining and agriculture are a major source of income in Southern Indiana and rail transportation is vital to their prosperity.

By value, motor vehicles make up 18% of all freight exports from this region, followed by other foodstuff (15%), base metals (13%), and cereal grain (11%). As you can see in **Figure 5-12**. though some products are high volume (like coal) they may have low value or vice versa. Much more coal would need to be exported to equal the value of a significantly smaller volume of motor vehicles.

**Figure 5.11: Top 5 Commodities Trasportated Via Rail in "Remainder of Indiana" by Value and Weight**

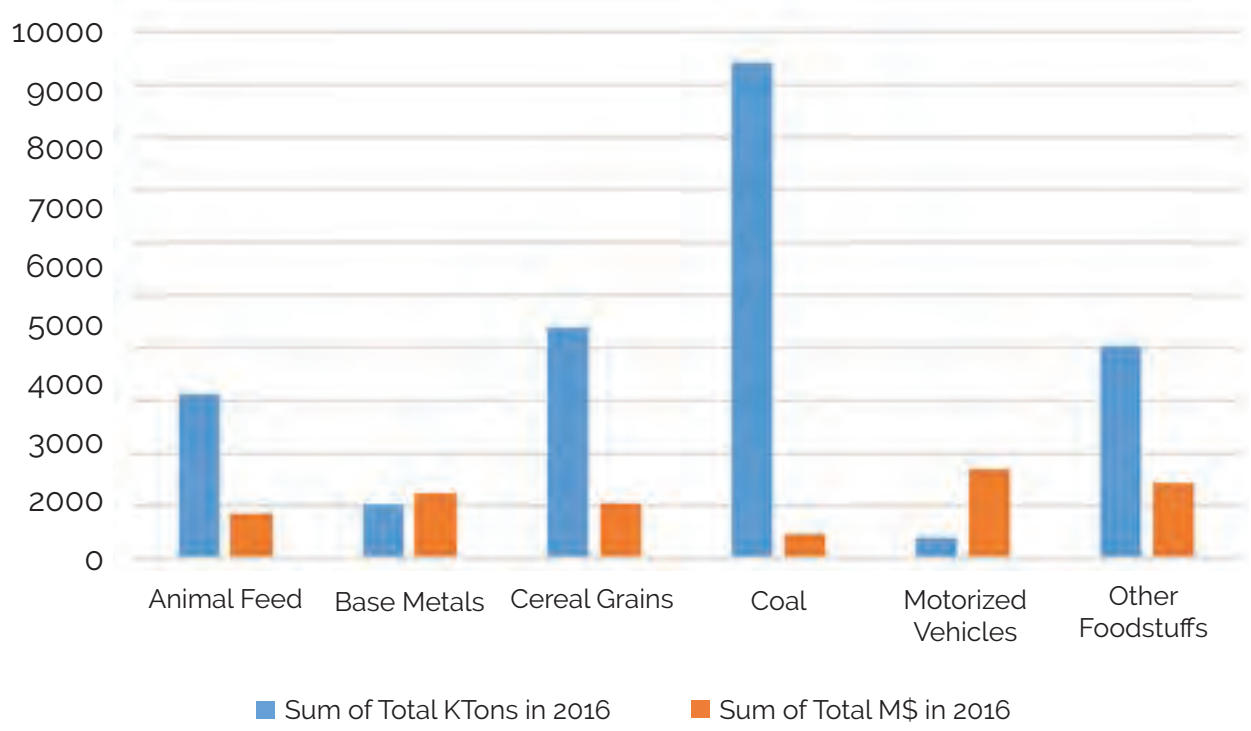


Figure 5.12: Railroads

## NATIONAL AND STATE FREIGHT PLANNING

As part of the state and national freight network, priority funding is being directed to projects that address or achieve the following goals:

- Identifying meaningful performance measures starts with setting goals for how the network should perform. Under the Fixing America's Surface Transportation (FAST) Act, the evaluation of various transportation improvement strategies will need to consider each strategy's effect on the chosen performance measures and strategic goals. National Freight Policy Goals include:
- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness;
- Reduce congestion on the freight transportation system;
- Improve the safety, security, and resilience of the freight transportation system;
- Improve the state of good repair of the freight transportation system;
- Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system; and
- Reduce adverse environmental and community impacts of the freight transportation system.

In addition, INDOT has identified five goals that will direct how it invests in the State's infrastructure. Current NHFP funds are not sufficient to address all freight mobility needs, so other highway funding will be used for projects that improve freight mobility. The following goals guide INDOT's investment in freight infrastructure projects:

- Economic Impact – Cultivate a strong and diverse economy by growing Indiana as a magnet for jobs.
- Capacity to Meet Demand – Reduce bottlenecks to improve the reliability and efficiency of freight movement, leading to less congestion, fewer infrastructure repairs, and lower emissions.
- Multimodal Integration and Synergy – Develop and implement transportation networks that support direct truck and rail access, waterborne freight expansion, and air cargo expansion, leading to the improvement and establishment of multimodal and intermodal service facilities.
- Access to National and International Markets – Support better connectivity between all modes of transportation.

## RELEVENT CONCLUSIONS

- Truck traffic will continue to increase on interstate highways resulting in congestion issues and shipping delays. Alternative freight modes as well as opportunities to expand multimodal freight movement should be prioritized.
- Harrison County should consider implementing designated truck routes, or increased weight capacity on rural roads such as Corydon-New Middletown Rd SE and Heth Washington Road SW, to improve their ability to serve the local community.
- The Ohio River has been designated a Marine Highway, M-70, and as such has access to competitive funding for planning and infrastructure development.
- Navigable waterways are made unusable by environmental factors like sedimentation and flooding. To reduce sedimentation in the Ohio River and to limit the frequency and severity of flooding, Harrison County should work with its local Soil and Water Conservation district to consider watershed management/restoration planning, stream buffer ordinances, and low impact development ordinances for parking lots and subdivisions.
- Though no airports currently exist in Harrison County, high value-low weight goods, such as medical equiptment, can be transported efficiently via air. An airport feasibility study would be recommended to determine site suitability and market demand.

# 6.0 TRANSPORTATION SAFETY

Reducing crashes and increasing transportation safety is the top priority at the local, state, and national level. Regional multi-modal safety is an important part of the long range planning process, with several safety-related objectives identified for the regional transportation system. The first step toward mitigating traffic crashes is to analyze the existing traffic crash patterns and understand the underlying factors that contribute to traffic crash incidents. This chapter of the long range plan details the analysis of traffic crash patterns in Harrison County. In addition to the area-wide trends, information on collision types, driver conditions, bicycle and pedestrian crashes, as well as corridor and intersection crashes are also presented. The crash analysis was based on traffic crashes in Harrison County between 2013 and 2017.

## HIGH LEVEL CRASH STATISTICS

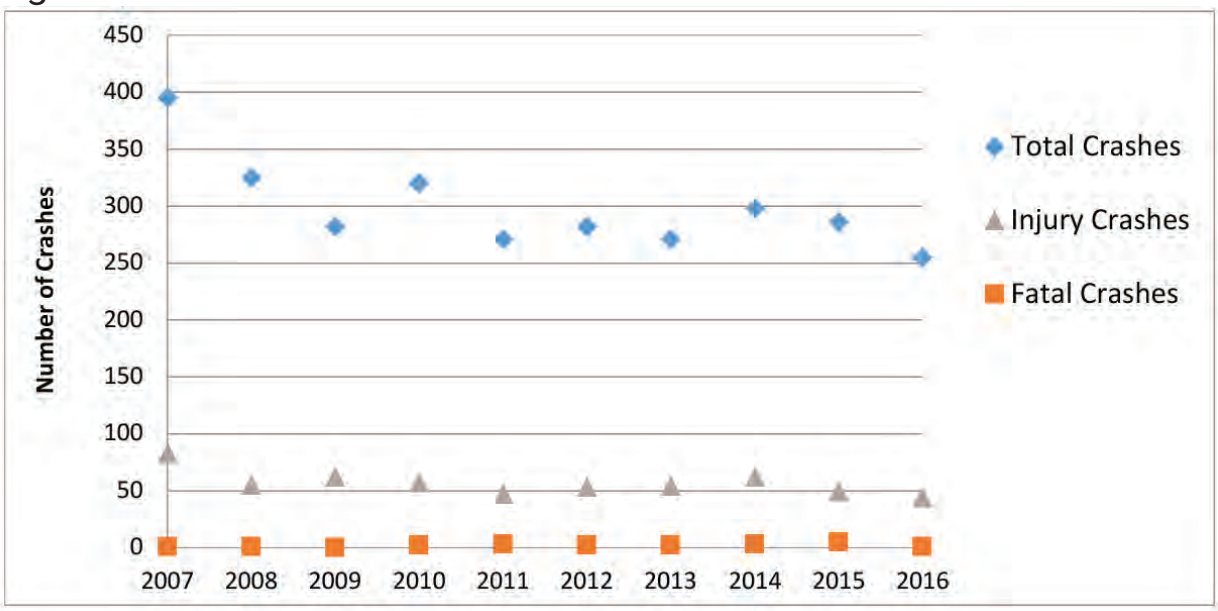
- There were 2,985 crashes involving vehicles between 2007 and 2016
- Injury crashes accounted for approximately 19% of these crashes (566), while fatal crashes (20) accounted for less than 1% of the overall crashes.
- The percent of fatal and injury crashes in Harrison County is slighly below the statewide rural county average
- Overall, the annual overall rate of crashes has declined

## CRASHES BY SEVERITY

**Appendix A** provides crashes by year, type, and severity within Harrison County from the ten-year period between 2007 to 2016. The crash severities are defined as follows:

- Fatal – crashes that result in death of one or more persons.
- Injury – any injury, other than fatal injury, including severe lacerations, broken ribs, skull or chest injuries and abdominal injuries, or with evident injury including lumps on head, abrasions, bruises and minor lacerations or claims of injuries that are not evident.
- Property Damage Only (PDO) – crashes involving property damage with no injuries.

Figure 6.1: Annual Crashes




As shown in the table, the percent of crashes for each category were compared to the statewide rural county average. Harrison County has 9% fewer fatal injuries than the statewide rural average, but only a slight reduction (1%) of injury crashes. Harrison County has significantly more (16%) horizontal curve crashes, as well as slightly more (1%) rear-end, angle/left-turn and intersection crashes.

Overall, the county has seen a steady decline in overall crahes from 2007 to 2016 (see **Figure 6.1**). All crash categories have seen a decline in incidents since 2007 except for animal crashes (47% increase) and intersection crashes. (7% increase). The largest decrease in crash type are gravel road crashes (88% decrease), angle/left-turn crashes (49% decrease), and dark roadway crashes (41% decrease).

**Figure 6.2** shows a heat map of incapacitation (fatal and injury) crash location clusters throughout the county. **Figure 6.3** and **Figure 6.4** on pages 62-63 illustrate the specific location of fatal and injury crashes in Harrison County over the five-year period between 2013 and 2017, All fatal crashes in the county were located outside of municipal jurisdictions, in rural areas. This trend is likely because travel speeds are significantly lower in urbanized areas than in rural areas, reducing the priority of fatal crashes. The majority of injury crashes were on corridors that act as major or minor collectors to rural areas in the County, including Corydon Ramsey Road, Corydon Ridge Road, and Corydon New Middletown Road. This can be explained due to relatively high volume of traffic on these corridors compared to other local roadways and their narrow, winding nature. However, it should be noted that West Bradford Road has multiple injury crashes, even though it is a low-volume roadway.

Figure 6.2: Incapacitating Injury Crashes

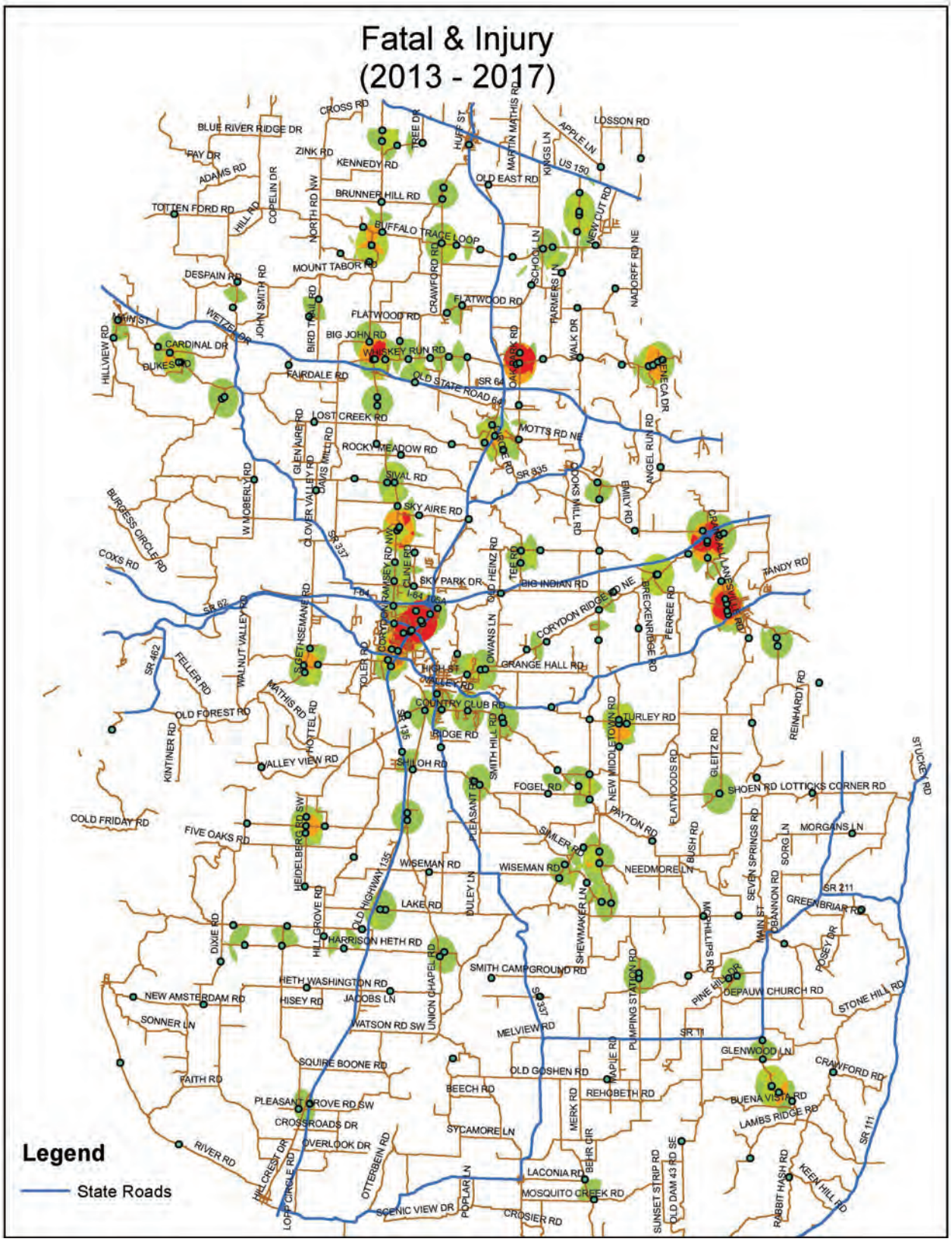
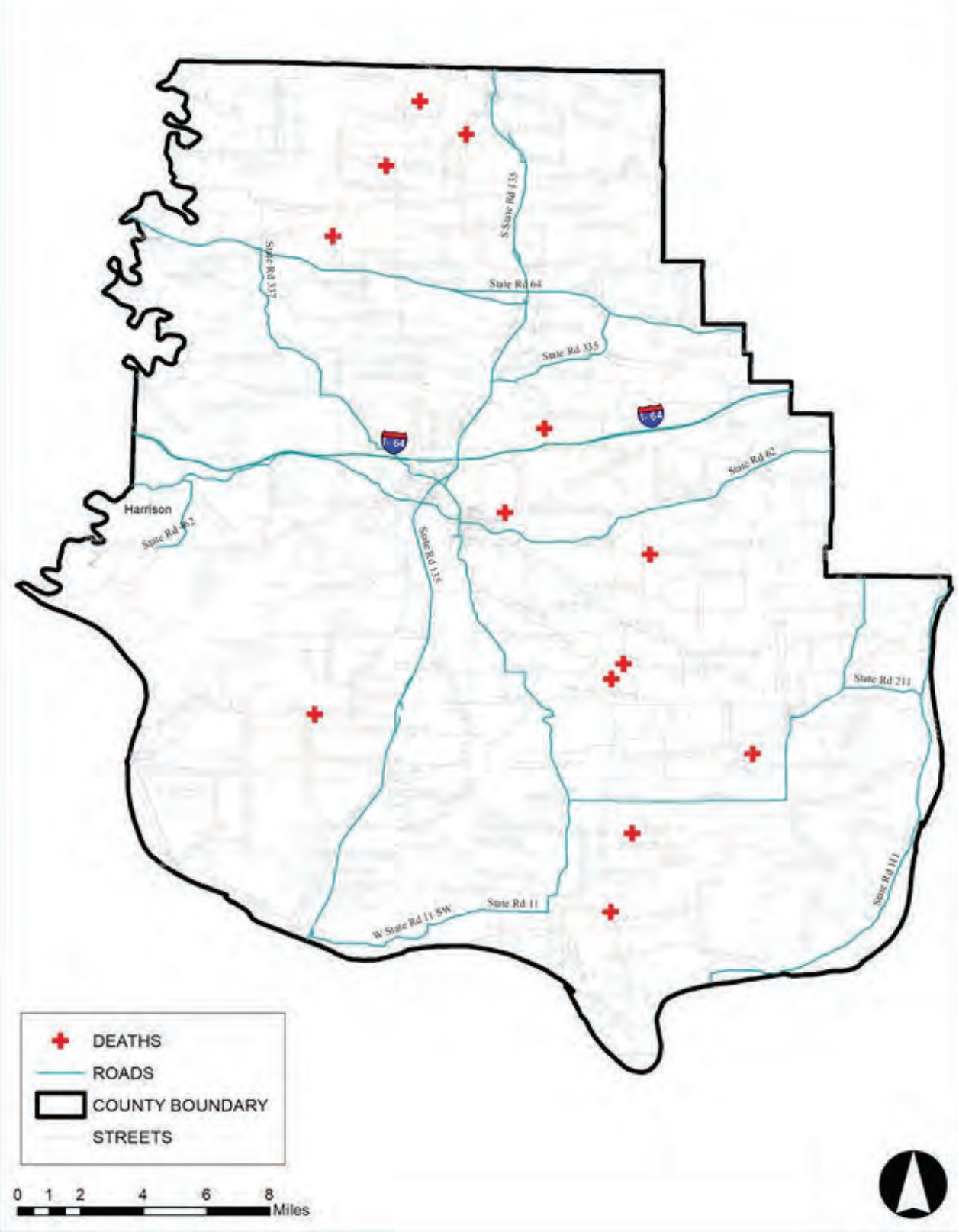
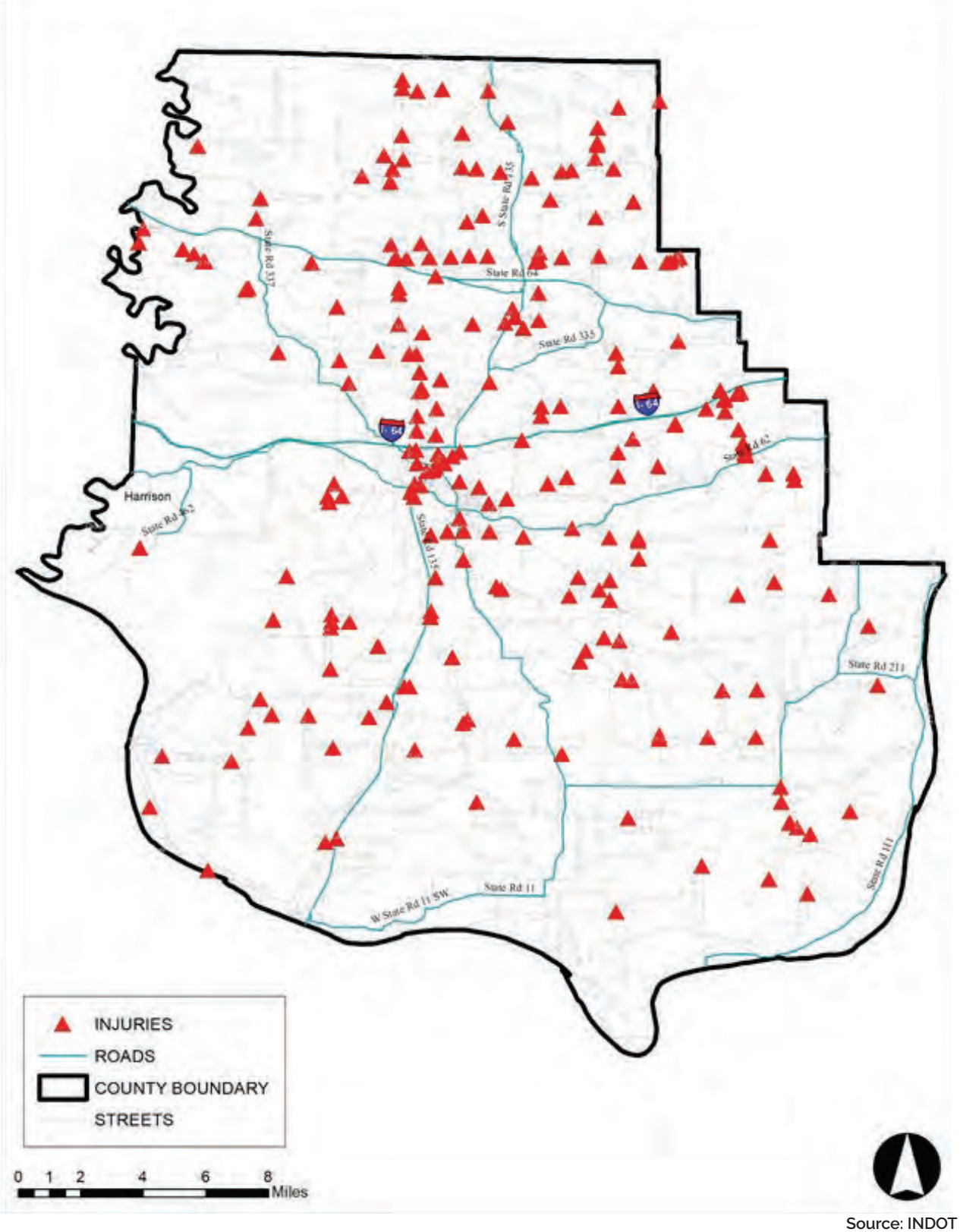


Figure 6.3: 2013-2017 Fatal Crashes




Source: INDOT

Figure 6.4: Incapacitating Injury Crashes




Source: INDOT

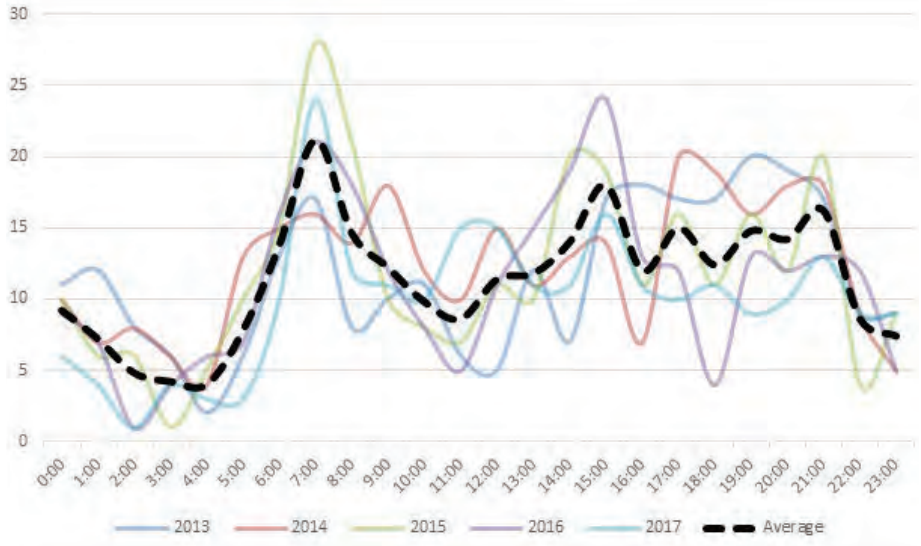
## DAY, WEEK, MONTH FACTORS

Over a five-year analysis period (2013-2017), the most frequent time for crashes occured during the AM peak period (7:00 a.m. to 9:00 a.m.), with a lower spike during the PM peak period (3:00 p.m. to 6:00 p.m.). The highest annual average time for crashes was 7:00 a.m. and 8:00 a.m. in which 21 crashes occured. Overall, the number of crashes has been on a steady annual decline,.

**Figure 6.5** presents the crash trends within Harrison County by time of day.

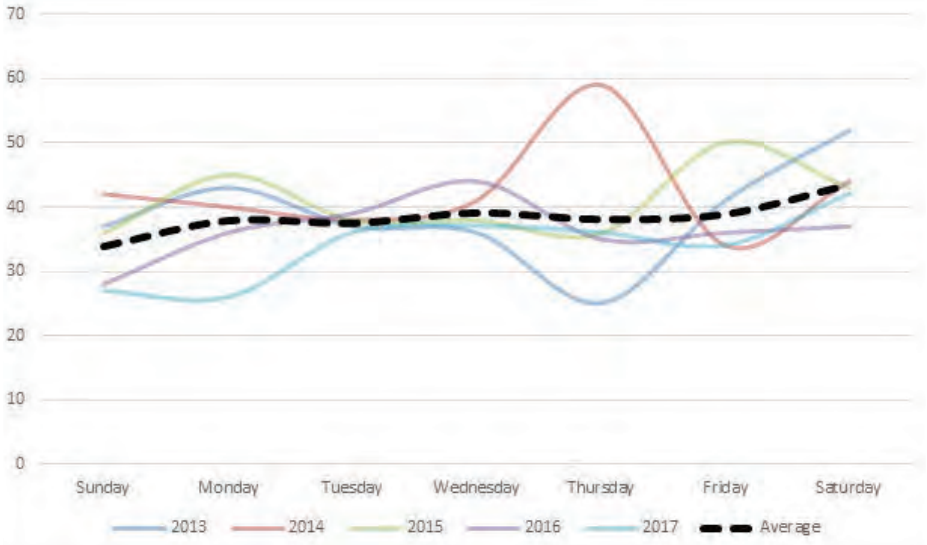
When the same information was analyzed by day of the week, the most common day for crashes was Saturday with an average of 44 incidents annually. However, as can be seen in **Figure 6.6**, crashes remain relatively constant throughout the week, ranging from 37 to 39 on weekdays, and dropping to 34 on Sundays.

