

University Parkway

Corridor Plan

DRAFT

Existing Conditions

Report

By:

Rundell Ernstberger Associates

Lochmueller Group

Powers Engineering Inc.

10/27/2017

UNIVERSITY PARKWAY STUDY AREA

Introduction

The Evansville-Vanderburgh County Comprehensive Plan 2015-2035 identifies the University Parkway as a corridor in need of further study. The overall direction of the comprehensive plan was to promote infill development in the City of Evansville, especially in the older downtown neighborhoods. However, because the Evansville Water and Sewer Utility (EWSU) is constructing a new southern pump station located at Creamery Road, the County needed to study the corridor sooner than anticipated. Therefore, Vanderburgh County is conducting this study to establish a plan which will guide development in the coming years.

The study will address land use, transportation, infrastructure, and physical features within the corridor study area and include a market analysis to provide direction on the amount of certain future uses in the area.

Corridor Study Area

University Parkway serves an important role in western Vanderburgh County. This route connects State Route 62, (Lloyd Expressway) and the University of Southern Indiana north to State Route 66, (Diamond Avenue). The area around the parkway being studied is bounded by State Road 66 to the north; State Road 62 to the south; Peerless Road and Church Road to the east; and the Vanderburgh/Posey County line to the west. The area is bisected by two distinct townships: German township to the north and Perry Township to the South.

History

Transportation plans since the 1950s have called for the development of a major transportation facility on the west side of Vanderburgh County, with the 1979 “Recommended Transportation Plan” prepared by the Evansville Urban Transportation Study conceiving of the need for the thoroughfare to connect SR 62 and I-64. This was followed by a design study in the 1980s to establish the preferred location, settling on the southern terminus at its present location at SR 62. The project was originally named Eickhoff-Koressel Road for the two rural roads that were originally recommended to be connected in the Plan. However, additional studies determined that the two-lane connector would not be adequate for future traffic, so the Parkway was planned as a four-lane road. The first segment, completed in 1994, consisted of the interchange at SR 62 and a short stub north to Middle Mt Vernon Road. The next