### Figure 6.5: Crashes By Time of Day




Source: INDOT

### Figure 6.6: Traffic Crashes by Day of the Week



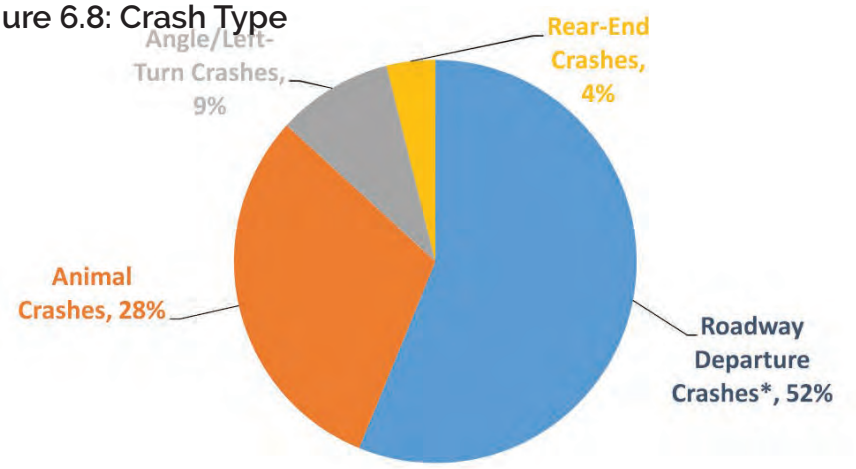

Source: INDOT

The highest instances of crashes occur between October to January, which can also be corelated to the high frequency of animal crashes. October to January is the time of year when deer are most active and on the move. This is also the time of year with lowest visibility due to less daylight and low sun angles, and highest potential for icy/slick roadways due to low temperatures.

## COLLISION TYPES

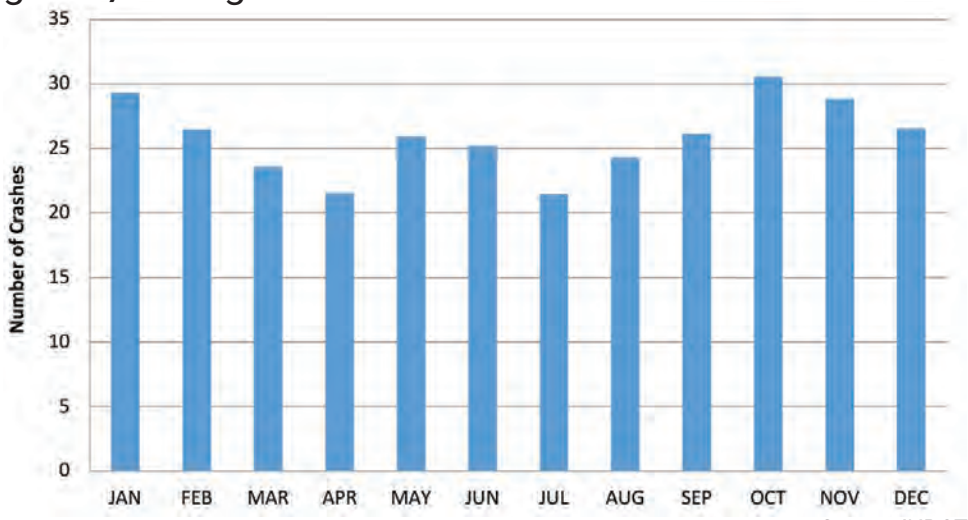
**Figure 6.8** presents the total crashes in Harrison County by the four most common collision types. 'Roadway Departure' crashes were the most common collision type contributing to over half 52%) of the total crashes. It is common in a predominantly rural county such as Harrison County that narrow, winding roads with little or no shoulder could account for such a large number of roadway departures. 'Animal Crashes" make up nearly a third of all crashes at 28%. "Angle/ Left Turn' and "Rear-End Collions" are the third and foruth most common crash types at 9% and 4% respectively.

Figure 6.8: Crash Type




Source: INDOT

Figure 6.7: Average Crashes Per Month




Source: INDOT

## CORRIDOR ANALYSIS

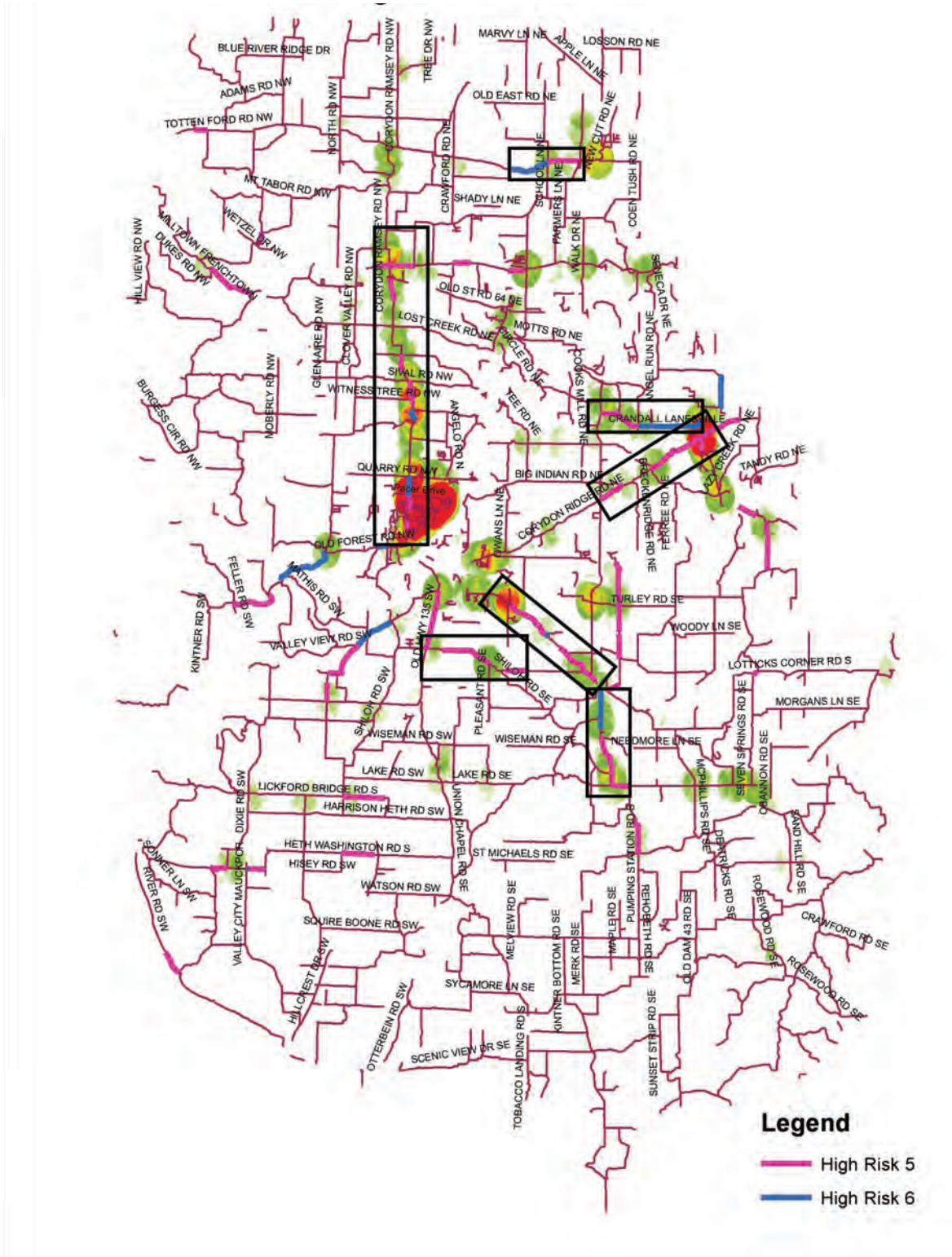
This section of the report represents analyses on the crash patterns along major corridors in Harrison County. **Figure 6.9** illustrates high priority crash corridors in Harrison County. As can be seen in **Table 6.1,** these corridors make up only 3% of the total transportation system, but account for approximately 18% of the total crashes throughout the County. Corydon Ramsey Rd has the highest frequency of crashes, which also reflects that it has the highest relative traffic volume in the County.

The highest number of intersection crashes are predominantly along SR 135 and Corydon Ramsey Road in or near Corydon, both routes are the among most-traveled roadways in the County. The highest number of crashes occurred at the intersections of Edsel Lane and Federal Road near the shopping center in Corydon. The majority of these crashes were low speed.
**Table 6.2** provides more detailed data regarding the types and conditions of crashes along the high priority corridors. Simultaneous to the Harrison County LRTP, the Harrison County Highway Department with the assistance of Federal Highway Administration (FHWA), INDOT, and Indiana LTAP prepared a Local Road Safety Plan (LRSP). A final recommended action items can be found in **Appendix D.**

**Table 6.1: High Priority Corridors Compared to Countywide System**

| | HRR | System | |
|---|---|---|---|
| Total miles: | 26.1 | 825 | 3% |
| Total crashes: | 238 | 1332 | 18% |
| Total fatal crashes: | 1 | 13 | 8% |
| Total injury crashes: | 40 | 244 | 16% |

Figure 6.9: High Priority Corridors




Source: INDOT

## Table 6.2: High Priority Corridor Crash Data

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

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

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

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

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

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

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

## ADDITIONAL HAZARDS

### *Rail Crossings*

At-grade railroad crossings pose challenges to the transportation system in terms of safety and reliability. Train delays can be an inconvenience and cause significant lost time for emergency vehicles, delivery drivers, and commuters. In addition, improvements to the rail system and the addition of high speed rail in some areas, though not Harrison County at this date, have led to more frequent and longer trains and thus more frequent and longer delays. Moreover, train and vehicle collisions are among the most dangerous in the nation. According to the National Highway Transportation Safety Board, as of 2017 over 50% of all vehicle-train collisions resulted in an injury or fatality. **Figure 6.10** illustrates the locations of all at-grade crossings in Harrison County

**Figure 6.10: At-Grade Railroad Crossings**


Source: INDOT

## RELEVANT CONCLUSIONS

- Most serious accidents are occurring on rural roadways, likely due to higher speeds and narrower roadways than in urban areas. Safety measures on rural roadways should be a priority with future transportation projects.
- Roadway departure remains the most common crash type, and results in an overwhelming majority of fatal and injury crashes.
- Animal related crashes have increased significantly over the time period and were the second most prominent crash type overall to result in injuries and property damage.

# 7.0 GOALS AND OBJECTIVES

The development of goals and objectives for the transportation system in Harrison County helps align specific transportation projects with the overarching aims of the county. The goals and objectives provide guidance in the planning process and help determine the direction of the planning efforts. Goals are defined as the large, all-encompassing values that the county is working toward supporting using the transportation system as a tool. Objectives are specific methods of achieving those overarching goals that provide more tangible steps that the County can take in support of the goals.

MAP-21 first introduced, and the FAST Act continues, the focus of performance-based planning for statewide and metropolitan transportation planning. Though Harrison County is not required to use performance-based planning, this approach best prepares the County for future growth and potential state and federal funding opportunities. Performance-based planning applies to the development, application, and monitoring of performance data to guide transportation funding and improvements. Performance measures are methods of evaluating effectiveness that determine the success or failure of specific implemented transportation projects.

A well-rounded public outreach effort is an important element of the long range planning process. The goals and objectives for Harrison County were developed based on regional FAST Act priorities, INDOT transportation factors, local knowledge, current planning efforts, extensive stakeholder engagement, and input received during public meetings. A SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats) exercise was performed during the first public meeting to help highlight the positive or negative factors impacting the existing and future transportation infrastructure in the region. The four elements explored as part of the SWOT analysis include:

- Strengths: characteristics of Harrison County that give it an advantage over other, similarly sized counties in the region.
- Weaknesses: characteristics of Harrison

County that put it at a disadvantage relative to other, similarly sized counties in the region.

- Opportunities: either elements of Harrison County which can be exploited to be an advantage for the area, or elements that are currently underutilized within the area.
- Threats: elements of the transportation system or growth trends that could potentially cause problems for Harrison County over the next 20+ years.

This analysis was the foundation upon which the goals and objectives for transportation in Harrison County were developed. The following sections describe the eight goals identified as part of the Harrison County long range planning process. Each goal is linked to transportation objectives and strategies to help the County work towards measuring and achieving select performance targets. These goals and objectives are prioritized based on input from the steering committee and results of public surveys. The public comments gathered as part of the engagement, including surveys, SWOT analysis, and steering committees are presented in **Appendix B and C** .

**GOAL: SAFETY AND SECURITY**

*Provide a transportation system that is safe and secure for all transportation modes and for people of all ability levels.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **SUPPORT PROJECTS AND POLICIES THAT REDUCE THE NUMBER AND RATE OF SERIOUS INJURIES AND FATALITIES FOR ALL MODES** | • Implement reduced conflict intersections like round-abouts and restricted crossing U-turn" (RCUT),<br>• Develop an access management plan for high conflict zones<br>• Establish a public awareness campaign aimed at reducing distracted and impaired driving<br>• Implement dynamic messaging signage to inform drivers of hazards<br>• Increase road and shoulder widths<br>• Reduce the grade of steep slopes<br>• Realign roads with sharp curves<br>• Manage vegetation around steep slopes, curves, access points, and intersections | • Reduce the number of serious injuries as a result of a vehicular crash<br>• Reduce the rate of serious injuries per 100 million vehicle miles traveled (VTM)<br>• Reduce the number of fatalities as a result of a vehicular crash<br>• Reduce the rate of fatalities per 100 million vehicle miles traveled (VTM)<br>• Reduce the number of pedestrian and bicyclist seriously injured or killed as a result of a vehicle crash<br>• Identify a location for a round-about pilot project. |

**GOAL: ACCESSIBILITY AND MOBILITY**

*Provide a transportation system that allows users of all abilities and modes to connect origins to destinations throughout Harrison County.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **IMPROVE TRANSPORTATION ACCESS FOR AGING POPULATION AND PEOPLE WITH DISABILITIES** | • Upgrade the existing sidewalk network to meet latest ADA standards<br>• Establish a county-wide inventory of accessible sidewalks, trails, and public facilities<br>• Improve and increase road lighting, reflective striping, and sight distance on rural and widening roads<br>• Ensure all roads to be properly marked and the markings maintained to be clearly visible and not confusing | • Increase percentage of public facilities that are ADA accessible<br>• Increase percentage of the population who has access to accessible facilities<br>• Increase miles of lighted roadway<br>• Increase proportion of roads that are properly marked<br>• Increase proportion of road marking upgraded annually. |
| **PROVIDE OPTIONS FOR ALTERNATIVE MODES OF TRANSPORTATION** | • Increase the number of travelers who have access to transit<br>• Introduce rideshare opportunities to the county, such as Uber and Lyft<br>• Implement park-and-ride lots<br>• Promote electric vehicle charging stations<br>• Increase the availability of sidewalks and trails throughout the county | • Increase number of park-and-ride lots available<br>• Increase number of electric vehicle charging stations in the county<br>• Increase miles of sidewalk and trails in the county<br>• Increase transit riders per-capita<br>• Increase number of ride-share services available |

**GOAL: RESILIENT ECONOMY**

*Provide a transportation system that supports existing businesses and encourages economic development in Harrison County.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **SUPPORT QUALITY GROWTH AND DEVELOPMENT** | • Improve access for residents to higher education/training centers and employment<br>• Promote policies of smart growth, transit oriented, and mixed land use development<br>• Reduce automobile dependency | • Reduce unemployment and increase educational attainment rate<br>• Reduce the acres of developed land per resident<br>• Increase residents with pedestrian access to goods and services |
| **REDUCE HOUSEHOLD TRANSPORTATION COSTS** | • Promote policies and projects that encourage greater fuel efficiency<br>• Support projects that improve commute options for the county<br>• Decrease average commuter travel time<br>• Promote transit oriented development<br>• Increase availability of broadband to support tele-commuting | • Reduce the share of transportation costs as a percent of median income<br>• Increase the number of jobs a household can access via a 30 minute commute<br>• Increase the percent of low-income residents that have access to transit<br>• Increase the number of residents with access to high-speed internet |

**GOAL: INTEGRATION AND CONNECTIVITY**

*Provide a transportation system that is interconnected and mutli-modal to serve all members of the community in and beyond Harrison County.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **INCREASE NETWORK CONNECTIVITY** | • Discontinue the use of cul-de-sacs and dead ends<br>• Require subdivisions to provide sidewalks<br>• Decrease travel time to destinations throughout the county<br>• Coordinate transportation planning and investment across federal, state, regional, and local planning agencies.<br>• Increase the total connected network of bike and pedestrian infrastructure<br>• Increase population and destinations serve by fixed route transit<br>• Connect Harrison County to regional trail network | • Reduce average travel time to/from destinations<br>• Increase number of projects leveraging a federal, state, regional, or local partner<br>• Increase number of transit stops throughout the County<br>• Increase ratio of linked streets (street sections between intersection) by the number of street nodes (intersections)<br>• Increase maximum distance (uninterrupted) from Harrison County reachable by trail |
| **EXPAND AND INTEGRATE ACCESS TO ALTERNATIVE MODES OF TRANSPORTATION** | • Develop a County-Wide Bike/Pedestrian Plan<br>• Increase miles of sidewalks, bike lanes, bike routes, and multi-use trails<br>• Explore alternative freight investments, including multi-modal port facilities, linking river, road, and rail<br>• Explore feasibility analysis for Harrison County regional airport | • Increase miles of bike lanes and on road bike routes<br>• Increase miles of sidewalks<br>• Increase miles of trail<br>• Increase number of identified potential multi-modal facility/logistics sites |

**GOAL: RESILIENCE AND RELIABILITY**

*Provide a transportation system that is prepared for changing conditions and able to withstand, respond to, and recover from disruptions rapidly.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **IMPROVE SYSTEM RELIABILITY** | • Improve traffic flow<br>• Reduce travel delays<br>• Preserve and enhance the conditions of bridges<br>• Preserve and enhance the pavement conditions of the road network<br>• Integrate intelligent transportation systems into the traffic network | • Increase the overall level of service at intersections throughout the county<br>• Increase the average sufficiency rating of bridges<br>• Increase the percent of pavement in the system considered in good condition<br>• Increase number of ITS devices in use throughout the county |
| **IMPROVE SYSTEM RESILIENCE** | • Develop a Disaster Recovery Plan<br>• Prioritize projects that increase alternative access to popular destinations, hospitals, jobs, and schools<br>• Minimize system disruptions/down-time for road repair and construction | • Decrease response time for emergency vehicles<br>• Decrease number of local emergency events (weather, illness, fire, etc)<br>• Decrease time (in days) of construction outages or service disruptions<br>• Decrease percent of roadways with volume-capacity ratio less than 1 |

**GOAL: ENVIRONMENT**

*Provide a transportation system that protects and preserves the natural environment of Harrison County.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **PROTECT THE NATURAL ENVIRONMENT THROUGH CAREFUL CONSIDERATION OF TRANSPORTATION IMPACTS ON PROJECTS** | • Limit new roadway construction on agricultural and environmental corridors<br>• Preserve open space, agricultural land, and forest that are critical to community character<br>• Limit stormwater from road projects by using best management practices<br>• Study feasibility of Incorporating low emission vehicles into county fleet<br>• Limit land disturbance due to road construction, particularly on steep slopes<br>• Consider a Watershed Management Plan to address flooding and water quality issues<br>• Reduce air pollution<br>• Reduce vehicle miles traveled | • Implement policies to protect high value farmland and open space<br>• Limit acres of new land consumed by development annually<br>• Reduce VMT per capita<br>• Reduce per capita impervious surface area<br>• Improve Average Daily Air Quality Index<br>• Reduce Asthma emergency department visits per 10k |

**GOAL: OPERATIONS AND MAINTENANCE**

*Provide a transportation system that optimizes the performance of existing infrastructure, to preserve capacity, and improve service.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **MANAGE THE TRANSPORTATION SYSTEM EFFICIENTLY** | • Explore a multi-agency coordinated "dig once" policy<br>• Fund and maintain the existing transportation system adequately<br>• Prioritize projects based on multiple factors to maximize impact<br>• Identify new sources of transportation funding<br>• Include life-cycle costs in all new transportation projects for consideration<br>• Increase the lifespan of the Harrison County transportation system<br>• Explore partnership benefits and private infrastructure investments | • Number of projects completed from the LRTP priority list<br>• Increase value of existing infrastructure/value of new construction<br>• Improve the cost/benefit of dollar invested on improved travel times<br>• Increase resident satisfaction with transportation network<br>• Increase dollars of state/federal funding secured<br>• Reduce margin of error of actual verses predicted annual revenue<br>• Increase number of public input and engagement opportunities and diversify format<br>• Increase number of residents who engage in public participation activities |

**GOAL: TRAVEL AND TOURISM**

*Provide a transportation system that improves access to and promotes awareness of destinations of local, regional, and state significance.*

| OBJECTIVE | STRATEGIES | PERFORMANCE MEASURES |
|---|---|---|
| **PROVIDE VISITORS WITH A LEVEL OF COMFORT AND EASE IN LOCAL NAVIGATION** | • Inventory local destinations, including farmers markets, natural features, and historic sites<br>• Develop a wayfinding strategy to help travelers of all modes navigate to destinations of significance<br>• Create county-wide branding guidelines to unify messaging<br>• Increase the availability of travel amenities including rest stops and trail heads<br>• Identify preferred routes for buses, RVs, and utility vehicles | • Hotel/Motel Tax revenue<br>• Attendance at local landmarks |
| **PROMOTE MOBILITY OPTIONS FOR HEALTH AND RECREATION** | • Utilize transportation network for recreational and competitive activities including but not limited to running and cycling<br>• Partner with local health care providers to promote and encourage active living<br>• Identify alternative funding sources multi-modal enhancement to enhance and expand sidewalk and trail network | • Number of permits for events and activities on county roads<br>• Annual dollar investment sidewalk and trail network<br>• Trail user counts<br>• Decrease local health indicators for rates of obesity, heart disease, diabetes, and chronic illne |

# 8.0 FISCAL ANALYSIS

Financial planning is a critical attribute of the long-range transportation plan. The financial element of the long range transportation plan chapter identifies the estimated revenue from existing and proposed funding sources over the plan period and compares it against estimated project costs of constructing, maintaining, and operating the existing and planned transportation system through 2040. This chapter summarizes a transparent financial analysis of potential transportation investments identified through rigorous reviews of available and anticipated federal, state, and local revenue sources and existing and estimated costs to maintain and operate the highway system in Harrison County.

It is critical to acknowledge that available federal, state, and other local funding sources may not be enough to implement all of the proposed infrastructure improvements identified in this plan over the 22-year plan period. Moreover, this financial plan is a long-range, system-level plan and most of both the cost and revenue projections are preliminary and will be revisited periodically in the future.

## FUNDING SOURCES

Harrison County's transportation financial needs during the next 22 years will depend on the limited amount of federal, state, and local funding sources described in the following:

### *Federal Funding*

Fixing America's Surface Transportation (FAST) Act was passed in December 2015. It authorizes over $305 billion for Federal highway, safety, transit, and rail programs for five years from federal fiscal year (FY) 2016 to 2020. The FAST Act will increase federal highway funding for the state of Indiana by an estimated $417 million. 75% of the increased funding ($313 million) is allocated to the Indiana Department of Transportation and 25% of the increased funding ($104 million) is allocated for the Local Public Agencies (LPA).

Major programs of the FAST Act include:

- National Highway Performance Program
- Surface Transportation Block Grant Program

Brief descriptions of the programs under the FAST Act that can be utilized for the proposed transportation system improvements identified in this plan include the following:

- **National Highway Performance Program:** This program supports the condition and performance of the National Highway System (NHS) and to construct new facilities on the NHS. The NHS is the network of the most important highways, including the Interstate and US highway systems. Harrison County's NHS facilities are shown in Figure 1 of Chapter 4.

- **Surface Transportation Block Grant Program**: The long standing Surface Transportation Program was converted into the Surface Transportation Block Grant (STBG) Program under the FAST Act. This program provides funds for the construction, rehabilitation, resurfacing, restoration, preservation, and other improvements to federal-aid highways and replacement, preservation, and other improvements to bridges on public roads. Funding for Transportation Alternatives (TA) is set aside from the overall STBG funding amount.

- **Highway Safety Improvement Program:** The US Department of Transportation's (USDOT) top priority is the safety throughout all of the transportation program. The FAST Act continues to fund the successful Highway Safety Improvement Program (HSIP). It requires the States to pursue, under HSIP, a data-driven, strategic, and performance focused approach to improving highway safety on all public roads. Section 6 identified 20 fatal crashes and 566 incapacitating injury crashes in Harrison County from 2007 to 2016.

- **Railway-Highway Crossing Program:** The FAST Act continues the Railway-Highway Crossing Program which provides funds for safety improvements for reducing the number of fatalities, injuries, and crashes at public railway-highway grade crossings.

- **National Highway Freight Program:** The National Highway Freight Program is a new program under the FAST Act which includes estimated $1.2 billion per year in funding. This program is focused on improving the efficient movement of freight on the National Highway Freight Network (NHFN). The NHFN includes the Primary Highway Freight System (PHFS), critical rural and urban freight corridors (as designated by States, and in some cases by MPOs), and the portions of the Interstate System not included in the PHFS. Chapter 5 provides a detailed summary of multi-modal freight transportation system in Harrison County.

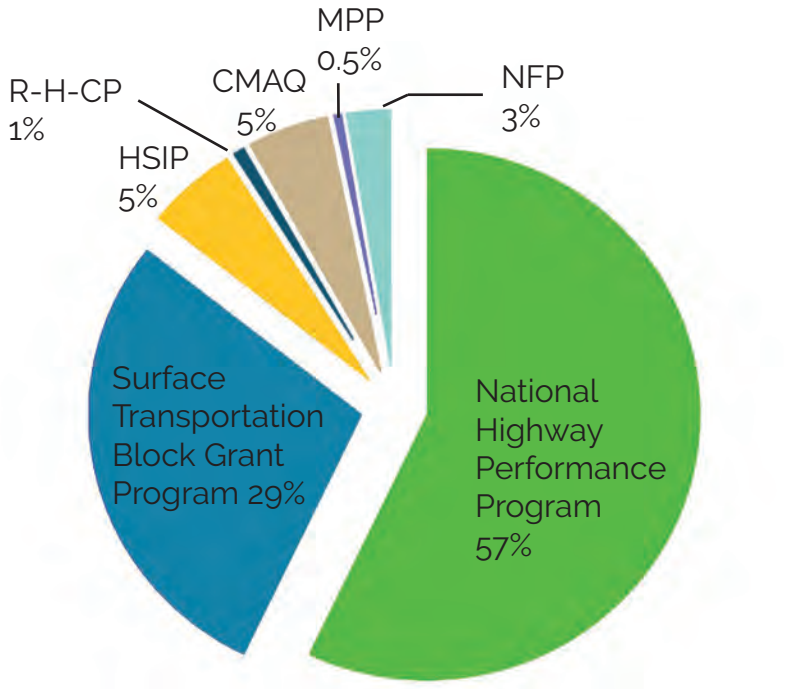
- Highway Safety Improvement Program
- Railway-Highway Crossing Program
- Congestion Mitigation and Air Quality Improvement (CMAQ) Program
- Transportation Planning Program
- National Highway Freight Program

Most federal transportation grants require 10-20% match from state, local or other funding sources. **Figure 8.1** shows the State of Indiana apportionment of federal funds under the FAST Act for FY 2017. **Table 8.1** shows the major FAST Act funding programs and their apportionments for FY 17 to FY 20 for the State of Indiana.

**Table 8.1: FAST ACT Funding Allocations for State of Indiana**

| Funding Program | FY 17 | FY 18 | FY 19 | FY 20 |
|---|---|---|---|---|
| National Highway Performance Program | $ 563,220,536 | $ 573,929,689 | $ 585,739,987 | $ 597,929,430 |
| Surface Transportation Block Grants Program | $ 281,552,802 | $ 287,542,523 | $ 292,683,458 | $ 299,101,165 |
| Highway Safety Improvement Program | $ 54,177,250 | $ 55,188,237 | $ 56,176,926 | $ 57,315,499 |
| Railway-Highway Crossing Program | $ 7,628,763 | $ 7,794,606 | $ 7,960,449 | $ 8,126,291 |
| Congestion Mitigation and Air Quality | $ 47,974,557 | $ 48,886,752 | $ 49,781,663 | $ 50,792,752 |
| Metropolitan Planning Program | $ 5,317,955 | $ 5,429,686 | $ 5,546,264 | $ 5,675,363 |
| National Highway Freight Program | $ 26,616,635 | $ 29,036,329 | $ 32,665,871 | $ 36,295,412 |
| **Apportioned Total** | **$ 986,488,498** | **$ 1,007,807,822** | **$ 1,030,554,618** | **$ 1,055,235,912** |

**Figure 8.1: State of Indiana Federal Apportionment**



## STATE AND LOCAL FUNDING

State highway funds are typically developed through gasoline and diesel taxes, vehicle registration fees (including title and license fees), sales tax, and bonding. In April 2017, the State of Indiana General Assembly passed Act 1002, which introduced the following taxes and fees for funding the state's roadway infrastructure projects:

- Increase of gas tax by 10 cents per gallon to 28 cents per gallon beginning July 1, 2017.
- Raising vehicle registration fees by $15 beginning January 1, 2018.
- $150 per year fee for electric cars.
- $50 per year fee for hybrid vehicles.

Indiana cities, towns, and counties would receive financial benefit of an additional $342 million annually for local roads by 2024 through these additional funding sources.

There are various transportation funding opportunities available to local governments. However, not all the local revenue sources can be used for serving as a match to federal funds for transportation improvement projects. In the State of Indiana, two major funds are utilized for maintaining local transportation facilities, paying employee wages, and maintaining equipment. These funds are:

**Motor Vehicle Highway Account:**

Motor Vehicle Highway Account is the account of the general fund where collections from vehicle registration fees, license fees, driver license fees, gasoline taxes, certificate of title fees, auto transfer fees, weight taxes or excise taxes and all other similar taxes, duties, or excises of all kinds on motor vehicles, trailers, motor vehicle fuel, or motor vehicle owners or operators are credited. This fund can be used for the purchase of materials, equipment, and labor for the maintenance and construction of County transportation facilities.

**Local Road and Street Fund:**

Local Road and Street Fund Account gets 45% of the money deposited in the Highway, Road, and Street fund. Funds from this account are distributed among the units of local governments each month. These funds can be used for various transportation system improvement projects including right-of-way acquisition, preliminary engineering, construction, and reconstruction activities.
This fund can also be used for bond repayment.

These funds are received monthly by the Local Public Agencies (LPA) from the Auditor of the State's office. The distribution of these funds depend on formulae that consider road mileage, population, and the number of vehicle registrations.

Other state and local funding sources available for Harrison County include:

**Cumulative Bridge Fund:**

This fund helps construction and maintenance of bridges within the county's roadway jurisdiction. The estimated maximum tax rate for this fund for 2017 is 0.089 (per $100 assessed value of property).

**Wheel Tax and Excise Surtax:**

These taxes allow local agencies (e.g., counties and municipalities) to collect tax revenue which could only be used for paying for the construction, reconstruction, repair, or

maintenance of county, city, and town roads in their jurisdictions. These funds can also be used as the local match in the Local Road and Bridge Matching Grant Fund more commonly known as the Community Crossing Matching Grant Fund. Harrison County currently does not collect these taxes.

**Economic Development Income Tax (EDIT):**

This tax revenue is set to pay for infrastructure to promote business growth, or for other facilities. Revenues collected from this tax are divided among county, cities, and towns based on property tax levy shares or based on population shares. Harrison County currently does not collect EDIT.

**Tax Increment Financing (TIF):**

As per the State of Indiana Code 36-7-14, Tax Increment Financing is a government finance mechanism for development and redevelopment which captures increases in taxable assessed value within a defined area and then uses property tax revenue derived from these increases to finance public improvements within the specified area.

**Bonds:**

Local government units can also consider general obligation bonds and cumulative capital improvement funds for funding transportation improvement projects.

**TRANSIT FUNDING**

The FAST Act provides steady funding for transit through the Federal Transit Administration for FY 2016 to 2020. Major federal transit grant programs include:

- The Urban Formula Program (Section 5307)
- New Starts (Section 5309)
- Elderly Individuals and Individuals with Disabilities Program (Section 5310)
- Rural Formula Program (Section 5311)
- State of Good Repair Program (Section 5337)

As mentioned in Chapter 4, the Southern Indiana Transit System (SITS) operates limited transit service in parts of Harrison County and annual transit ridership is showing a declining trend since 2015.

## HARRISON COUNTY LOCAL FUNDING CONDITIONS AND EXPENSES

**Table 8.2** shows Harrison County revenue sources from various state and local funds for the most recent five years (2013 – 2017). As can be seen in average yearly total, revenue from the state and local funds was approximately $4.3 million. The Motor Vehicle Highway Account fund was the major source of revenue with approximately 73% of total revenue from the state and local sources. **Figure 8.2** shows the most recent ten years (2008-2017) revenues from the state and local sources for Harrison County. The most recent ten year average revenues from state and local sources was approximately $3.9 million.

**Figure 8.2: Annual State and Local Revenue for Harrison County (2008-2017)**

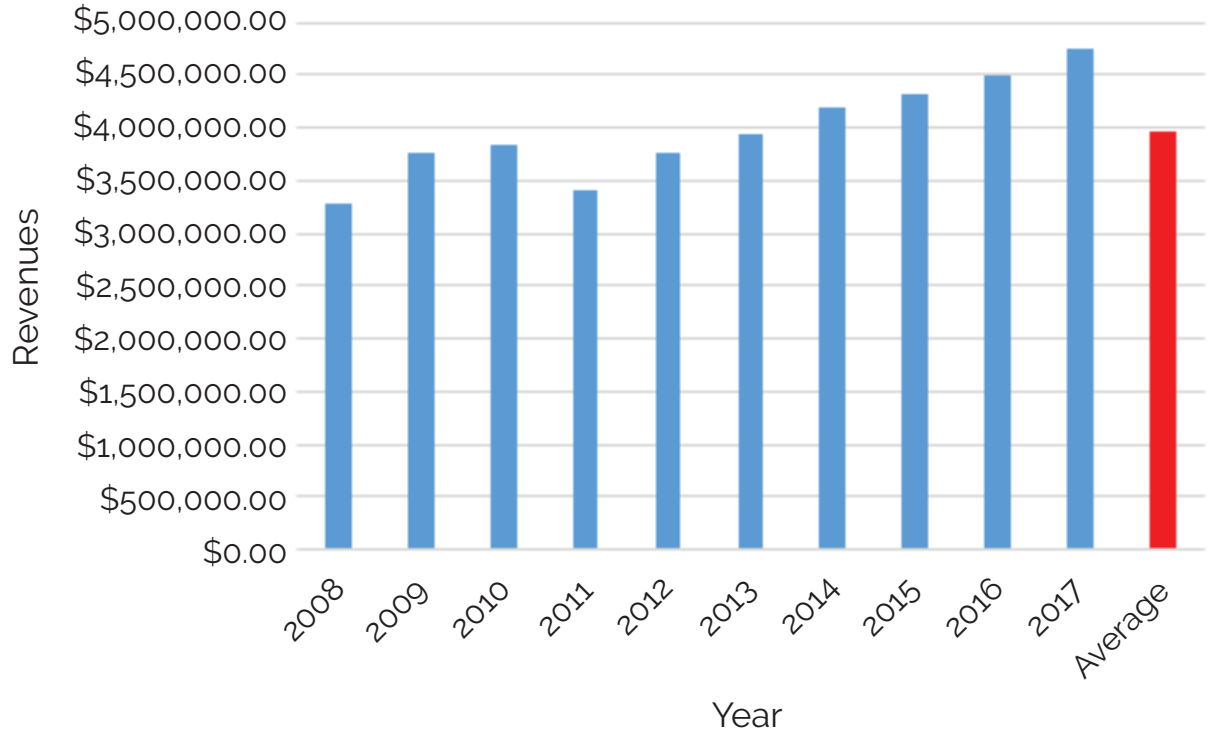



**Table 8.2: Local Revenue Sources for Harrison County (2013 – 2017)**

| Local Fund Revenue Sources | Year | | | | | Average |
|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2017 | |
| Cumulative Bridge Fund | $687,656 | $626,807 | $726,584 | $706,138 | $752,846 | $700,006 |
| Local Road & Street Fund | $434,020 | $450,842 | $447,766 | $448,636 | $576,854 | $471,624 |
| Motor Vehicle Highway Account | $2,817,870 | $3,126,305 | $3,151,686 | $3,341,709 | $3,411,113 | $3,169,737 |
| **Total** | **$3,939,547** | **$4,203,954** | **$4,326,036** | **$4,496,482** | **$4,740,813** | **$4,341,367** |

The operation and maintenance of the existing transportation system is important to preserve the past investments and maximizes the safety, efficiency, and reliability of the existing system. The operational costs included snow and ice removal, street lighting, traffic signals, drainage work, equipment purchases, administration, and other related costs. Maintenance costs included costs associated with maintaining the existing federal-aid roadway infrastructure including pavement and bridge resurfacing, replacement, right-of-way etc.

Annual costs for transportation system preservation and maintenance including labor and administrative costs for the most recent five years (2013 to 2017) for Harrison County are shown in **Table 8.3**. **Figure 8.3** shows the most recent ten year (2008-2017) expenditure trends from the state and local revenue sources. As shown, average total annual expenses from state and local sources was approximately $3.8 million.

**Figure 8.3: Annual State and Local Expenditures for Harrison County (2008-2017)**

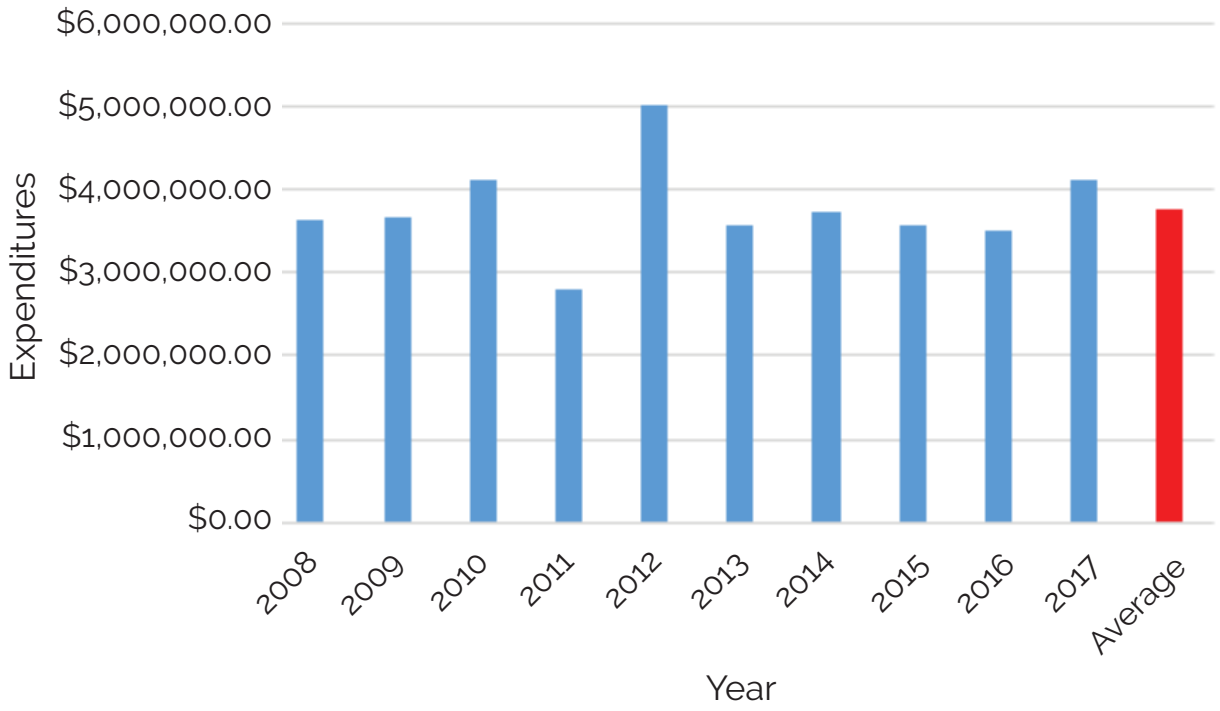



**Table 8.3:Expenditures from Local Funds (2013-2017)**

| Local Fund Expenditure Sources | Year | | | | | Average |
|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2017 | |
| Cumulative Bridge Fund | $478,461 | $691,334 | $177,613 | $258,775 | $331,832 | $387,603 |
| Local Road & Street Fund | $369,756 | $417,776 | $440,552 | $508,916 | $821,454 | $511,691 |
| Motor Vehicle Highway Account | $2,739,025 | $2,632,916 | $2,955,451 | $2,728,243 | $2,958,906 | $2,802,908 |
| **Total** | **$3,587,243** | **$3,742,026** | **$3,573,616** | **$3,495,935** | **$4,112,192** | **$3,702,202** |

Revenue in certain funds are restricted based on use, and one such fund is the Cumulative Bridge Fund. Revenue from this fund can only be used to support bridge construction and maintenance. For this reason, the plan has caculated excess and shortages separately from other less restricted funds whose combined exessses could be use in concert to complete capital improvement projects. Based on total revenues and operations & maintenance costs, the excess and/or shortage of revenue for the most recent ten years (2008 to 2017) for cumulative bridge fund is shown in **Table 8.4**.

**Table 8.5** shows excess and/or shortage of revenue for the most recent ten years (2008 to 2017) in local road and street fund and motor vehicle highway accounts for Harrison County. As can be seen, the average excess revenue per year in local road and street fund and motor vehicle highway accounts were approximately $58,117. For the future years excess revenues can be used to fund prioritized projects or as the local match for securing federal and state grants for implementing projects.

## ROADWAY FUNDING ESTIMATE

Since federal, state, or local sources do not guarantee the same level funding every year, estimating revenue for the 22 year plan period can be complex and difficult to predict. Federal regulations require the financial plan to determine "all cost and revenue projections shall be based on the data reflecting the existing situation and historical trends." However, unlike a Metropolitan Planning Organization (MPO), Harrison County does not have a guaranteed source of Surface Transportation Block Grant Program (STBG) funding from INDOT. Other federal revenue (NHPP, HSIP, & NHFP) are grant based and can vary substantially every year.

Moreover, while state and local agencies are assured federal assistance for the next several years, the Federal Highway Trust Fund revenue crisis remains a concern. The federal motor fuel tax of $0.184/gallon has not been increased to keep up with inflation since 1993. Reductions of VMT nationally, and increases in fuel efficient vehicles have resulted in a gradual decrease of motor fuel tax revenue. This has made it increasingly difficult to raise adequate funds to maintain the national transportation infrastructure. Various alternatives have been proposed to replace the motor fuel tax (mileage based user fee), or supplement MFT with other revenue sources such as local sales taxes, public-private partnerships, and federal discretionary grants. While these alternatives are being tested, it is unknown if and when these additional/alternate revenue sources will be implemented.

Indiana recently raised it gasoline tax by 10 cents per gallon to 28 cents per gallon beginning July 1, 2017. This is the first gas tax increase since 2003. Going forward, Indiana's fuel tax rates will be adjusted based on a formula that considers both inflation and the rate of the growth in Indiana's total personal income. Revenues from the gasoline excise tax will be directed to the state, but a quarter will be remitted to local governments. The legislation also includes a 10-cent increase to the diesel tax and a variety of vehicle registration fees to further fund highway improvement.

Table 8.4: Excess (Shortage) Revenues per Year (2008-2017)
Cumulative Bridge Fund

| Year | Revenue | Expenses | Excess (Shortage) |
|---|---|---|---|
| 2008 | $526,273 | $665,737 | ($139,464) |
| 2009 | $714,206 | $239,744 | $474,462 |
| 2010 | $863,622 | $708,453 | $155,169 |
| 2011 | $700,450 | $398,420 | $302,029 |
| 2012 | $694,899 | $1,674,584 | ($979,685) |
| 2013 | $687,656 | $478,461 | $209,195 |
| 2014 | $626,807 | $691,334 | ($64,526) |
| 2015 | $726,584 | $177,613 | $548,971 |
| 2016 | $706,138 | $258,775 | $447,364 |
| 2017 | $752,846 | $331,832 | $421,014 |
| **Average** | | | **$137,453** |

Table 8.5: Excess (Shortage) Revenues per Year (2008 -2017)
Local Road & Street Fund and Motor Vehicle Highway Account

| Year | Revenue | Expenses | Excess (Shortage) |
|---|---|---|---|
| 2008 | $2,744,411 | $2,967,683 | ($223,271) |
| 2009 | $3,048,573 | $3,437,842 | ($389,268) |
| 2010 | $2,978,225 | $3,423,205 | ($444,979) |
| 2011 | $2,703,028 | $2,401,143 | $301,886 |
| 2012 | $3,063,939 | $3,360,938 | ($296,999) |
| 2013 | $3,251,890 | $3,108,782 | $143,109 |
| 2014 | $3,577,147 | $3,050,692 | $526,455 |
| 2015 | $3,599,451 | $3,396,003 | $203,449 |
| 2016 | $3,790,344 | $3,237,160 | $553,184 |
| 2017 | $3,987,966 | $3,780,360 | $207,607 |
| **Average** | | | **$58,117** |

The funding for the 2040 Harrison County long range transportation plan can be estimated based on the following assumptions:

- **Table 8.6** shows that Harrison County has average excess revenue of $137,453 per year in cumulative bridge fund. Assuming that revenue and expenditures will remain consistent over the long range year plan period, the total accumulated amount left over for bridge construction and improvement in 2040 is anticipated to be $4,732,018. This was calculated assuming a 3% annual inflation rate.
- **Table 8.7** shows that Harrison County has average excess revenue of $58,117 per year in local road and street fund and motor vehicle highway account. Assuming that revenue and expenditures will remain consistent over the long range year plan period, the total accumulated amount left over in these two funds in 2040 is anticipated to be $2,000,766. This was calculated assuming a 3% annual inflation rate. Table 6 shows surplus revenue in local road and street fund and motor vehicle highway account in 5 year increments.

Table 8.6: Forecasted Cumulative Bridge Funds

| Year | Annual Average Excess (Shortage) | Cumulative Amount |
|---|---|---|
| 2017 | $137,453 | $137,453 |
| 2022 | $159,346 | $889,102 |
| 2027 | $184,725 | $1,760,469 |
| 2032 | $214,147 | $2,770,622 |
| 2037 | $248,255 | $3,941,666 |
| 2040 | $271,275 | $4,732,018 |

Table 8.7: Forecasted Revenue in Local Road & Street Fund and Motor Vehicle Highway Account

| Year | Total Excess Revenue |
|---|---|
| 2017 | $58,117 |
| 2022 | $375,925 |
| 2027 | $744,352 |
| 2032 | $1,171,459 |
| 2037 | $1,666,594 |
| 2040 | $2,000,766 |

## PROJECT PRIORITY LIST

Potential projects were identified based on scenario analyses, stakeholder engagement, public involvement, and inputs from Harrison County Highway Department staff to address the existing and projected transportation needs through the long range plan period. The combined project list, including projects listed as incomplete from the previous long range transportation plan, those identified through the steering committee meetings, and those submitted through the on-line webmapping exercise, were evaluated by the Harrison County and culled to a list of approximately 40 priority projects. Projects were then categorized as roadway, enhancement, or maintenance based on the type of construction anticipated.

The Steering Committee was instructed to evaluate each priority project based on its impact on the plans goals and its significance to the County (high, medium, low). From Jan 31, to Feb 11, 2019, the general public was invited to participate in a similar. 124 resident participated in the survey. The steeing committee's ranking was weighted equally against the public ranking to determine a final priority ranking (see **Appendix F** for tabulated results). Projects are number in random order and listed as high, medium, or low priority. The final results are reflected in the final project prioritization list that begins on the following pages.

The planning-level project costs were estimated based on past costs for similar roadway and bike/pedestrian infrastructure, and engineering judgement. The cost of construction and the other costs involved in the major projects can fluctuate based on time, scope of the project, the materials used, right-of-way costs, and other factors. **Table 8.8** presents the engineering assumptions used to calculate the project costs. The full calculations can be found in **Appendix E**.

**Table 8.8: Estimate Assumptions**

| **Assumptions:** | | |
|---|---|---|
| Item | Construction Costs | |
| Rural 2 Lane, New or Reconstruct | $1,300,000 | per mile |
| Arterial/Urban 2 Lane, New or Reconstruct | $1,700,000 | per mile |
| 2 Lane, New or Reconstruct (Rough Terrain) | $2,400,000 | per mile |
| 3 Lane, New or Reconstruct | $2,600,000 | per mile |
| Resurfacing Costs | $400,000 | Per 11' Lane-Mile |
| Shared-Use Path (One Side of Street) | $450,000 | per mile |
| Shared-Use Path (Separate Alignment) | $550,000 | per mile |
| Park and Ride | $8,000 | Per Parking Space |
| Right of way cost | $40,000 | Per acre |

***Roadways***

Roadway projects in this category were identified as new construction, roadway extension, or complete reconstruction of a road. Over 100 potential projects were identified through the planning process. In order to identify the projects of highest significance, projects were evaluated based on a number of elements.

The following *factors* were used:

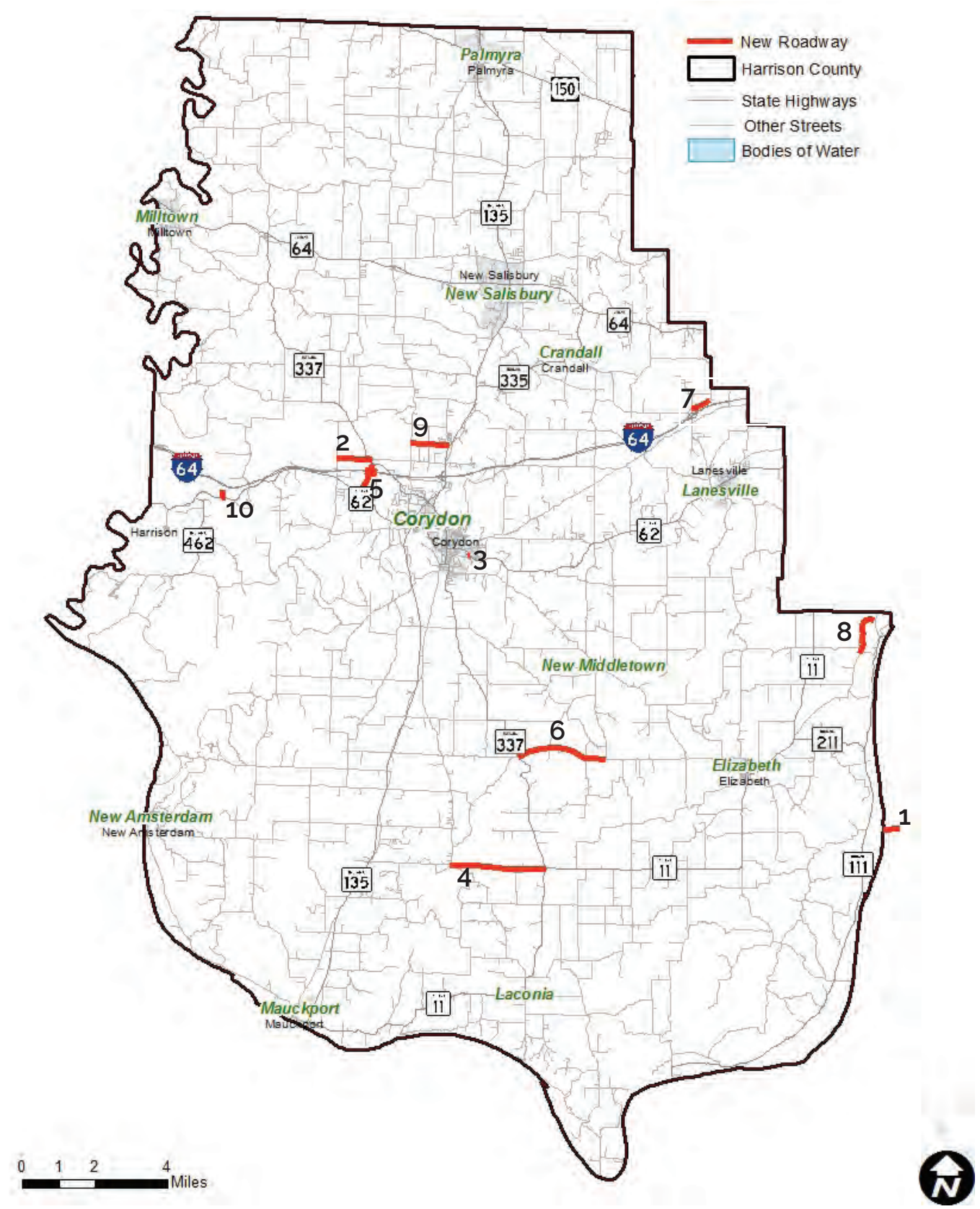
- Project Impact on the Goals and Objectives of the Plan;
- The regional significance of the project;
- Results of public input

**Figure 8.4** illustates the locations for all projects identified as roadway priorities. **Table 8.9** presents the planning-level estimated costs for the roadway projects identified as priority to Harrison County over the plan period. Project numbers are for identification purposes only and do not reflect priority order. All potential projects not listed as priority but identified through the planning process for consideration are included the in **Appendix G** as the illustrative projects list.

**Table 8.9: Roadway Projects**

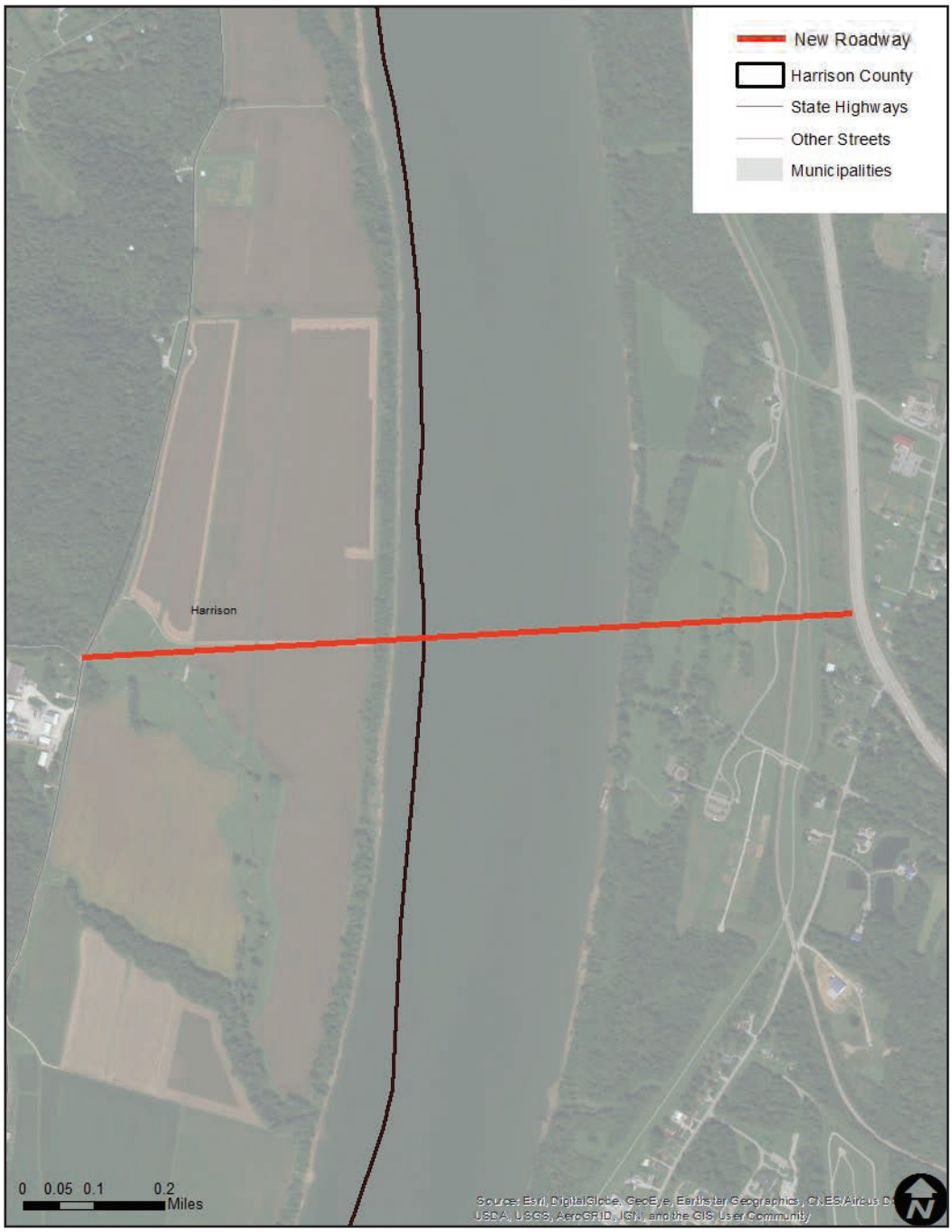
| No. | Priority Level | Project Name | Project Type | Estimated Costs |
|---|---|---|---|---|
| 1 | High | Bridge to KY | New Roadway | $ 345,933,800.00 |
| 2 | High | Quarry Rd 337 to Geths. | New Roadway | $ 4,583,700.00 |
| 3 | High | Tysons Acccess Rd | New Roadway | $ 1,427,600.00 |
| 4 | High | Watson Road Connector | New Roadway | $ 5,566,200.00 |
| 5 | High | Corydon West I-64 Interchange | New Roadway | $ 30,719,000.00 |
| 6 | Medium | Lake Road Connector | New Roadway | $ 7,652,000.00 |
| 7 | Medium | Research Blvd | New Roadway | $ 2,053,600.00 |
| 8 | Low | Doolittle Hill Rd | New Roadway | $ 4,213,000.00 |
| 9 | Low | Schwartz Road Extension | New Roadway | $ 2,416,700.00 |
| 10 | Low | Scout Mountain Rd | New Roadway | $ 504,300.00 |

Figure 8.4: Roadway Projects



## Project No. 1: Bridge to Kentucky

Figure 8.5: Roadway Project 1, Bridge to Kentucky




| | | | |
|---|---|---|---|
| **Priority Level:** | High | Project Impact on Plan Goals: | Major |
| **Project Cost Estimate:** | $345,933,800.00 | Goals Impacted: | Connectivity<br>Travel and Tourism |
| **Project Length:** | 5,084 ft. | | Economy<br>Accessibility |
| **Proposed Roadway Section:** | 2 Lane | | Environment |

## Project No. 2: Quarry Road 337 to Gethsemane Road

Figure 8.6: Roadway Project 2, Quarry Road 337 to Gethsemane Road


**Priority Level:** High

**Project Cost Estimate:** $4,583,700.00

**Project Length:** 10,727 ft.

**Proposed Roadway Section:** Arterial/ Urban 2 Lane

Project Impact on Plan Goals: Significant

Goals Impacted: Connectivity
Economy
Safety
Accessibility

## Project No. 3: Tyson Access Road

Figure 8.7: Roadway Project 3, Tyson Access Road


**Priority Level:** High

**Project Cost Estimate:** $1,427,600.00

**Project Length:** 308 ft.

**Proposed Roadway Section:** Arterial/ Urban 2 Lane

**Project Impact on Plan Goals:** Major

**Goals Impacted:** Economy
Safety
Accessibility
Connectivity
Operations and Maintenance

## Project No. 4: Watson Road Connector

Figure 8.8: Roadway Project 4, Watson Road Connector


**Priority Level:** High

**Project Cost Estimate:** $5,566,200.00

**Project Length:** 13,750 ft.

**Proposed Roadway Section:** Arterial/ Urban 2 Lane

**Project Impact on Plan Goals:** Major

**Goals Impacted:** Connectivity
Safety
Economy
Accessibility
Resilience and Reliability

## Project No. 5: Corydon West I-64 Interchage

Figure 8.9: Roadway Project 5, Corydon West I-64 Interchange


| | | | |
|---|---|---|---|
| **Priority Level:** | High | **Project Impact on Plan Goals:** | Major |
| **Project Cost Estimate:** | $30,719,000.00 | **Goals Impacted:** | Economy<br>Accessibility<br>Connectivity<br>Safety |
| **Project Length:** | **16,602 ft.** | | |
| **Proposed Roadway Section:** | Arterial/ Urban 2 Lane | | |

## Project No. 6: Lake Road Connector

Figure 8.10: Roadway Project 6, Lake Road Connector


**Priority Level:** Medium

**Project Cost Estimate:** $7,652,000.00

**Project Length:** 13,355 ft.

**Proposed Roadway Section:** 2 Lane (Rough Terrain)

**Project Impact on Plan Goals:** Significant

**Goals Impacted:** Connectivity
Safety
Accessibility
Resilience and Reliability

## Project No. 7: Research Boulevard

Figure 8.11: Roadway Project 7, Research Boulevard


| | | | |
|---|---|---|---|
| **Priority Level:** | Medium | Project Impact on Plan Goals: | Significant |
| **Project Cost Estimate:** | $2,053,600.00 | Goals Impacted: | Connectivity<br>Economy |
| **Project Length:** | 2,937 ft. | | Accessibiliy<br>Operations and Maintenance |
| **Proposed Roadway Section:** | 3 Lane | | |

## Project No. 8: Doolittle Hill Road

Figure 8.12: Roadway Project 8, Doolittle Hill Road


**Priority Level:** Low

**Project Cost Estimate:** $4,213,000.00

**Project Length:** 7,071 ft.

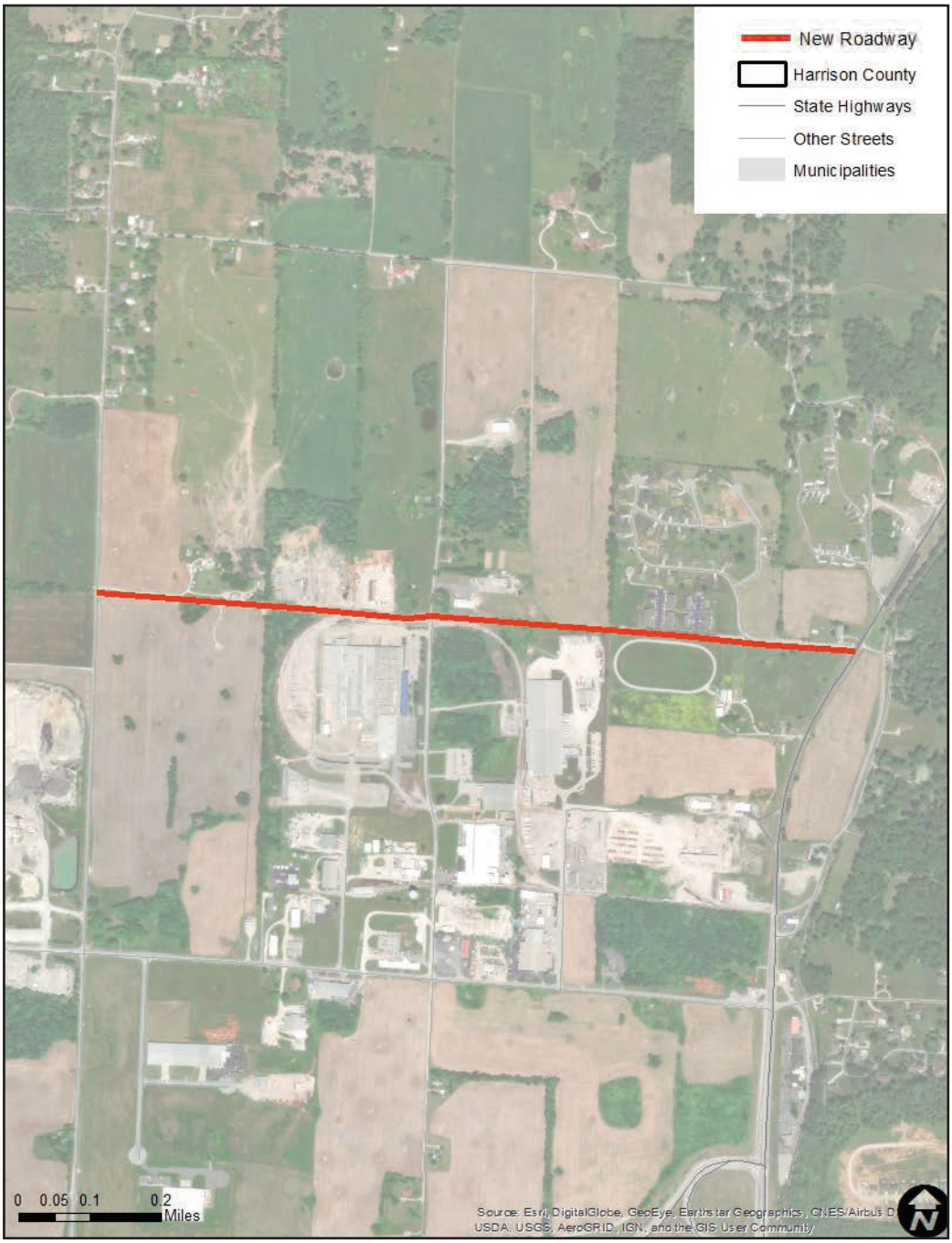
**Proposed Roadway Section:** 2 Lane (Rough Terrain)

**Project Impact on Plan Goals:** Major

**Goals Impacted:** Safety
Connectivity
Operations and Maintenance
Resilience and Reliability

## Project No. 9: Schwartz Road Extension

Figure 8.13: Roadway Project 9, Schwartz Road Extension




| | | | |
|---|---|---|---|
| **Priority Level:** | Low | Project Impact on Plan Goals: | Some |
| **Project Cost Estimate:** | $2,416,700.00 | Goals Impacted: | Connectivity<br>Accessibiliy |
| **Project Length:** | 5,654 ft. | | Operations and Maintenance |
| **Proposed Roadway Section:** | Arterial/<br>Urban 2 Lane | | |

## Project No. 10: Scout Mountain Road

Figure 8.14: Roadway Project 10, Scout Mountain Road


| | | | |
|---|---|---|---|
| **Priority Level:** | Low | Project Impact on Plan Goals: | Some |
| **Project Cost Estimate:** | $504,300.00 | Goals Impacted: | Travel and Tourism<br>Safety |
| **Project Length:** | 7,071 ft. | | |
| **Proposed Roadway Section:** | Rural 2 Lane | | |

***Maintenance***

Maintenance projects as referenced here are those identified through the planning process that improve the safety or reliability of the existing transportation system. Examples of maintenance projects include but are not limited to:

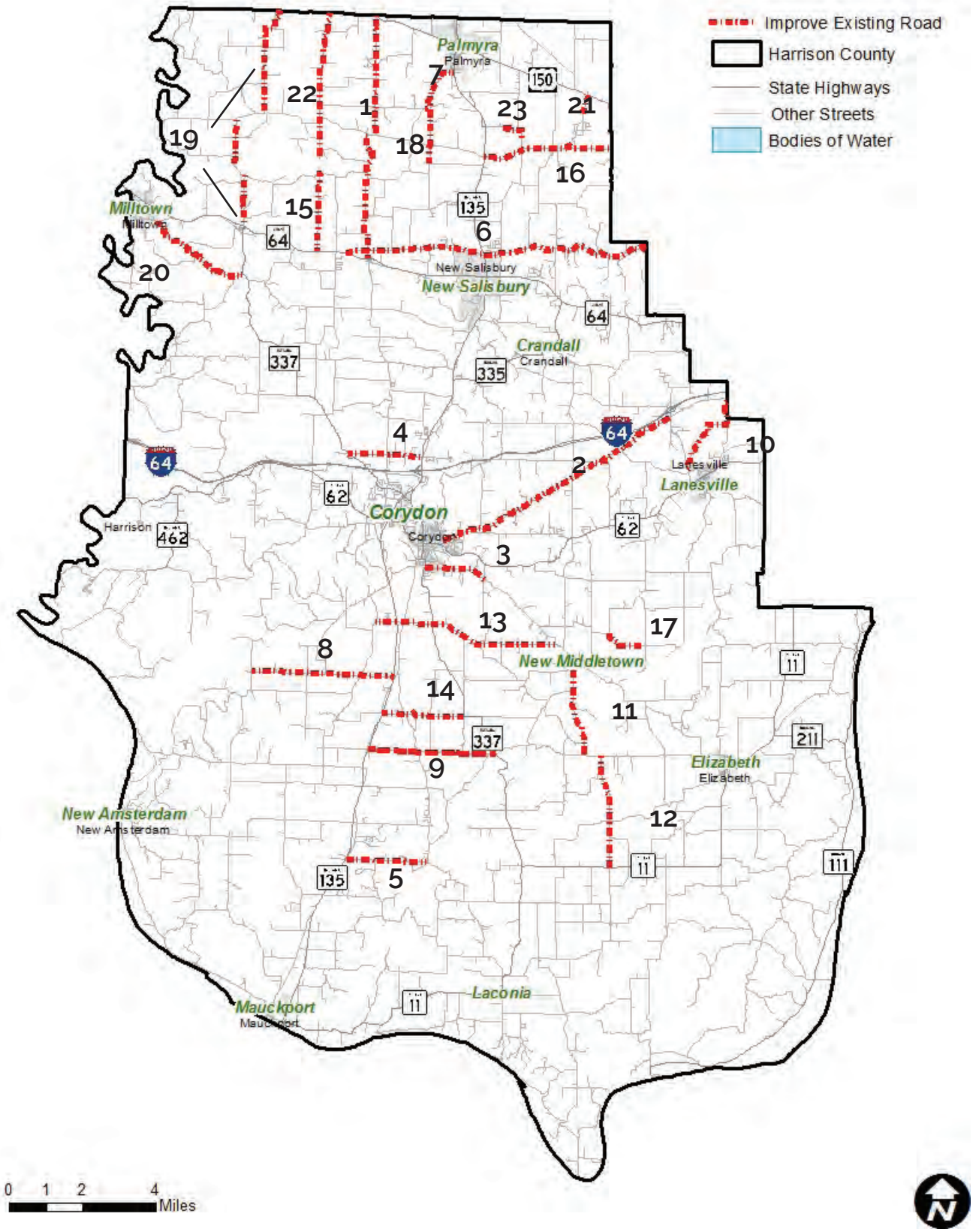
- Road Realignment
- Upgrading Road Material
- Increase Shoulder Width

**Figure 8.5** illustates the locations for all projects identified as maintenance priorities. **Table 8.10** presents the planning-level estimated costs for the enhancement projects identified in Harrison County over the plan period. Project numbers are for identification purposes only and do not reflect priority order. All potential projects not listed as priority but identified through the planning process for consideration are included the in the **Appendix G** as the illustrative projects

Table 8.10: Maintenance Projects

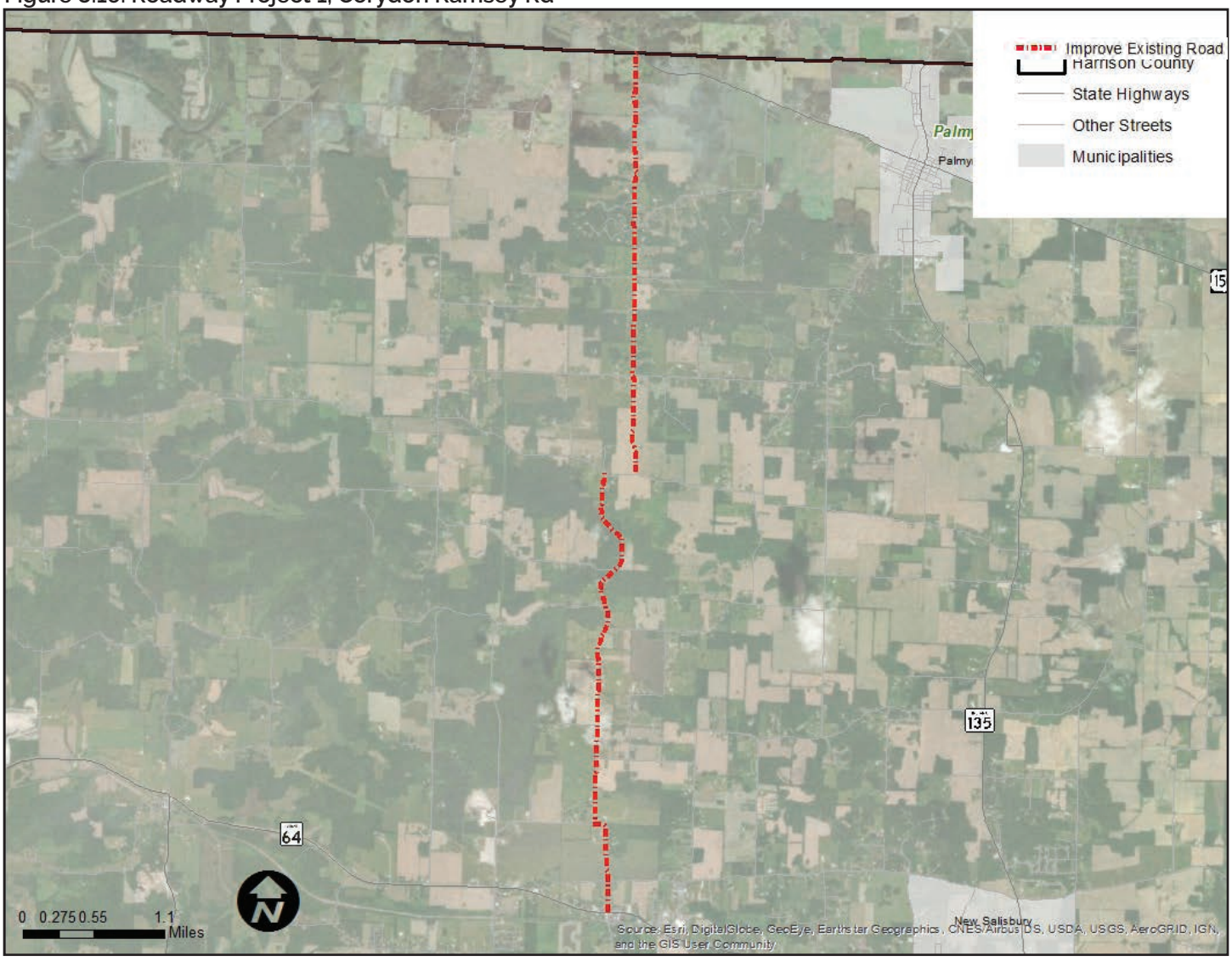
| No. | Priority Level | Project Name | Project Type | Estimated Costs |
|---|---|---|---|---|
| 1 | High | Corydon Ramsey Rd | Existing Road/Maintenance | $ 2,874,000.00 |
| 2 | High | Corydon Ridge Rd | Existing Road/Maintenance | $ 6,409,200.00 |
| 3 | High | Country Club Road | Existing Road/Maintenance | $ 1,671,600.00 |
| 4 | High | Quarry Rd 337 to 135 | Existing Road/Maintenance | $ 578,400.00 |
| 5 | High | Watson Road (Delmer to 135) | Existing Road/Maintenance | $ 1,942,800.00 |
| 6 | High | Whiskey Run Rd | Existing Road/Maintenance | $ 7,600,800.00 |
| 7 | Medium | Buffalo Trace Rd | Existing Road/Maintenance | $ 1,311,600.00 |
| 8 | Medium | Fairview Church to 135 | Existing Road/Maintenance | $ 3,043,200.00 |
| 9 | Medium | Lake Road (337 to 135) | Existing Road/Maintenance | $ 3,356,400.00 |
| 10 | Medium | Lazy Creek Rd | Existing Road/Maintenance | $ 2,050,800.00 |
| 11 | Medium | New Middletown-Elizabeth Rd | Existing Road/Maintenance | $ 4,326,000.00 |
| 12 | Medium | Pumping Station Rd | Existing Road/Maintenance | $ 2,739,600.00 |
| 13 | Medium | Shiloh Rd/Fogel Rd | Existing Road/Maintenance | $ 4,890,000.00 |
| 14 | Medium | Wiseman Rd | Existing Road/Maintenance | $ 1,965,600.00 |
| 15 | Low | Bird Trail Road | Existing Road/Maintenance | $ 1,734,000.00 |
| 16 | Low | Bradford Rd | Existing Road/Maintenance | $ 3,111,600.00 |
| 17 | Low | Buck Creek Ridge Road | Existing Road/Maintenance | $ 816,000.00 |
| 18 | Low | Crawford Rd | Existing Road/Maintenance | $ 1,564,800.00 |
| 19 | Low | Fredericksburg Rd | Existing Road/Maintenance | $ 1,214,400.00 |
| 20 | Low | Milltown Frenchtown | Existing Road/Maintenance | $ 2,601,600.00 |
| 21 | Low | New Cut Rd | Existing Road/Maintenance | $ 405,600.00 |
| 22 | Low | North Road | Existing Road/Maintenance | $ 3,577,200.00 |
| 23 | Low | School Ln | Existing Road/Maintenance | $ 820,800.00 |

Figure 8.15: Maintenance Projects



## Project No. 1: Corydon Ramsey Rd

Figure 8.16: Roadway Project 1, Corydon Ramsey Rd




**Priority Level:** High

**Project Cost Estimate:** $2,874,000.00

**Project Length:** 17,386 ft.

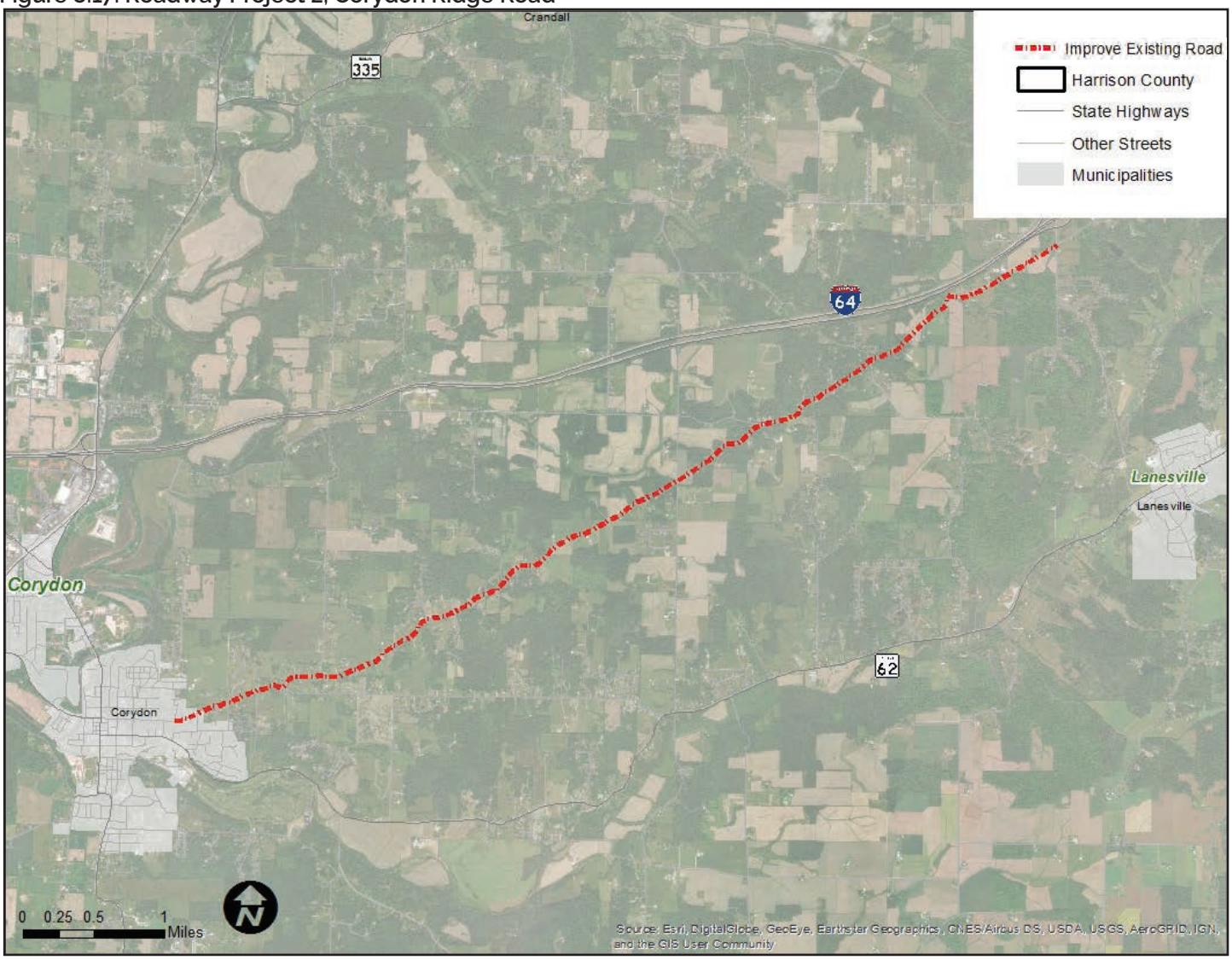
**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Major

**Goals Impacted:** Connectivity
Safety
Accessibiliy
Operations and Maintenance

## Project No. 2: Corydon Ridge Road

Figure 8.17: Roadway Project 2, Corydon Ridge Road




| | | | |
|---|---|---|---|
| **Priority Level:** | High | **Project Impact on Plan Goals:** | Major |
| **Project Cost Estimate:** | $6,409,200.00 | **Goals Impacted:** | Connectivity<br>Safety |
| **Project Length:** | 38,769 ft. | | Accessibiliy<br>Operations and Maintenance |
| **Lane Width:** | 10 ft. | | Economy |

## Project No. 3: County Club Road

Figure 8.18: Roadway Project 3, Country Club Road


| | | | |
|---|---|---|---|
| **Priority Level:** | High | **Project Impact on Plan Goals:** | Significant |
| **Project Cost Estimate:** | $1,671,600.00 | **Goals Impacted:** | Safety<br>Connectivity<br>Accessibiliy |
| **Project Length:** | 9,192 ft. | | |
| **Lane Width:** | 11 ft | | |

.

## Project No. 4: Quarry Rd 337 to 135

Figure 8.19: Roadway Project 4, Quarry Rd 337 to 135


| | | | |
|---|---|---|---|
| **Priority Level:** | High | **Project Impact on Plan Goals:** | Significant |
| **Project Cost Estimate:** | $578,400.00 | **Goals Impacted:** | Connectivity<br>Accessibiliy<br>Operations and Maintenance<br>Economy |
| **Project Length:** | 3,176 ft. | | |
| **Lane Width:** | 11 ft. | | |

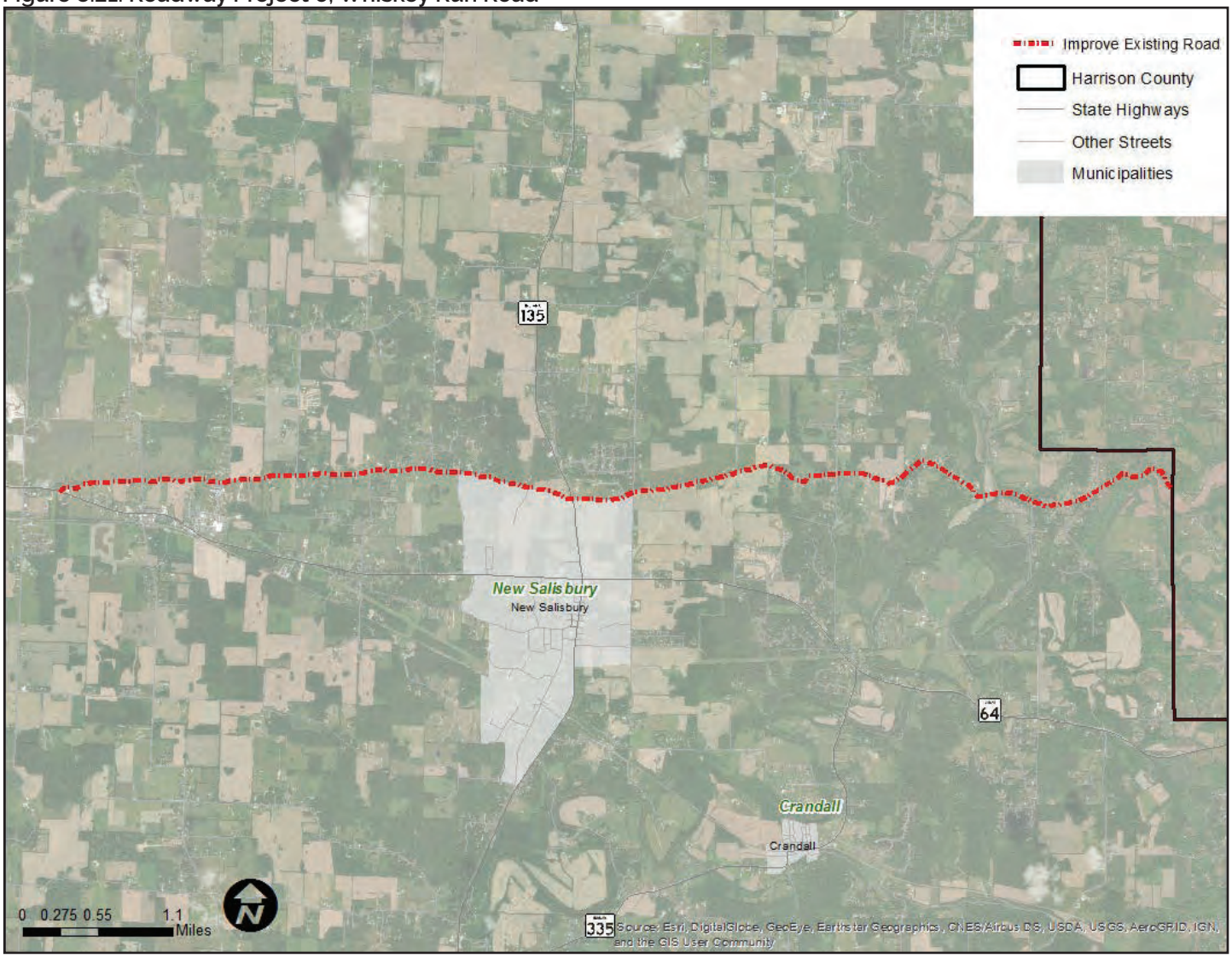
## Project No. 5: Watson Road (135 to Delmer)

Figure 8.20: Roadway Project 5, Watson Road (135 to Delmer)


| | | | |
|---|---|---|---|
| **Priority Level:** | High | **Project Impact on Plan Goals:** | Major |
| **Project Cost Estimate:** | $1,942,800 | **Goals Impacted:** | Connectivity<br>Safety |
| **Project Length:** | 11,750 ft. | | Economy<br>Accessibiliy |
| **Lane Width:** | 10 ft. | | Resilience and Reliability |

## Project No. 6: Whiskey Run Road

Figure 8.21: Roadway Project 6, Whiskey Run Road




**Priority Level:** High

**Project Cost Estimate:** $7,600,800.00

**Project Length:** 45,978 ft.

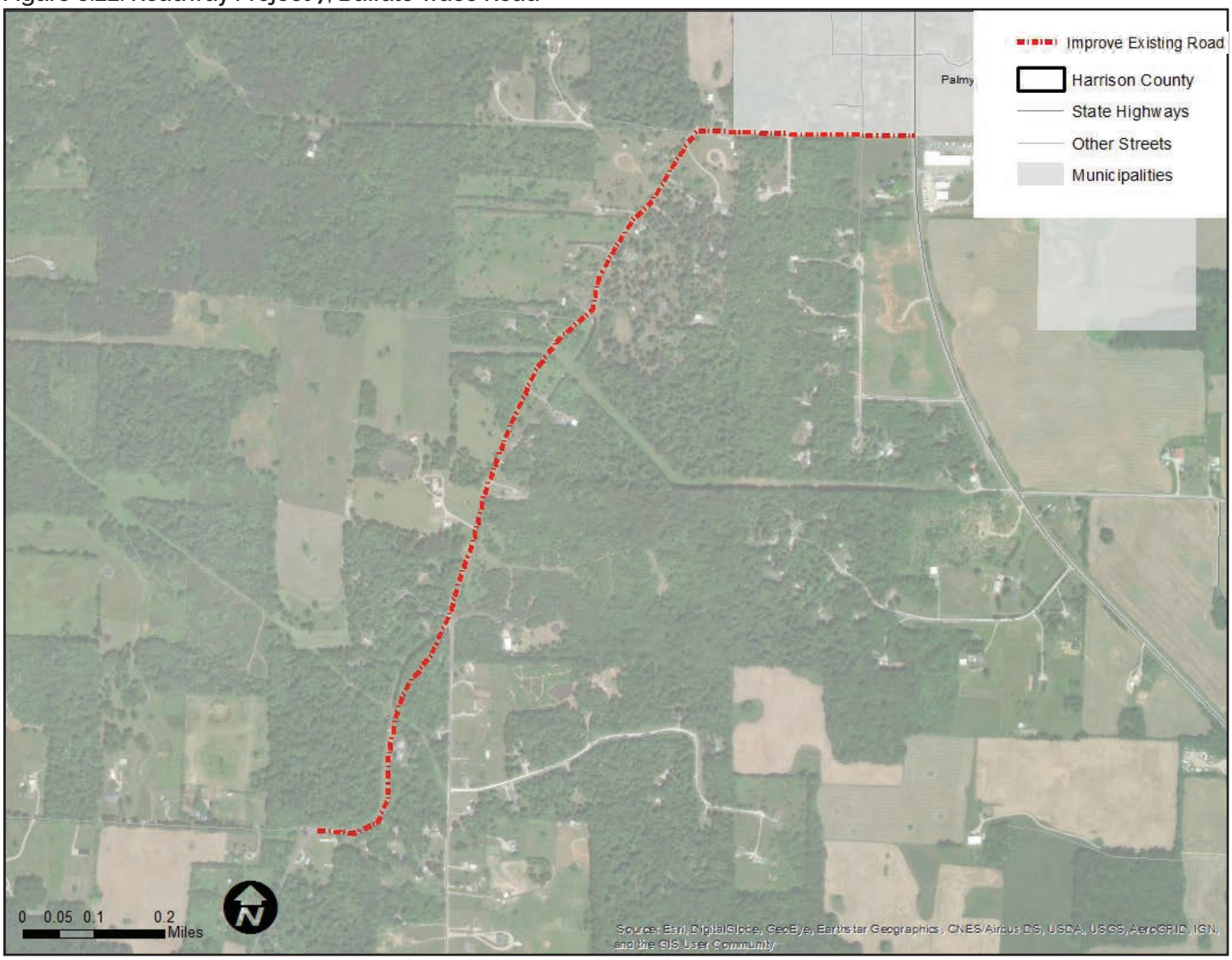
**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:**
Operations and Maintenance
Safety
Connectivity

## Project No. 7: Buffalo Trace Road

Figure 8.22: Roadway Project 7, Buffalo Trace Road




**Priority Level:** Medium

**Project Cost Estimate:** $1,311,600.00

**Project Length:** 7,933 ft.

**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:**
Operations and Maintenance
Safety
Accessibility

## Project No. 8: Fairview Church Road to 135

Figure 8.23: Roadway Project 8, Fairview Church Road to 135


**Priority Level:** Medium

**Project Cost Estimate:** $3,043,200.00

**Project Length:** 20,449 ft.

**Lane Width:** 9 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:** Safety
Accessibility
Operations and Maintenance

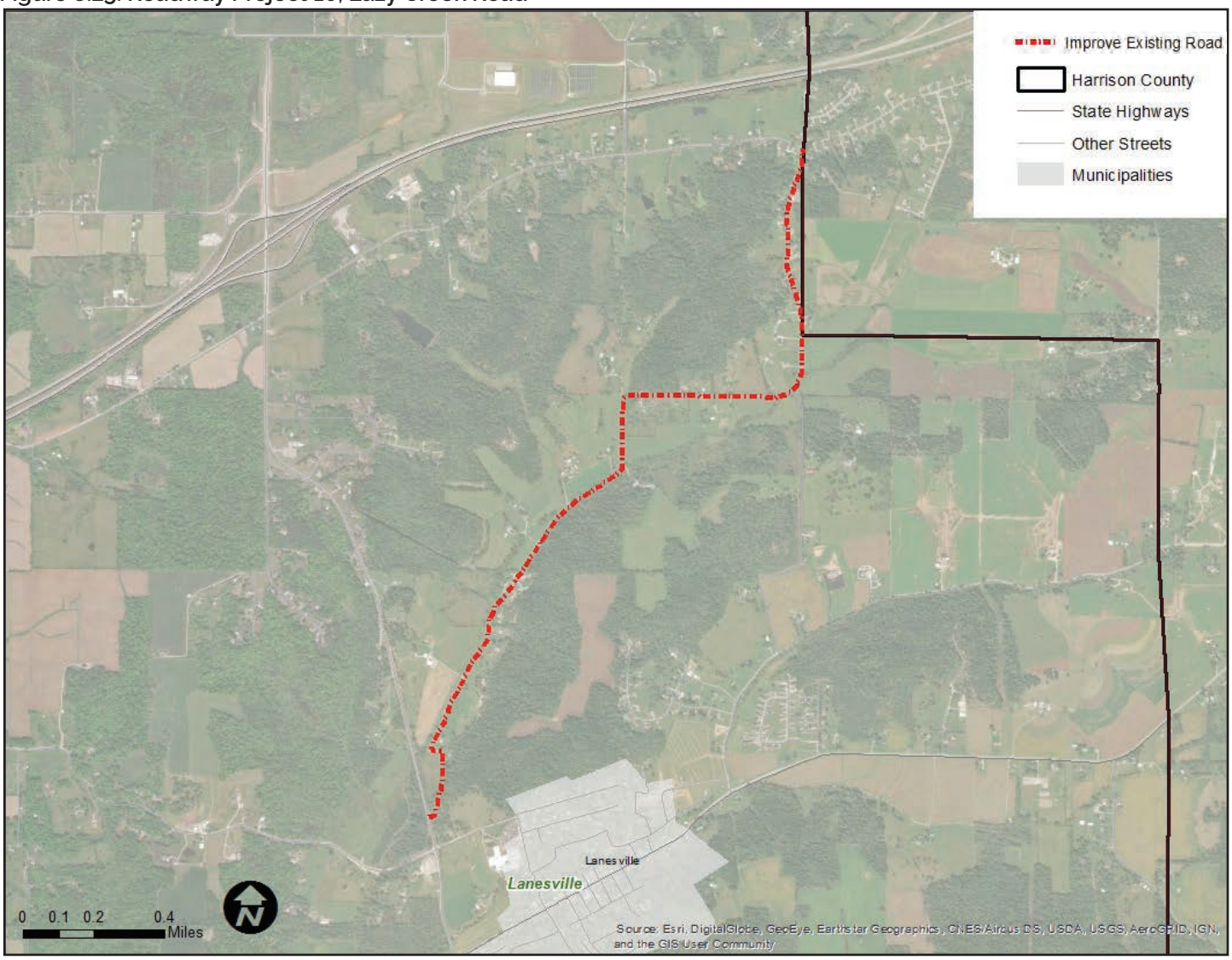
## Project No. 9: Lake Road (337 to 135)

Figure 8.24: Roadway Project 9, Lake Road (337 to 135)


| | | | |
|---|---|---|---|
| **Priority Level:** | Medium | **Project Impact on Plan Goals:** | Significant |
| **Project Cost Estimate:** | $3,356,400.00 | **Goals Impacted:** | Connectivity<br>Safety<br>Accessibility<br>Operations and Maintenance |
| **Project Length:** | 18,460 ft. | | |
| **Lane Width:** | 11 ft. | | |

## Project No. 10: Lazy Creek Road

Figure 8.25: Roadway Project 10, Lazy Creek Road




**Priority Level:** Medium

**Project Cost Estimate:** $2,050,800.00

**Project Length:** 13,779 ft.

**Lane Width:** 9 ft.

**Project Impact on Plan Goals:** Significant

**Goals Impacted:** Safety
Operations and Maintenance
Accessibility
Connectivity

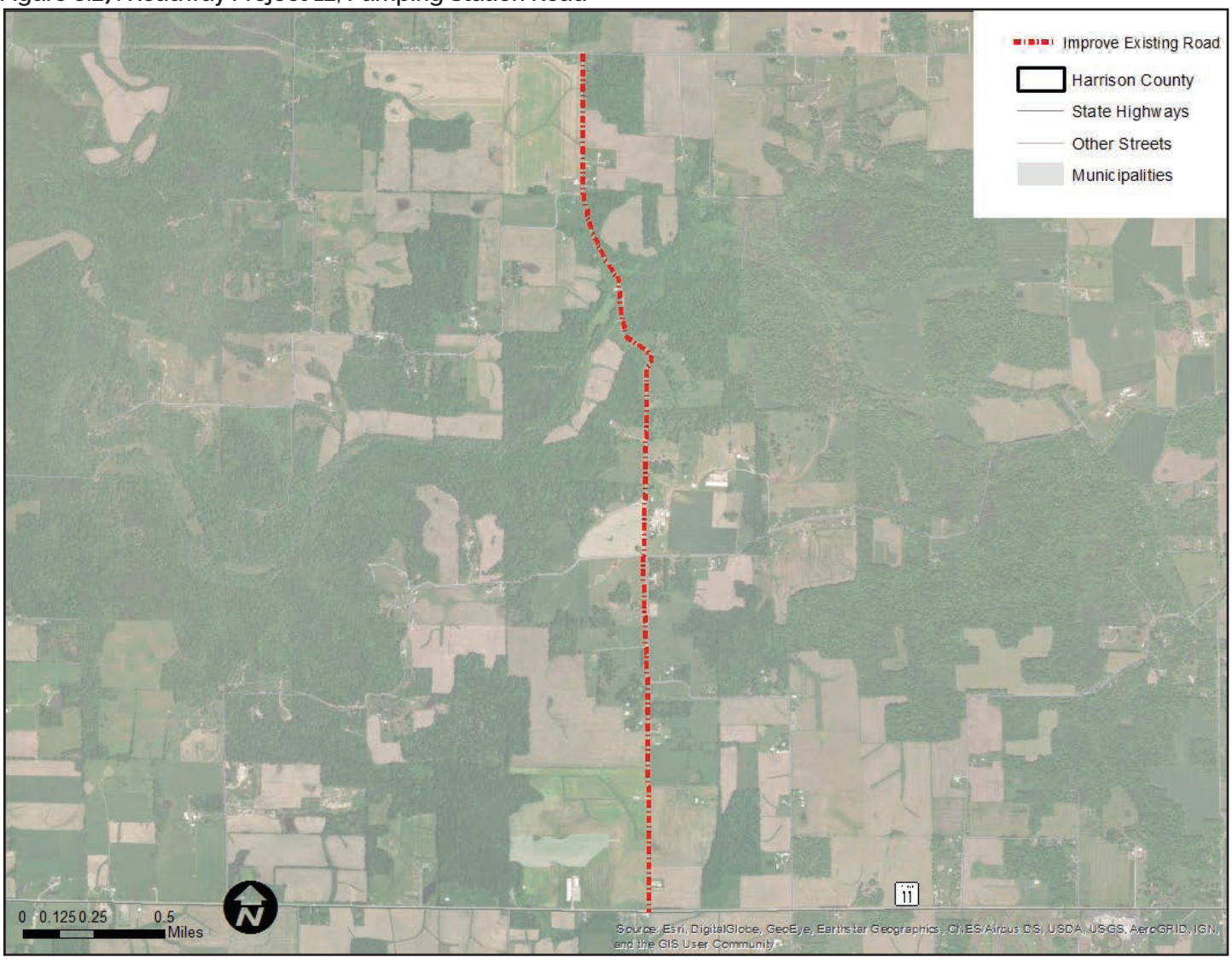
# Project No. 11: New Middletown-Elizabeth Road

Figure 8.26: Roadway Project 11, New Middletown-Elizabeth Road


| | | | |
|---|---|---|---|
| **Priority Level:** | Medium | **Project Impact on Plan Goals:** | Some |
| **Project Cost Estimate:** | $2,547,600.00 | **Goals Impacted:** | Connectivity<br>Safety<br>Economy |
| **Project Length:** | 14,011 ft. | | |
| **Lane Width:** | 11 ft. | | |

## Project No. 12: Pumping Station Road

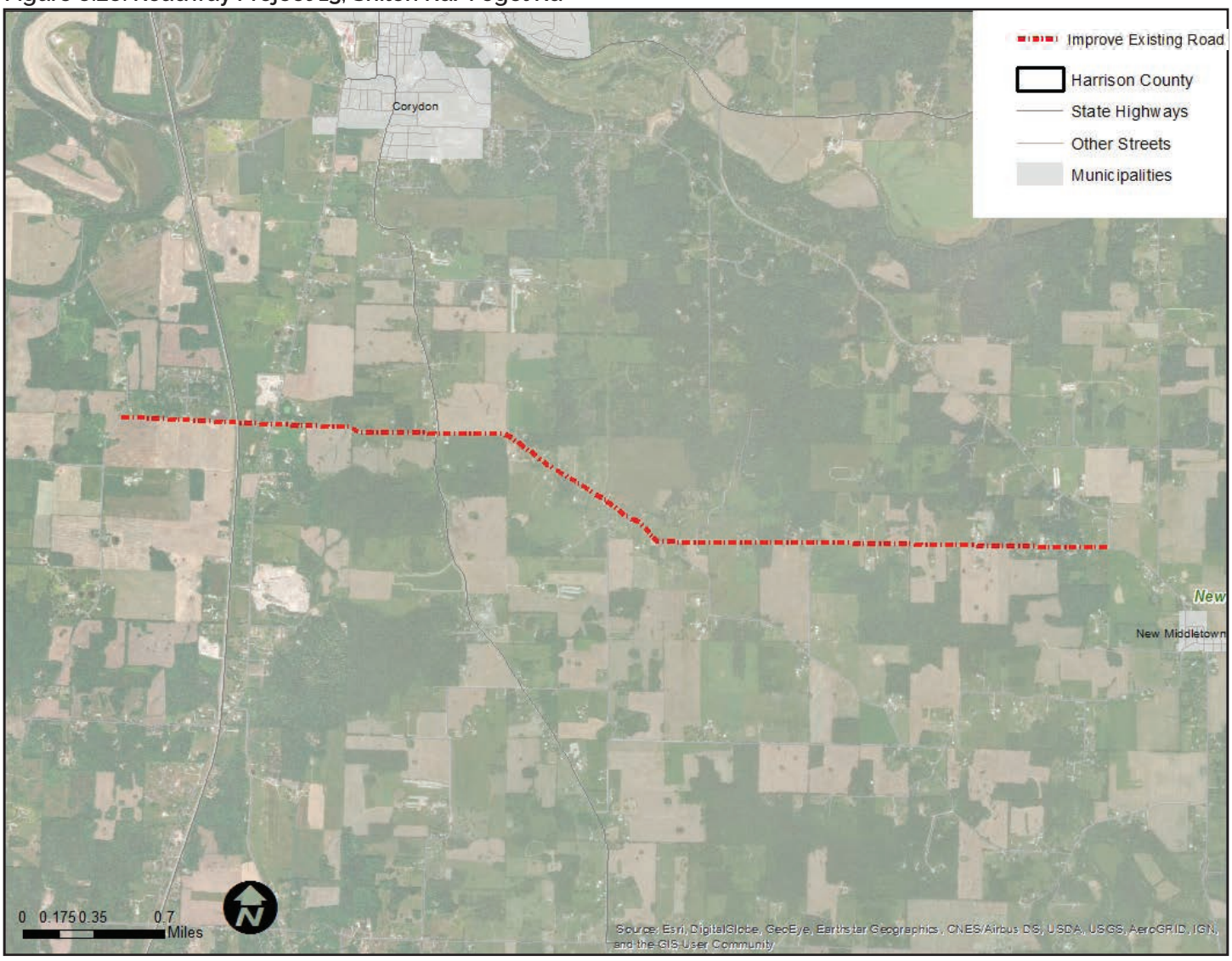
Figure 8.27: Roadway Project 12, Pumping Station Road




| | | | |
|---|---|---|---|
| **Priority Level:** | Medium | **Project Impact on Plan Goals:** | Some |
| **Project Cost Estimate:** | $2,739,600.00 | **Goals Impacted:** | Connectivity<br>Safety |
| **Project Length:** | 16,570 ft. | | Resilience and Reliability |
| **Lane Width:** | 10 ft. | | |

## Project No. 13: Shiloh Rd/Fogel Rd

Figure 8.28: Roadway Project 13, Shiloh Rd/Fogel Rd




**Priority Level:** Medium

**Project Cost Estimate:** $4,890,000.00

**Project Length:** 26,891 ft.

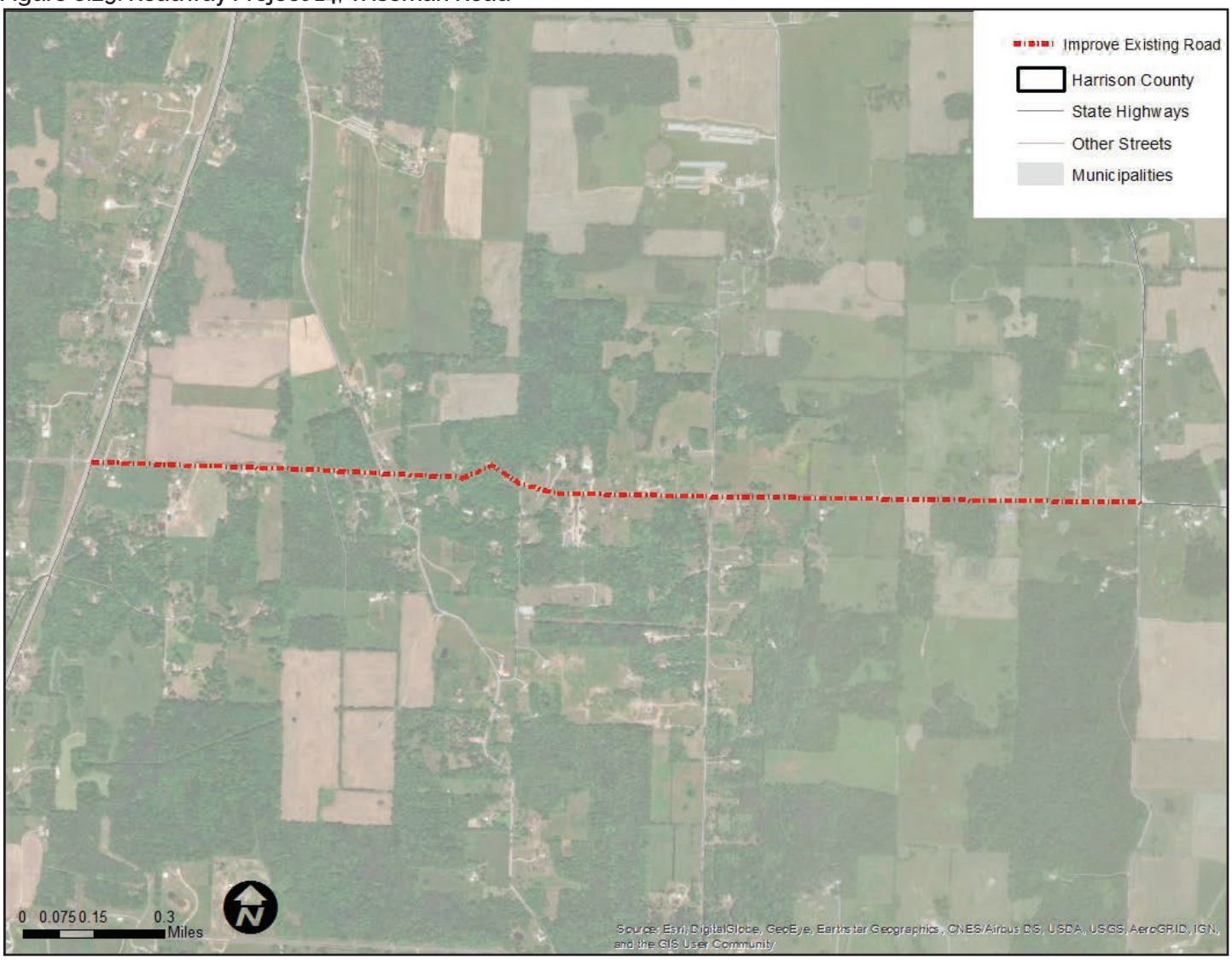
**Lane Width:** 11 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:** Safety
Connectivity
Operations and Maintenance

## Project No. 14: Wiseman Road

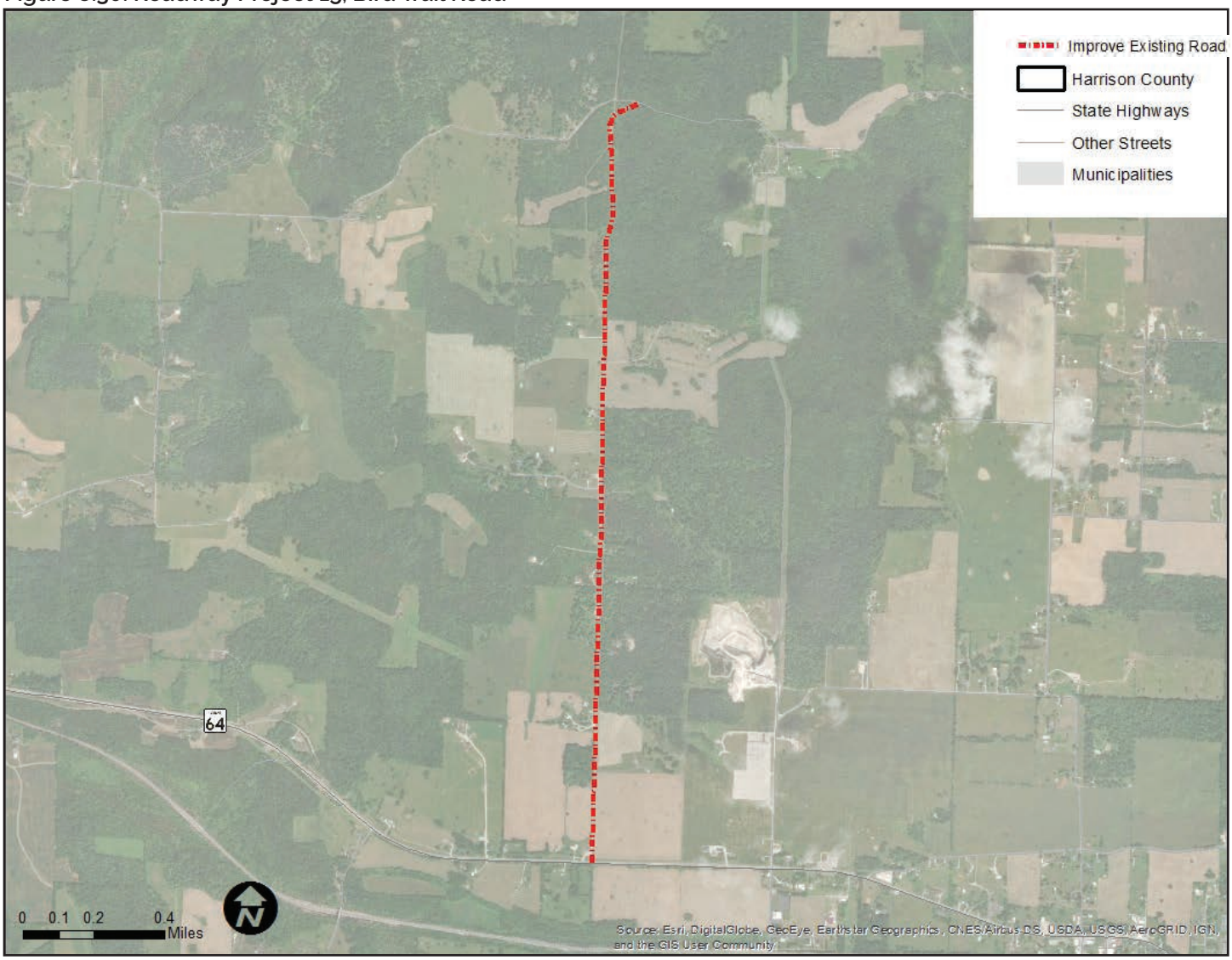
Figure 8.29: Roadway Project 14, Wiseman Road




| | | | |
|---|---|---|---|
| **Priority Level:** | Medium | **Project Impact on Plan Goals:** | Some |
| **Project Cost Estimate:** | $1,965,600.00 | **Goals Impacted:** | Safety<br>Connectivity<br>Operations and Maintenance |
| **Project Length:** | 11,891 ft. | | |
| **Lane Width:** | 10 ft. | | |

## Project No. 15: Bird Trail Road

Figure 8.30: Roadway Project 15, Bird Trail Road




| | | | |
|---|---|---|---|
| **Priority Level:** | Low | **Project Impact on Plan Goals:** | Some |
| **Project Cost Estimate:** | $1,734,000.00 | **Goals Impacted:** | Safety<br>Operations and Maintenance<br>Connectivity |
| **Project Length:** | 11,650 ft. | | |
| **Lane Width:** | 9 ft. | | |

## Project No. 16: Bradford Road

Figure 8.31: Roadway Project 16, Bradford Road


**Priority Level:** Low

**Project Cost Estimate:** $3,111,600.00

**Project Length:** 18,819 ft.

**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:** Safety
Operations and Maintenance
Reslience and Reliability

## Project No. 17: Buck Creek Ridge Road

Figure 8.32: Roadway Project 17, Buck Creek Ridge Road


**Priority Level:** Low

**Project Cost Estimate:** $816,000

**Project Length:** 6,165 ft.

**Lane Width:** 8 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:**
Operations and Maintenance
Connectivity
Safety

## Project No. 18: Crawford Road

Figure 8.33: Roadway Project 18, Crawford Road


**Priority Level:** Low

**Project Cost Estimate:** $1,564,800.00

**Project Length:** 9,465 ft.

**Lane Width:** 10 ft.

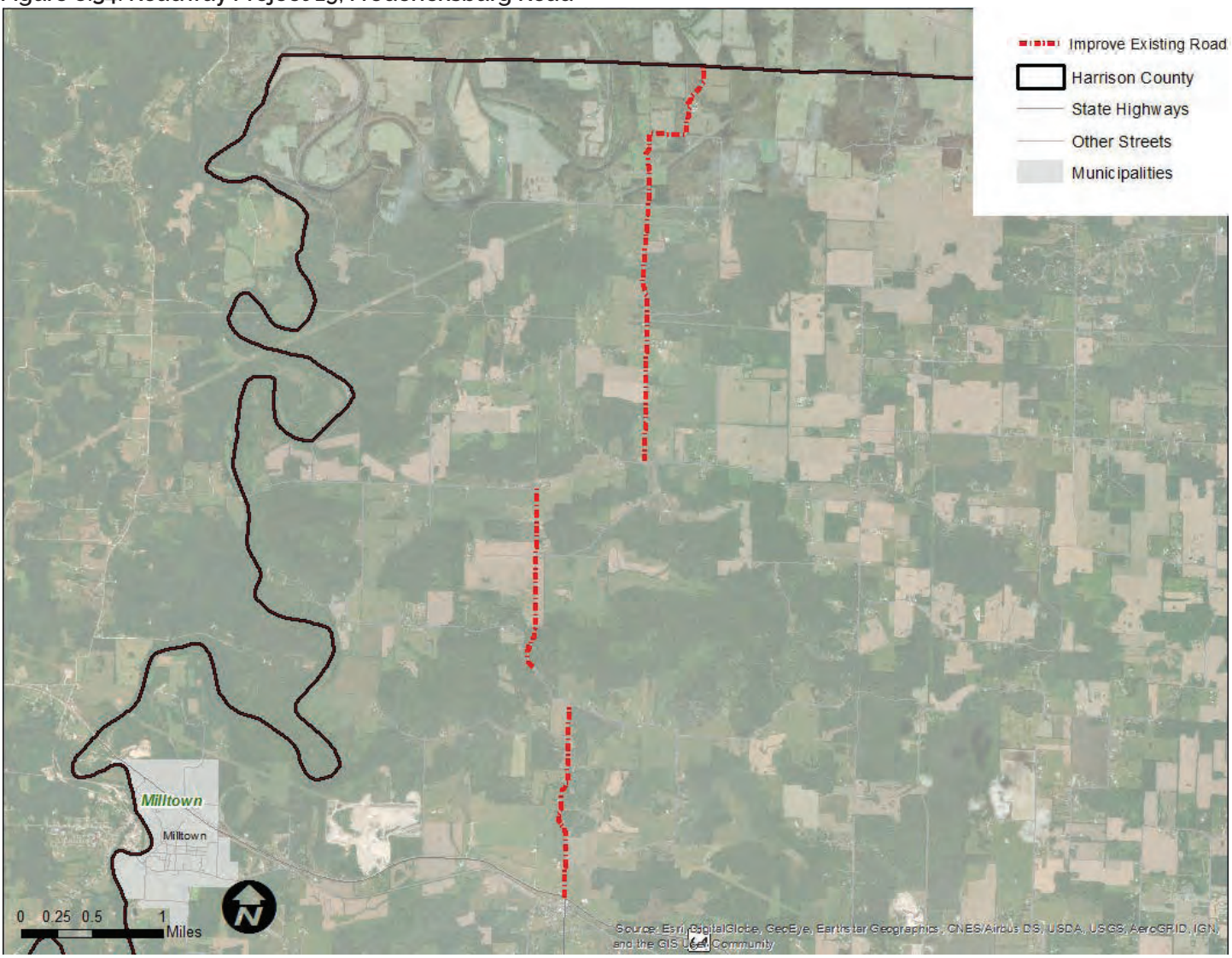
**Project Impact on Plan Goals:** Some

**Goals Impacted:**

Operations and Maintenance
Connectivity
Safety

## Project No. 19: Fredericksburg Road

Figure 8.34: Roadway Project 19, Fredericksburg Road




| | | | |
|---|---|---|---|
| **Priority Level:** | Low | **Project Impact on Plan Goals:** | Significant |
| **Project Cost Estimate:** | $1,214,400.00 | **Goals Impacted:** | Operations and Maintenance |
| **Project Length:** | 7,345 ft. | | Accessibility |
| | | | Safety |
| **Lane Width:** | 10 ft. | | Connectivity |

# Project No. 20: Milltown Frenchtown Road

Figure 8.35: Roadway Project 20, Milltown Frenchtown Road


**Priority Level:** Low

**Project Cost Estimate:** $2,601,600.00

**Project Length:** 15,737 ft.

**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Significant

**Goals Impacted:** Safety
Operations and Maintenance
Connectivity
Accessibility

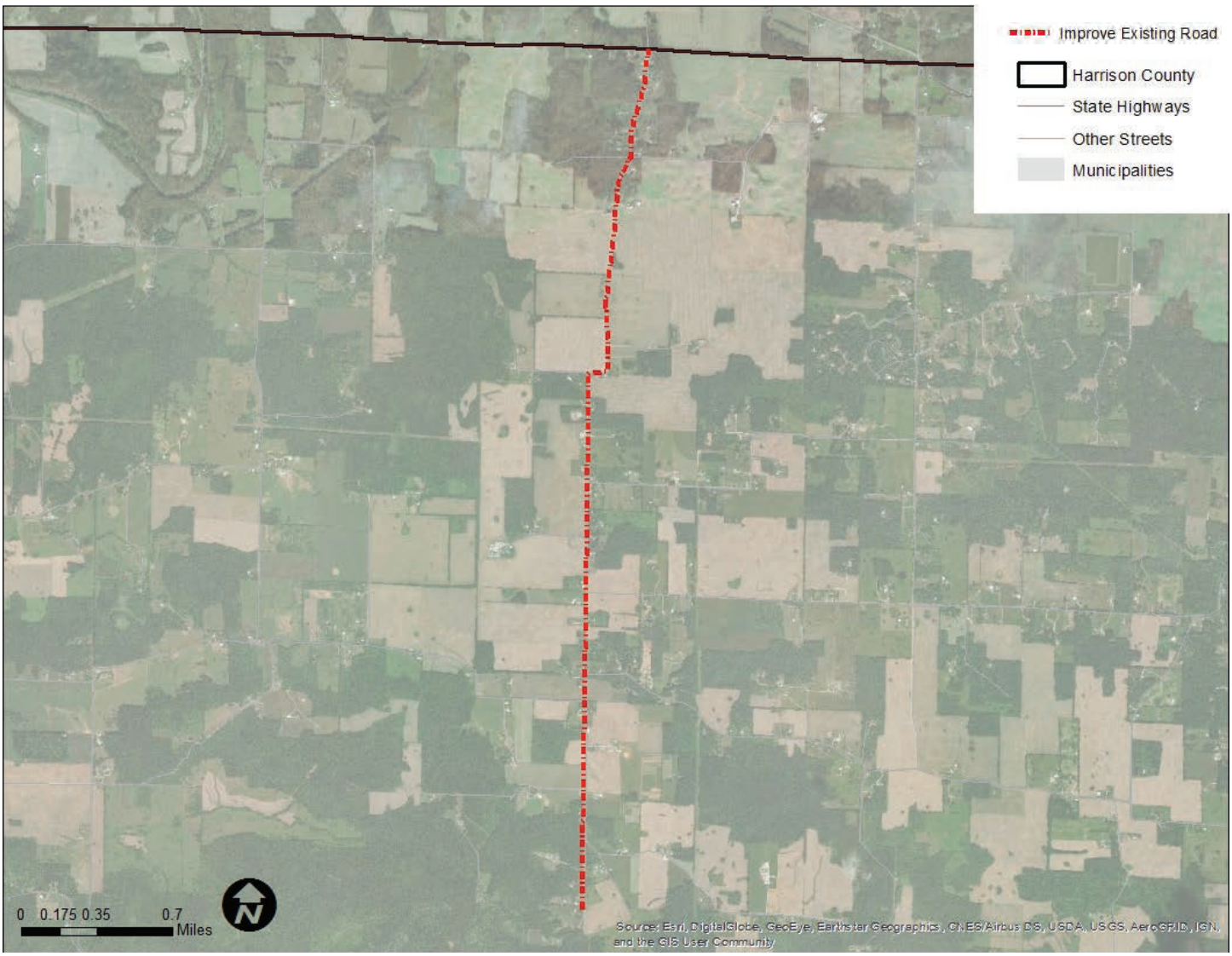
## Project No. 21: New Cut Road

Figure 8.36: Roadway Project 21, New Cut Road


| | | | |
|---|---|---|---|
| **Priority Level:** | Low | **Project Impact on Plan Goals:** | Little |
| **Project Cost Estimate:** | $405,600.00 | **Goals Impacted:** | Operations and Maintenance |
| **Project Length:** | 2,719 ft. | | Connectivity |
| **Lane Width:** | 9 ft. | | |

## Project No. 22: North Road

Figure 8.37: Roadway Project 22, North Road




**Priority Level:** Low

**Project Cost Estimate:** $3,577,200.00

**Project Length:** 21,640 ft.

**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:** Safety
Operations and Maintenance
Connectivity

## Project No. 23: School Lane Road

Figure 8.38: Roadway Project 23, School Lane Road


**Priority Level:** Low

**Project Cost Estimate:** $820,800.00

**Project Length:** 4,963 ft.

**Lane Width:** 10 ft.

**Project Impact on Plan Goals:** Some

**Goals Impacted:**

Operations and Maintenance
Safety
Connectivity

***Enhancements***

Enhancements are projects that add value to the transportation system. They are not the same as roadway projects, but may be constructed as part of a roadway project. Examples of enhancements include but are not limited to:

- Trails for non-motorized transportation;
- Sidewalks;
- Transit stops; and
- Landscaping, street furniture, street lighting, and public art.

**Figure 8.6** illustates the locations for all projects identified as enhancement priorities. **Table 8.11** presents the planning-level estimated costs for the enhancement projects identified in Harrison County over the plan period. Project numbers are for identification purposes only and do not reflect priority order. All potential projects not listed as priority but identified through the planning process for consideration are included the in **Appendix G** as the illustrative projects list.

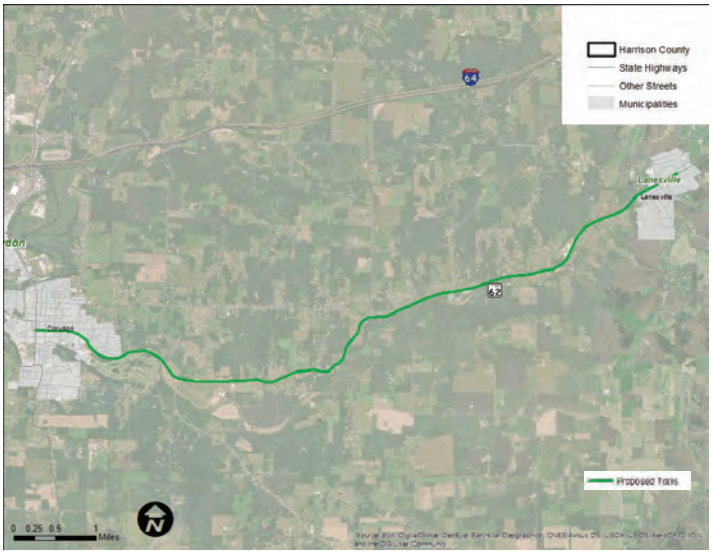
**Table 8.11: Enhancement Projects**

| No. | Priority Level | Project Name | Project Type | Estimated Costs |
|---|---|---|---|---|
| 1 | High | Park-and-Ride Lanesville | Enhancement | $ 1,020,000.00 |
| 2 | Medium | Park-and-Ride Corydon | Enhancement | $ 1,020,000.00 |
| 3 | Medium | Trail to Lanesville | Enhancement | $ 5,754,000.00 |
| 4 | Medium | Trail to Harrison Crawford Park | Enhancement | $ 5,878,100.00 |

Figure 8.39: Enhancement Projects

## Project No. 1: Park and Ride Lanesville

Figure 8.40: Roadway Project 23, School Lane Road




| | |
|---|---|
| **Priority Level:** | High |
| **Project Cost Estimate:** | $1,020,000.00 |
| **Project Impact on Plan Goals:** | Major |
| **Goals Impacted:** | Accessibility<br>Economy<br>Connectivty<br>Environment<br>Safety |

## Project No. 2: Park and Ride Corydon

Figure 8.41: Roadway Project 23, School Lane Road


| | |
|---|---|
| **Priority Level:** | Medium |
| **Project Cost Estimate:** | $1,020,000.00 |
| **Project Impact on Plan Goals:** | Major |
| **Goals Impacted:** | Accessibility<br>Economy<br>Connectivty<br>Environment<br>Safety |

## Project No. 3: Shared Use Path to Lanesville

| | |
|---|---|
| **Priority Level:** | Medium |
| **Project Cost Estimate:** | $5,754,000.00 |
| **Project Length:** | 47,696 ft. |
| **Project Impact on Plan Goals:** | Significant |
| **Goals Impacted:** | Travel and Tourism<br>Environment<br>Connectivty<br>Accessibility |

## Project No. 4: Shared Use Path to Harrison Crawford Park

| | |
|---|---|
| **Priority Level:** | Low |
| **Project Cost Estimate:** | $5,878,100.00 |
| **Project Length:** | 47,590 ft. |
| **Project Impact on Plan Goals:** | Significant |
| **Goals Impacted:** | Travel and Tourism<br>Environment<br>Connectivty<br>Accessibility |

## RELEVANT CONCLUSIONS

- Harrison County is expected to receive additional funds from the recently established gasoline tax. However, due to lack of historical trends the amount of revenue from this source is unknown.
- Harrison County will continue to be eligible to submit grant applications for federal programs including Highway Safety Improvement Program and National Highway Performance Program.
- Harrison County can collect additional revenue through Wheel Tax and Excise Surtax. Indiana Local Technical Assistance Program estimated that maximum revenue from these taxes for Harrison County would be approximately $2.7 million per year.
- Public Private Partnerships (PPP) - The private sector, such as developers and business associations, often supports transportation projects through impact fees, right-of-way donations, and cost sharing. Developing public-private partnership could help with financing the transportation projects identified in the long range transportation plan.

# APPENDICIES

## Table 6.1: 2007-2016 Crash Data

| | *Total Crashes* | *% Crashes* | *Statewide Rural County Average* | *Number of Crashes per Year* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | *2007* | *2008* | *2009* | *2010* | *2011* | *2012* | *2013* | *2014* | *2015* | *2016* |
| Total Crashes | **2985** | - | - | 395 | 325 | 282 | 320 | 271 | 282 | 271 | 298 | 286 | 255 |
| Fatal Crashes | **20** | 0.67% | *0.76%* | 1 | 1 | 0 | 2 | 3 | 2 | 2 | 3 | 5 | 1 |
| Injury Crashes | **566** | 19% | *20%* | 83 | 55 | 62 | 57 | 47 | 53 | 54 | 62 | 49 | 44 |
| Roadway Departure Crashes* | **1550** | 52% | *54%* | 219 | 173 | 142 | 172 | 140 | 131 | 140 | 157 | 141 | 135 |
| Animal Crashes | **844** | 28% | *31%* | 92 | 94 | 74 | 84 | 90 | 101 | 83 | 75 | 80 | 71 |
| Angle/Left-Turn Crashes | **257** | 9% | *8%* | 41 | 19 | 29 | 22 | 20 | 25 | 28 | 24 | 28 | 21 |
| Rear-End Crashes | **108** | 4% | *3%* | 11 | 6 | 15 | 14 | 9 | 10 | 12 | 20 | 4 | 7 |
| Dark Roadway Crashes | **1423** | 48% | *51%* | 191 | 167 | 112 | 153 | 147 | 137 | 142 | 142 | 119 | 113 |
| Wet Roadway Crashes | **798** | 27% | *34%* | 93 | 108 | 73 | 90 | 64 | 62 | 72 | 102 | 75 | 59 |
| Horizontal Curve Crashes | **1132** | 38% | *22%* | 150 | 115 | 109 | 136 | 102 | 99 | 106 | 116 | 109 | 90 |
| Intersection Crashes | **571** | 19% | *18%* | 72 | 43 | 44 | 52 | 37 | 56 | 56 | 53 | 81 | 77 |
| Gravel Roadway Crashes | **47** | 2% | *7%* | 8 | 10 | 9 | 3 | 5 | 2 | 5 | 1 | 3 | 1 |

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

## APPENDIX B: Harrison County SWOT Analysis

The goals and objectives for Harrison County were developed based on regional FAST Act priorities, INDOT transportation policy factors, extensive stakeholder engagement and input received during public meetings. A SWOT (Strengths, Weaknesses, Opportunities, & Threats) exercise was performed during the first public workshop to help highlight the positive and negative factors impacting the existing and future transportation infrastructure in the County. The four elements explored as part of the SWOT analysis include:

- *Strengths* – characteristics of Harrison County that give it an advantage over other, similarly sized counties in the country.
- *Weaknesses* – characteristics of Harrison County that put it at a disadvantage relative to other similarly sized counties in the country.
- *Opportunities* – either elements of Harrison County which can be exploited to be an advantage for the County, or elements that are currently underutilized within the County.
- *Threats* – elements of the transportation system or growth trends that could potentially cause problems for the County over the next 25 years.


<u>Strengths</u>

1. Proximity/Access to I-64
2. Proximity to Louisville International Airport, which contains a major UPS hub
3. Proximity/Access to Ohio River
4. Good primary (state facilities) and secondary roads (primary thoroughfares, quality county roads)
5. Maintenance of county roads is good
6. Traffic signalization is good (state-managed)
7. Good high-speed internet in portions of the county (allows for working from home)
8. Quality Veteran's Service Program (transportation)

9. Trail system in local parks is good – Hayswood, South Harrison, etc.
10. Congestion is not yet a problem

Weaknesses

1. Public awareness of public transportation Services (transit) is not where it needs to be
2. Still many areas in county that lack high-speed internet
3. County roads are narrow
4. Underground utilities in some areas pose financial challenge to widen roads
5. Limited to no county-owned right-of-way along most county roads increases cost to road improvement projects
6. Most county roads have no shoulders
7. Roadside drainage is poor for many county roads
8. There are multiple dangerous intersections throughout the county primarily due to site distance challenges (curves, hills, foliage encroachment) - in some cases warning signs may help
9. Only one I-64 Exit serving Corydon
10. No direct access to hospital from I-64
11. There is a lack of housing in county, especially affordable housing
12. Lack of needed infrastructure to promote development, especially sanitary sewer
13. There has been a lack of adequate promotion of smart growth areas to support population growth patterns in the county (county has doubled in size since 1970) – areas proximate to existing infrastructure to reduce financial burden of extending infrastructure (water, sewer, electric and telecommunications)
14. No designated bicycle/pedestrian facilities outside of the towns
15. There are no designated Ride Share parking areas – areas where commuters can park and carpool as well as public transportation can pick up and drop off workers
16. Narrow roads with tree cover pose challenges to transporting and driving farm equipment in many parts of the county
17. Limited bridge access to Kentucky
18. Lack of railroad access across the Ohio River
19. Traffic flow in and out of schools can be challenging

Opportunities (Project Opportunities)

1. Narrow county roads need to be widened to have a minimum 24’ road bed with 22’ for driving lanes – affords a 1’ shoulder on both directions of travel
    a. Primary east/west and north/south routes that need widened
        i. Lake Road
        ii. Wiseman Road
        iii. Pumping Station Road
        iv. Whiskey Run Road
        v. Pfrimmer’s Chapel Road
        vi. St. John’s Church Road
        vii. Elizabeth-New Middleton Road
        viii. Corydon Ridge Road

b. SR 62 needs to be widened from Lanesville to Corydon, including the incorporation of multi-use trail for bicycle and pedestrian usage

2. Safety Concern Roads
    a. Federal Drive and SR 135
    b. Lickford Bridge Road to New Amsterdam
    c. County roads and access to schools for bus and teenage drivers – Heidelberg Road
    d. Flooding – backwater, high volume and velocity flood areas and sink hole concerns
        i. New Cut Road
        ii. Kings Lane
        iii. Apple Lane
        iv. Old Dam 43 Road
        v. New Middletown Road
        vi. Fiords at Buck Creek Valley, Alben Ford Road, and Smith Campground Road
    e. Doolittle Hill Road – steep, dangerous road – GPS navigation systems will route trucks onto road
3. Growth and Development
    a. Additional Corydon interchange needed
    b. Improved east/west corridor in southern part of the county – provides better access to and from SR 135 – Meade County to south, Corydon and beyond to north
    c. Need a Regional Airport
    d. Research Boulevard extension (loop)
    e. Broadband enhancement needed, especially to support remote working opportunities
    f. Better access to Elizabeth
    g. Need co-working spaces to reduce the amount of commuting out of county – incubator space too
    h. Consider new Ohio River bridge connecting to I-265 (Gene Snyder) in Kentucky
    i. Consider railroad bridge crossing over the Ohio River – commuter rail
    j. Improve accessibility throughout county for persons with disabilities
4. Tourism
    a. Improve Scout Mountain Road (winery)
    b. Need a River Harbor to enhance use of river for commerce, recreation, and tourism (ancillary business opportunities)
        i. Near casino – may have challenges
        ii. Near Maukport
        iii. Needs to be a port facility with rail access too

Threats

1. Closure of the casino.
2. Loss of additional revenue streams
3. Flooding and extreme weather

# Appendix C – Public Participation & Stakeholder Engagement

The Harrison County long-range planning process involved an extensive stakeholder and public outreach effort, resulting in a large number of spoken and written comments from the public and stakeholders. Two public workshops were conducted in the County to help develop goals and objectives as well as comment on proposed transportation alternatives. An online public survey was also conducted to receive feedback on transportation alternatives and to provide additional transportation issues within the County. Finally, three meetings were conducted with the Harrison County LRTP Steering Committee, a group made up of elected officials, business owners, and strategic stakeholders, to provide guidance on the development of all facets of the LRTP.

## Steering Committee Meeting 1

Harrison County Government Center
April 18th, 2018, 6:00 p.m. to 8:00 p.m.

The first steering committee meeting included activities that are typically performed during "kick-off" meetings, including reviewing the scope of work , an overview of what an LRTP is and how it will be used, gain general knowledge of the County and the transportation issues it faces, and to develop an initial plan for stakeholder and public engagement.

Lochmueller Group led a discussion about what was included in the scope of work, which included researching existing conditions, the development of goals and objectives, the development of future year socioeconomic data, development of a financially-constrained transportation plan, and the production of a final report.

Last, there was a group discussion regarding existing conditions of the transportation system in the County. Constraints regarding narrow roadways throughout Corydon and the rural areas of the County, congestion near the 1-64 interchange, and the prevalence of trucks on narrow streets were identified as concerns.

## Public Workshop 1

Harrison County Government Center
July 11th, 2016, 6:00 p.m. to 8:00 p.m.

An initial public workshop was conducted to explain what an LRTP is, what the long-range planning process looks like, and to gain public insight on the existing conditions around the County. The workshop began with a brief PowerPoint presentation introducing Lochmueller Group to the public, and providing a high level overview of what the purpose of an LRTP would be. The presentation also explained the steps in the long-range planning process, the project schedule, and how the Harrison County LRTP would fit into state and national transportation planning principles.

After the presentation, an interactive SWOT Analysis was performed (additional details on the SWOT Analysis along with the results are provided in **Appendix A**). The meeting attendants provided comprehensive feedback on what they believed were the major benefits and drawbacks to living and working within Harrison County.

## Steering Committee Meeting 2

Harrison County Government Center
August 22nd, 2018, 6:00 p.m. to 8:00 p.m.

The meeting included a brief update on the progress of the plan and the previous public and stakeholder engagement, after which a handful of assumptions drawn from the SWOT analysis and existing conditions report were presented to the Steering Committee for feedback and validation, including:

- Regional growth from the Louisville Metro, high quality of life, and natural beauty will continue to pressure population growth in Harrison County;
- Narrow streets, dangerous intersections, and frequent flooding are high safety concerns for many residents;
- Limited transit service and few bike/pedestrian options restrict accessibility for residents;
- There is a strong desire for access secondary access I-64 and additional access to Kentucky via a new bridge.
- The County has seen steady growth for nearly a century, however not all areas are growing at the same rate;
- Areas north and south of Corydon with easy access to I-64 have been growing fastest;
- The percent of persons age 65 and over in the county is expected to increase significantly by 2040;
- As the senior population in Harrison County increases, the need for transit and alternative transportation will become essential to ensure sufficient access for the aging population; and,
- Employment in the public administration, service sector, arts, entertainment, and recreation are expected to drive the local economy in 2040.

After the introduction, there were two main goals for the second steering committee meeting: develop future growth profiles for the County; and workshop the draft goals and objectives for the plan. Steering committee members were given large maps of the county and asked to identify community landmarks, assets, obstacles, and development constrains. Using the previously discussed development assumptions and data from the area profile, members of the Steering Committee were asked to distribute indicators on the map where they anticipated residential, commercial, and industrial growth in the future. This exercise resulted residential growth concentrated in existing communities focused on the northern side of I-64, predominately in Corydon, Lanesville, and New Salisbury and along SR 62 between Corydon and Lanesville. Additionally, industrial growth is concentrated along SR 64, the I-64 interchange, and near Mauckport. Commercial growth is indicated at key interchanges along proposed new routes as the intersect SR 135 and SR 64 and in established communities. This exercise became the basis for a later discussion to identify additional potential transportation projects that would best serve anticipated development.

The second goal of the meeting was to workshop draft goals and objectives to be used to guide the LTRP document and project selection. Committee members were presented with the FAST Act's overarching goals, and were given 2 minutes on rotation with each to brainstorm local objectives that would qualify under each category.

## Public Webmapping Exercise

Available from September 24th, 2018 through October 26, 2018

The online webmapping exercise was used to crowdsource new and additional potential transportation projects as well as capture feedback on proposed projects identified by the Steering Committee and staff. Respondents were provided a digital map of Harrison County with the ability to draw routes, place points, submit surveys, and comment on other participants submissions. The newly submitted projects were evaluated by the Harrison County transportation engineer to eliminate submissions that were beyond the scope or jurisdiction of this plan. The remaining projects were combined with the submissions from Steering Committee Meeting 1 and 2.

Results of the webmapping exercise include the following:

- 775 unique log-ins were reported
- 20 road improvements submitted
- 16 new roadways submitted
- 12 new bike trails submitted

## Steering Committee Meeting 3

Harrison County Government Center
December 4, 2018, 6:00 p.m. to 8:00 p.m.

The meeting began with an update on the project's status and the remaining pieces to be completed. As a part of the update, a review of the on-line idea webmapping exercise and its results was provided. Steering Committee members reviewed the submissions and noted any interesting or overlooked opportunities. A number of submissions were located out of Harrison County jurisdiction and were considered but ultimately removed. The combined project list, including projects listed as incomplete from the previous long range transportation plan, those identified through the steering committee meetings, and those submitted through the on-line webmapping exercise, were evaluated by the Steeting Committee and ultimately by the Harrison County Highway Department and culled to a list of approximately 40 priority projects. Projects were then categorized as roadway, enhancement, or maintenance based on the type of construction anticipated.

A primary focus of the meeting was establish and refine goals and objectives. The steering committee members were asked to identify objectives in each of the primary goal categories (Safety and Security, Environment, Economy, etc). They were then asked to determine which objectives to address in the near, mid, and long term.

## On-Line Surveys

### Goals and Objectives

Dec 17, 2018 –Jan 7, 2019
The results of the steering committee exercise compiled and synthesized to be reviewed by the public. The survey was available from Dec. 16 through January 7 and participants were invited to provide feedback on the current condition of their infrastructure and prioritize goals and objectives of the plan. The top three goal priorities were identified as Safety and Security, Accessibility and Mobility Resilient Economy, and.

## Project Prioritization

From Jan 21, 2019 to Jan 31, 2019 the Steering Committee was instructed to evaluate each priority project based on its impact on the plans goals and its significance to the County (high, medium, low). From Jan 31, to Feb 11, 2019, a modified project prioritization survey was conducted with the general public which included only the evaluation of significance to the County (high, medium, low). 124 resident participated. The final results are reflected in the final project prioritization list. Projects were ranked on priority level and evaluated based on their impact on the plan's goals and objectives. The results goal impact assessment listed with each project and highlight the specific goals each individual project addressed.

## Public Open House

Harrison County Government Center
February 21, 2019, 5:00 p.m. to 7:30 p.m.

A second public open house was hosted to review the goals and objectives and provide feedback on the proposed project prioritization list. Approximately 20 members of the public attended the meeting and provided feedback. The results were the modification of a number of routes, a removal of one project, and request that additional consideration be made to serve specific goals. The meeting included a presentation on the progress on the LRTP thus far. Participants were invited to add comments to the maps and presentation board and share additional feedback. Overall, support was highest for for the Bridge to Kentucky and the Watson Road Connector projects. A special note was made to explain the ranking that resulted from public and Steering Committee feedback. One project in particular, Research Boulevard, was a high priority for the committee but a low priority for the public; therefore, the overall priority level that resulted was medium.

# HARRISON COUNTY HIGHWAY DEPARTMENT

# Local Road Safety Plan

**HARRISON COUNTY BOARD OF COMMISSIONERS**

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

**HARRISON COUNTY HIGHWAY DEPARTMENT**

Kevin Russel, PE, Highway Director / County Engineer

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## SECTION 5 ACTION PLAN TO IMPACT EMPHASIS AREAS

### 5.1 Action Items

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

### 5.2 Short Term Action Items

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

23. Expanded use of roadway striping including centerline striping but especially edge line striping on county roads. Consider purchasing a striping truck to maximize our impact in this area by performing this work in-house.
24. Expanded use of pavement markings such as stop bars on county roads.
25. Expanded use of delineators, chevrons, and other devices to bring attention to horizontal curves.
26. Expanded use of delineators and/or other markings to improve visibility of guardrail.
27. Continued and expanded use of advisory speed plaques with horizontal curve warning signs.
28. Continued use of transverse rumble strips in appropriate situations such as stop ahead signs, school zones, and crosswalks.
29. Continued maintenance of sign retroreflectivity through our existing sign inventory and management program.
30. Coordinate with Sherriff's Dept to ensure accurate crash reporting.
31. Ensure crack sealing, traffic plates, and other maintenance and construction related activities are completed in ways that take motorcycle safety into account.

## 5.3 Medium Term Action Items

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

## 5.4 Long Term Action Items

1. Consider a project to improve the intersection of Scout Mountain Rd and SR 62.
2. Consider a project to improve the intersection of German Ridge Rd and SR 335.
3. Identify one location for a roundabout pilot project.
4. Develop a systemic approach for the improvement of intersection sight triangles. Include the acquisition of easements to do so if necessary.
5. Perform a systemic review of all intersections to determine which might be appropriate for consideration of lighting.
6. Perform a systemic review of all intersections to determine those with marginal or insufficient sight distances.

7. Continue efforts to update traffic counts on county roads.
8. Formalize our cumulative efforts through the creation and/or adoption of standard practices related to roadway safety.
9. Consider the use of larger than standard warning signs in high priority locations.

## 5.5 Targeted Emphasis Areas and Action Item Summary Table

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

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

# APPENDIX E: Project Estimates

| Project Number | RoadName | Category | Length in Feet | Lane Width | Proposed Roadway Section | No. Lanes (Exist) |
|---|---|---|---|---|---|---|
| 1 | Scout Mountain Rd | New Construction/Reconstruction | 1,521 | | Rural 2 Lane | 2 |
| 2 | West Bypass | New Construction/Reconstruction | 16,602 | | Arterial/Urban 2 Lane | 2 |
| 3 | Quarry Rd 337 to 135 | New Construction/Reconstruction | 10,727 | | Arterial/Urban 2 Lane | 2 |
| 4 | Schwartz Road Extension | New Construction/Reconstruction | 5,654 | | Arterial/Urban 2 Lane | 2 |
| 5 | Tysons Acccess Rd | New Construction/Reconstruction | 308 | | Arterial/Urban 2 Lane | - |
| 6 | Lake Road Extension | New Construction/Reconstruction | 13,355 | | 2 Lane (Rough Terrain) | 2 |
| 7 | Watson Road (337 to Delmer) | New Construction/Reconstruction | 13,750 | | Arterial/Urban 2 Lane | 2 |
| 8 | Research Blvd | New Construction/Reconstruction | 2,937 | | 3 Lane | - |
| 9 | Doolittle Hill Rd | New Construction/Reconstruction | 7,071 | | 2 Lane (Rough Terrain) | 2 |
| 10 | New Ohio River Bridge | New Construction/Reconstruction | 5,084 | | 2 Lane | - |
| 1 | Milltown Frenchtown | Existing Road/Maintenance | 15,737 | 10 | | 2 |
| 2 | Fredericksburg Rd | Existing Road/Maintenance | 7,345 | 10 | | 2 |
| 3 | North Road | Existing Road/Maintenance | 21,640 | 10 | | 2 |
| 4 | Bird Trail Road | Existing Road/Maintenance | 11,650 | 9 | | 2 |
| 5 | Corydon Ramsey Rd | Existing Road/Maintenance | 17,386 | 10 | | 2 |
| 6 | Buffalo Trace Rd | Existing Road/Maintenance | 7,933 | 10 | | 2 |
| 7 | Crawford Rd | Existing Road/Maintenance | 9,465 | 10 | | 2 |
| 8 | Whiskey Run Rd | Existing Road/Maintenance | 45,978 | 10 | | 2 |
| 9 | School Ln | Existing Road/Maintenance | 4,963 | 10 | | 2 |
| 10 | Bradford Rd | Existing Road/Maintenance | 18,819 | 10 | | 2 |
| 11 | New Cut Rd | Existing Road/Maintenance | 2,719 | 9 | | 2 |
| 12 | Fairview Church to 135 | Existing Road/Maintenance | 20,449 | 9 | | 2 |
| 13 | Corydon Ridge Rd | Existing Road/Maintenance | 38,769 | 10 | | 2 |
| 14 | Lazy Creek Rd | Existing Road/Maintenance | 13,779 | 9 | | 2 |
| 15 | New Middletown Rd | Existing Road/Maintenance | 14,011 | 11 | | 2 |
| 16 | Buck Creek Ridge Road | Existing Road/Maintenance | 6,165 | 8 | | 2 |
| 17 | Quarry Rd 337 to Geths. | Existing Road/Maintenance | 3,176 | 11 | | 2 |
| 18 | Country Club Road | Existing Road/Maintenance | 9,192 | 11 | | 2 |
| 19 | Shiloh Rd/Fogel Rd | Existing Road/Maintenance | 26,891 | 11 | | 2 |
| 20 | Wiseman Rd | Existing Road/Maintenance | 11,891 | 10 | | 2 |
| 21 | Lake Road (337 to 135) | Existing Road/Maintenance | 18,460 | 11 | | 2 |
| 22 | Watson Road (Delmer to 135) | Existing Road/Maintenance | 11,750 | 10 | | 2 |
| 23 | Pumping Station Rd | Existing Road/Maintenance | 16,570 | 10 | | 2 |
| 24 | New Middletown-Elizabeth | Existing Road/Maintenance | 26,171 | 10 | | 2 |
| 1 | Trail to Harrison Crawford Park | Trail | 47,590 | | | |
| 2 | Trail to Lanesville | Trail | 47,696 | | | |
| 3 | Park and Ride Lanesville | Park and Ride Lot | - | | | |
| 4 | Park and Ride Corydon | Park and Ride Lot | - | | | |
| **TOTAL =** | | | | | | |

Assumptions:

| Item | Construction Costs | |
|---|---|---|
| Rural 2 Lane, New or Reconstruct | $1,300,000 | per mile |
| Arterial/Urban 2 Lane, New or Reconstruct | $1,700,000 | per mile |
| 2 Lane, New or Reconstruct (Rough Terrain) | $2,400,000 | per mile |
| 3 Lane, New or Reconstruct | $2,600,000 | per mile |
| Resurfacing Costs | $400,000 | Per 11' Lane-Mile |
| Shared-Use Path (One Side of Street) | $450,000 | per mile |
| Shared-Use Path (Separate Alignment) | $550,000 | per mile |
| Park and Ride | $8,000 | Per Parking Space |
| Right of way cost | $40,000 | Per acre |

| No. Lanes (Prop) | Construction Costs | Env./Eng. Costs | Right-Of-Way Costs | Const. Eng./Insp. Costs | Total Cost | Assumptions |
|---|---|---|---|---|---|---|
| 2 | $375,000 | $45,000 | $28,000 | $56,300 | **$504,300** | |
| 2 | $25,345,000 | $2,534,500 | $305,000 | $2,534,500 | **$30,719,000** | $20 million for new interchange |
| 2 | $3,454,000 | $414,500 | $197,100 | $518,100 | **$4,583,700** | |
| 2 | $1,821,000 | $218,600 | $103,900 | $273,200 | **$2,416,700** | |
| 2 | $1,085,000 | $162,800 | $17,000 | $162,800 | **$1,427,600** | $200/SF bridge cost |
| 2 | $6,071,000 | $728,600 | $245,300 | $607,100 | **$7,652,000** | |
| 2 | $4,428,000 | $442,800 | $252,600 | $442,800 | **$5,566,200** | |
| 3 | $1,447,000 | $173,700 | $215,800 | $217,100 | **$2,053,600** | |
| 2 | $3,215,000 | $385,800 | $129,900 | $482,300 | **$4,213,000** | |
| 2 | $300,000,000 | $30,000,000 | $933,800 | $15,000,000 | **$345,933,800** | |
| 2 | $2,168,000 | $216,800 | | $216,800 | **$2,601,600** | |
| 2 | $1,012,000 | $101,200 | | $101,200 | **$1,214,400** | |
| 2 | $2,981,000 | $298,100 | | $298,100 | **$3,577,200** | |
| 2 | $1,445,000 | $144,500 | | $144,500 | **$1,734,000** | |
| 2 | $2,395,000 | $239,500 | | $239,500 | **$2,874,000** | |
| 2 | $1,093,000 | $109,300 | | $109,300 | **$1,311,600** | |
| 2 | $1,304,000 | $130,400 | | $130,400 | **$1,564,800** | |
| 2 | $6,334,000 | $633,400 | | $633,400 | **$7,600,800** | |
| 2 | $684,000 | $68,400 | | $68,400 | **$820,800** | |
| 2 | $2,593,000 | $259,300 | | $259,300 | **$3,111,600** | |
| 2 | $338,000 | $33,800 | | $33,800 | **$405,600** | |
| 2 | $2,536,000 | $253,600 | | $253,600 | **$3,043,200** | |
| 2 | $5,341,000 | $534,100 | | $534,100 | **$6,409,200** | |
| 2 | $1,709,000 | $170,900 | | $170,900 | **$2,050,800** | |
| 2 | $2,123,000 | $212,300 | | $212,300 | **$2,547,600** | |
| 2 | $680,000 | $68,000 | | $68,000 | **$816,000** | |
| 2 | $482,000 | $48,200 | | $48,200 | **$578,400** | |
| 2 | $1,393,000 | $139,300 | | $139,300 | **$1,671,600** | |
| 2 | $4,075,000 | $407,500 | | $407,500 | **$4,890,000** | |
| 2 | $1,638,000 | $163,800 | | $163,800 | **$1,965,600** | |
| 2 | $2,797,000 | $279,700 | | $279,700 | **$3,356,400** | |
| 2 | $1,619,000 | $161,900 | | $161,900 | **$1,942,800** | |
| 2 | $2,283,000 | $228,300 | | $228,300 | **$2,739,600** | |
| 2 | $3,605,000 | $360,500 | | $360,500 | **$4,326,000** | |
| | $4,170,000 | $417,000 | $874,100 | $417,000 | **$5,878,100** | |
| | $4,065,000 | $406,500 | $876,000 | $406,500 | **$5,754,000** | |
| | $800,000 | $80,000 | $60,000 | $80,000 | **$1,020,000** | 100 Spaces |
| | $800,000 | $80,000 | $60,000 | $80,000 | **$1,020,000** | 100 Spaces |
| | | | | | **$481,895,600** | |

HARRISON HIGHWAY DEPT. COUNTY

## APPENDIX F: Project Prioritization Matrix

| | Project Name | Category | Steering Comte. Score | Public Score | Average |
|---|---|---|---|---|---|
| 1 | I-64 West Corydon Interchange | New Construction/Reconstruction | 1.73 | 1.5 | 1.615 |
| 2 | Corydon Ramsey Rd | Existing Road/Maintenance | 1.73 | 1.74 | 1.735 |
| 3 | New Middletown-Elizabeth | New Construction/Reconstruction | 1.8 | 1.85 | 1.825 |
| 4 | Quarry Rd 337 to 135 | New Construction/Reconstruction | 1.87 | 1.92 | 1.895 |
| 5 | Park and Ride Lanesville | Park and Ride Lot | 1.67 | 2.15 | 1.91 |
| 6 | Whiskey Run Rd | Existing Road/Maintenance | 1.8 | 2.13 | 1.965 |
| 7 | Tysons Access Rd | New Construction/Reconstruction | 1.8 | 2.18 | 1.99 |
| 8 | Watson Road Connector | New Construction/Reconstruction | 1.8 | 2.2 | 2 |
| 9 | Country Club Road | New Construction/Reconstruction | 2 | 2.05 | 2.025 |
| 10 | New Ohio River Bridge | New Construction/Reconstruction | 2.2 | 1.91 | 2.055 |
| 11 | Quarry Rd 337 to Geths. | New Construction/Reconstruction | 2.07 | 2.07 | 2.07 |
| 12 | Corydon Ridge Rd | Existing Road/Maintenance | 2.4 | 1.75 | 2.075 |
| 1 | New Middletown Rd | Existing Road/Maintenance | 2.13 | 2.09 | 2.11 |
| 2 | Park and Ride Corydon | Park and Ride Lot | 2 | 2.22 | 2.11 |
| 3 | Shiloh Rd/Fogel Rd | New Construction/Reconstruction | 2.2 | 2.1 | 2.15 |
| 4 | Trail to Harrison Crawford Park | Trail | 2.2 | 2.13 | 2.165 |
| 5 | Fairview Church to 135 | Existing Road/Maintenance | 1.8 | 2.54 | 2.17 |
| 6 | Research Blvd | New Construction/Reconstruction | 1.53 | 2.82 | 2.175 |
| 7 | Lake Road Extension | New Construction/Reconstruction | 2.2 | 2.17 | 2.185 |
| 8 | Trail to Lanesville | Trail | 2.07 | 2.33 | 2.2 |
| 9 | Wiseman Rd | New Construction/Reconstruction | 2.2 | 2.34 | 2.27 |
| 10 | Pumping Station Rd | New Construction/Reconstruction | 2.27 | 2.35 | 2.31 |
| 11 | Lazy Creek Rd | Existing Road/Maintenance | 2.13 | 2.57 | 2.35 |
| 12 | Buffalo Trace Rd | Existing Road/Maintenance | 2.4 | 2.31 | 2.355 |
| 1 | Fredericksburg Rd | Existing Road/Maintenance | 2.27 | 2.47 | 2.37 |
| 2 | Milltown Frenchtown | Existing Road/Maintenance | 2.4 | 2.38 | 2.39 |
| 3 | Doolittle Hill Rd | New Construction/Reconstruction | 2.13 | 2.67 | 2.4 |
| 4 | Schwartz Road Extension | New Construction/Reconstruction | 2.33 | 2.59 | 2.46 |
| 5 | Bradford Rd | Existing Road/Maintenance | 2.4 | 2.57 | 2.485 |
| 6 | School Ln | Existing Road/Maintenance | 2.6 | 2.52 | 2.56 |
| 7 | Buck Creek Ridge Road | Existing Road/Maintenance | 2.67 | 2.49 | 2.58 |
| 8 | Scout Mountain Rd | New Construction/Reconstruction | 2.53 | 2.7 | 2.615 |
| 9 | Bird Trail Road | Existing Road/Maintenance | 2.6 | 2.66 | 2.63 |
| 10 | Crawford Rd | Existing Road/Maintenance | 2.53 | 2.73 | 2.63 |
| 11 | New Cut Rd | Existing Road/Maintenance | 2.6 | 2.66 | 2.63 |
| 12 | North Road | Existing Road/Maintenance | 2.73 | 2.55 | 2.64 |

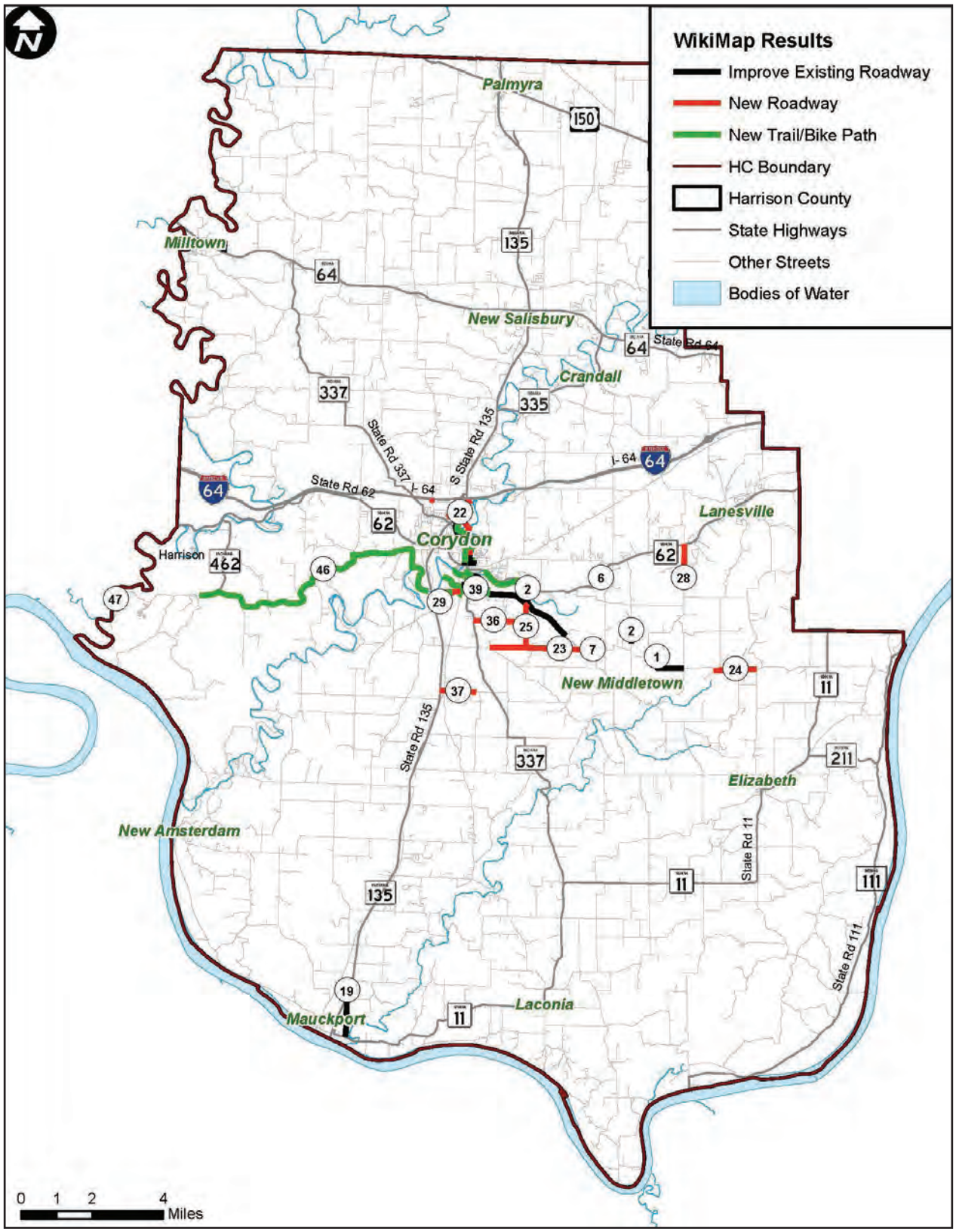
# APPENDIX G: Illustrative Projects Sumissions

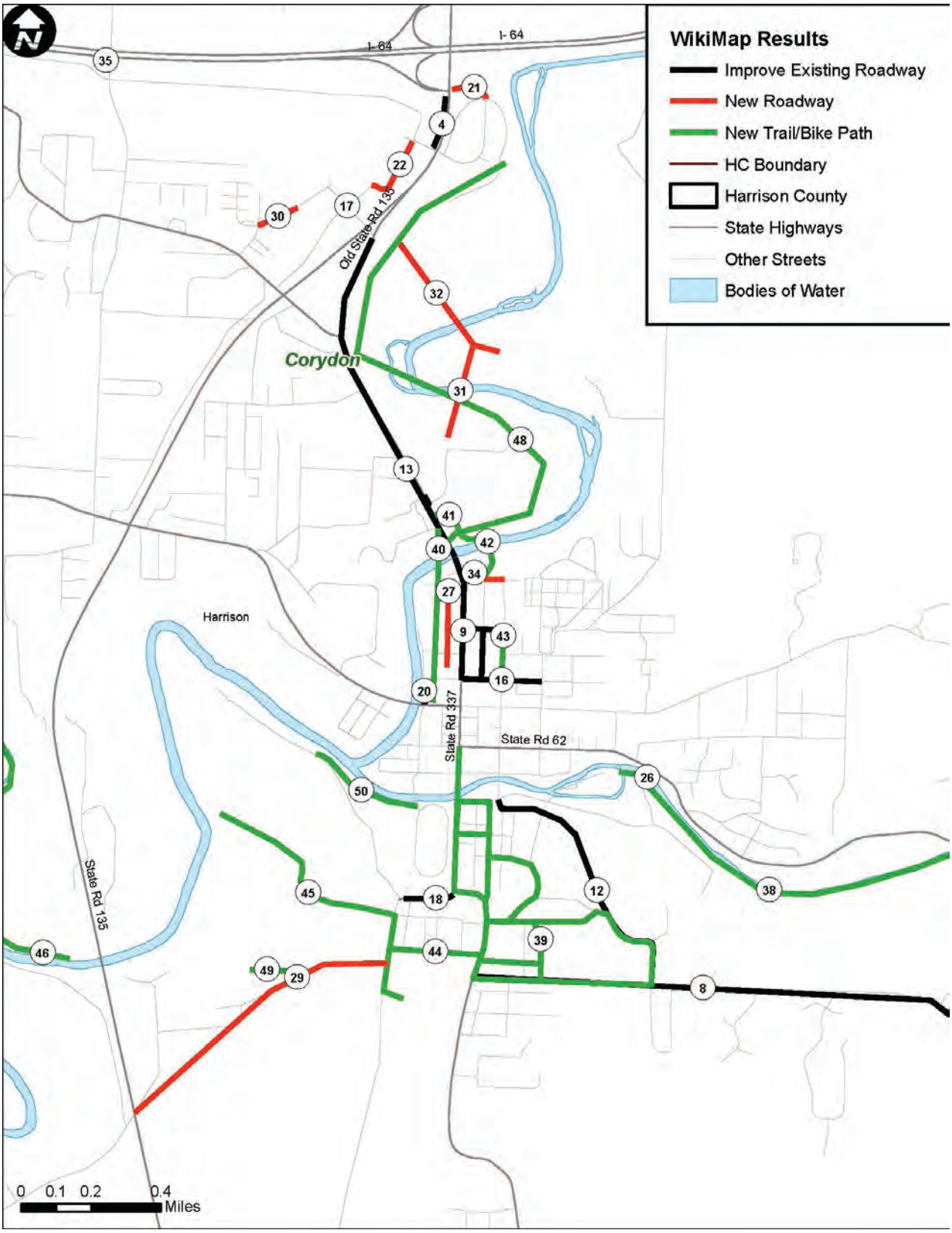
## Public Webmapping Submissions

| Project Number | Project Description | Type of Project |
|---|---|---|
| W1 | Buck Creek Ridge SE | Improve Existing Roadway |
| W2 | New Middletown Rd SE between Locust Point Rd SE and Turley Rd SE | Improve Existing Roadway |
| W2 | Corydon New Middletown Road SE From SR 62 to Montomgery Road SE | Improve Existing Roadway |
| W4 | SR 135 from Landmark Way NE to Interchange | Improve Existing Roadway |
| W5 | Weathers Rd NW | Improve Existing Roadway |
| W6 | SR 62 Rd between Magnolia Dr. NE and Grange Hall Rd | Improve Existing Roadway |
| W7 | Locust Point Road SE from Corydown New Middletown Rd SE to Pfrimmers Chapel Road | Improve Existing Roadway |
| W8 | Country Club Road Leveling, Widening and Straightening. | Improve Existing Roadway |
| W9 | SR 337 from Bridge to W. High St. | Improve Existing Roadway |
| W10 | SR 337 Bridge | Improve Existing Roadway |
| W11 | SR 337 from Hilltop Dr. to Foundation Way NE | Improve Existing Roadway |
| W12 | South Mulberry, Beech Street & Beechmount Widening | Improve Existing Roadway |
| W13 | N. Old Hwy 135 from SR 137 to Bridge | Improve Existing Roadway |
| W14 | Elliot Ave from SR 337 to N. Mulberry St. | Improve Existing Roadway |
| W15 | Farquar Ave | Improve Existing Roadway |
| W16 | E. High Street from SR 337 to N. Maple St. | Improve Existing Roadway |
| W17 | Federal Drive at Edsel Ln. Intersection | Improve Existing Roadway |
| W18 | Old SR 135 from Jacob St to St Rd 337 | Improve Existing Roadway |
| W19 | Loop Circle Rd. SW | Improve Existing Roadway |
| W20 | N. Water Street from W. High Street to SR 62 | Improve Existing Roadway |
| W21 | Connect Landmark Ave to I-64 interchange at SR 135 | New Roadway |
| W22 | Connect Edsel Lane to Landmark Way at Pacer Ct. | New Roadway |
| W23 | Extend Locust Point Rd SE to Smith Hill Rd Extension | New Roadway |

| | | |
|---|---|---|
| W24 | Buck Creek Ridge Rd SE Extension from Spring Way Drive SE to intersection of Schoen Rd | New Roadway |
| W25 | Business S.R. 62 & Business S.T. 337 | New Roadway |
| W26 | Tyson Bridge | New Roadway |
| W27 | NS Road at Elliot Ave West terminus to Cedar Glad (N) and W. High St. (S) | New Roadway |
| W28 | Ferree Rd NE Extension from SR 62 to St. Pete's Chuch Road | New Roadway |
| W29 | New Alternative to Heidelberg Rd SW from SR 135 to Old HWY 135 | New Roadway |
| W30 | Extend Heritage Way NW from Poolside Dr to Concord Ave | New Roadway |
| W31 | Extend Foundary Way across Indian Creek to Brigetta Drive Extension | New Roadway |
| W32 | Brigetta Drive Extension to Federal Drive NW & SR 135 | New Roadway |
| W33 | Extend Sycamore Ln. to Farquar Ave | New Roadway |
| W34 | Extend Cedar Glade Ave to Farquar Ave | New Roadway |
| W35 | I-64 Interchange from Corydon Ramsey Rd NW | New Roadway |
| W36 | Extend Edge Ridge Road to Smith Hill Rd SE | New Roadway |
| W37 | Extend Pleasure Ridge Road to SR 135 | New Roadway |
| W38 | Indian Creek Train from terminus of Streelco Cir to Willow Creek Dr. NE | New Trail/Bike Path |
| W39 | Corydon School Campus to Downtown Corydon Walking/Biking Connector | New Trail/Bike Path |
| W40 | Summit View Drive at SR 337 to Indian Creek | New Trail/Bike Path |
| W41 | Old N. Birdge Rd NE Full length | New Trail/Bike Path |
| W42 | Old N. Birdge Rd NE Full length | New Trail/Bike Path |
| W43 | N. Mulberry St. | New Trail/Bike Path |
| W44 | Loweth Ave(full extent) and down N. Hwy 135 to wooded area | New Trail/Bike Path |
| W45 | Land L. Lane NW to W. Thomas and down to W. Loweth Ave via Old Hey 135 | New Trail/Bike Path |
| W46 | Indiana Creek Trail Connector to State Forest | New Trail/Bike Path |
| W47 | Blue River crossing on Old Forest Road | New Trail/Bike Path |
| W48 | Route Parelle to Old State Road 135 | New Trail/Bike Path |
| W49 | Heidelberg Road SW near Old Hwy 135 toward Indian Creek | New Trail/Bike Path |

| | | |
|---|---|---|
| W50 | Along Indian Creek near Lincoln Hill Road to County Fairgrounds | New Trail/Bike Path |
| W51 | Intersection of SR 62 & SR 337 | Challenge |
| W52 | Roundabout: Pacer Court NW | Opportunity |
| W53 | Intersection of SR 135 and SR 337 | Opportunity |
| W54 | Roundabout: Intersection of Shiloh Road and Old Hwy 135 | Opportunity |
| W55 | Roundabout: Intersection of Shiloh Road and SR 337 | Opportunity |
| W56 | Roundabout: Intersection of Corydon Middletown Road SE and Corydown New Middletown Road SE and Country Club Road SE | Opportunity |
| W57 | Roundabout: Intersection of Proposed New Road Business S.R. 62 & Business S.T. 337 & Smith Hill Rd SE Extension | Opportunity |
| W58 | Cedar Glade Senior Housing | Opportunity |
| W59 | Add Signal: Hilltop Drive and SR 337 | Opportunity |
| W60 | Southbound Only Entrance: SR 135 and Landmark Way NE | Opportunity |
| W61 | Add Signal: Cedar Glad Ave. and SR 337 | Opportunity |
| W62 | Add Yield and Turn Lane: Country Club Road SE and SR 337 | Opportunity |
| W63 | Add turn lane on SR 135 and Shiloh Road | Opportunity |

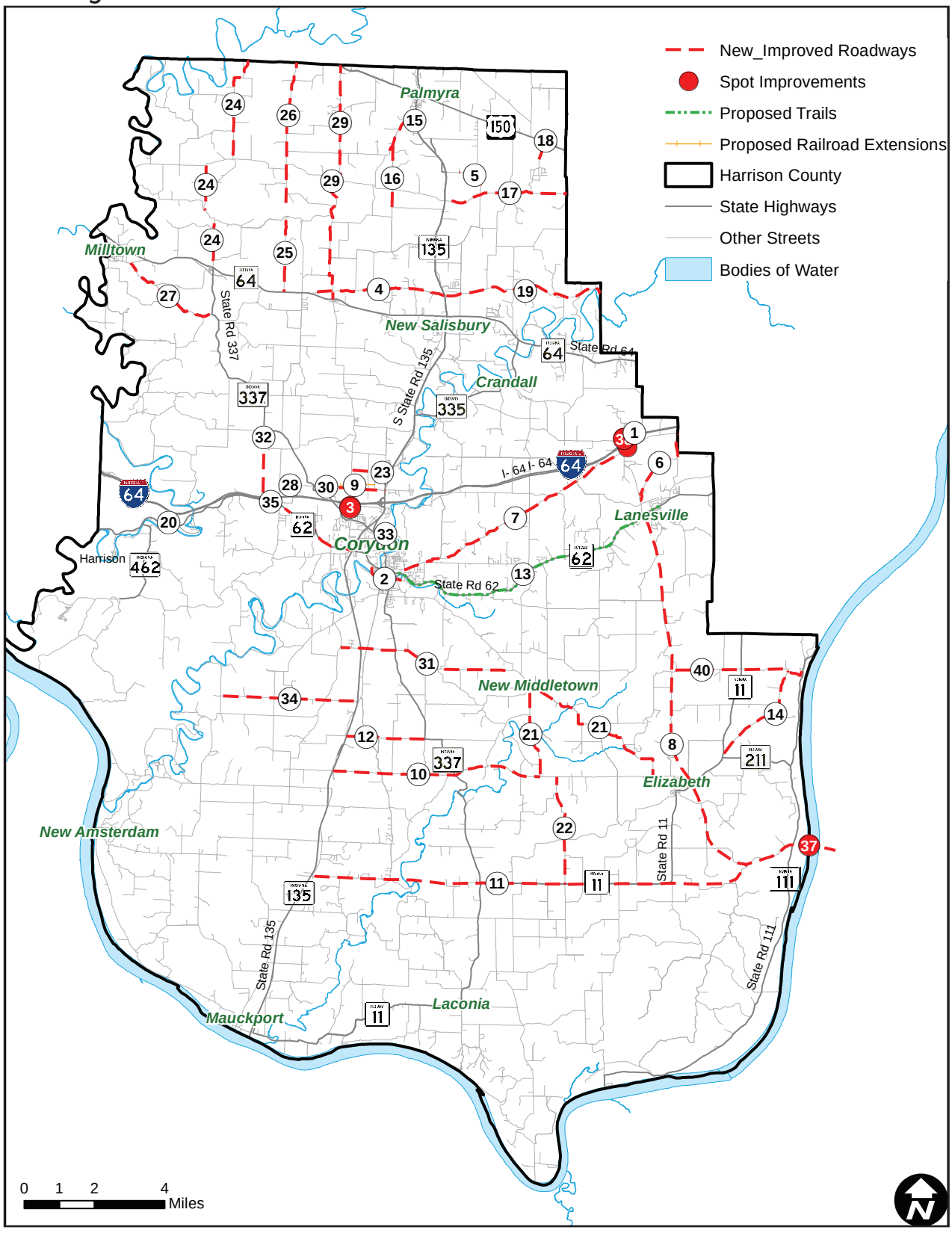

WikiMap Results
Improve Existing Roadway
New Roadway
New Trail/Bike Path
HC Boundary
Harrison County
State Highways
Other Streets
Bodies of Water
Palmyra
Milltown
New Salisbury
Crandall
Lanesville
Corydon
Harrison
New Middletown
New Amsterdam
Elizabeth
Laconia
Mauckport
State Rd 64
State Rd 62
State Rd 337
S State Rd 135
State Rd 135
State Rd 11
State Rd 111
I- 64
0 1 2 4
Miles


WikiMap Results
Improve Existing Roadway
New Roadway
New Trail/Bike Path
HC Boundary
Harrison County
State Highways
Other Streets
Bodies of Water
I-64
I-64
Old State Rd 135
Corydon
Harrison
State Rd 337
State Rd 62
State Rd 135
0 0.1 0.2 0.4
Miles

## Steering Committee Submissions

| Project No. | Project Name | Project Type |
|---|---|---|
| 1 | Research Blvd | Roadway |
| 2 | Tysons Acccess Rd | New Roadway |
| 3 | New Signal | Enhancement |
| 4 | Whiskey Run Rd | Roadway |
| 5 | School Ln | Roadway |
| 6 | Lazy Creek Rd | Roadway |
| 7 | Corydon Ridge Rd | Roadway |
| 8 | South Commerce Corridor | New Roadway |
| 9 | Rail Spur | Railroad |
| 10 | South County EW Connector | New Roadway |
| 11 | Watson Road Connector | New Roadway |
| 12 | Wiseman Rd | Roadway |
| 13 | Corydon to Lanesville Trail | Trail |
| 14 | Doolittle Hill Rd | Roadway |
| 15 | Buffalo Trace Rd | Roadway |
| 16 | Crawford Rd | Roadway |
| 17 | Bradford Rd | Roadway |
| 18 | New Cut Rd | Roadway |
| 19 | Project Removed | ---- |
| 20 | Scout Mountain Rd | Roadway |
| 21 | New Middletown Rd | Roadway |
| 21 | New Middletown-Elizabeth | Roadway |
| 22 | Pumping Station Rd | Roadway |
| 23 | Schwartz Road Extension | New Roadway |
| 24 | Fredericksburg Rd | Roadway |
| 25 | Bird Trail Road | Roadway |
| 26 | North Road | Roadway |
| 27 | Milltown Frenchtown | Roadway |
| 28 | Quarry Rd 337 to Geths. | New Roadway |
| 29 | Corydon Ramsey Rd | Roadway |
| 30 | Quarry Rd 337 to 135 | Roadway |
| 31 | Shiloh Rd/Fogel Rd | Roadway |
| 32 | 337 Interchange | New Roadway |
| 33 | Big Indian to 135 | New Roadway |
| 34 | Fairview Church to 135 | Roadway |
| 35 | West Bypass | New Roadway |
| 36 | Park and Ride Lot | Enhancement |
| 37 | Bridge to KY | Enhancement |
| 38 | Intersection Relo | Enhancement |
| 40 | New Roadway | New Roadway |
| 41-43 | Project Removed | ---- |
| 44 | Park and Ride Lot | Enhancement |

## Steering Committee Submissions




HARRISON
HIGHWAY DEPT.
COUNTY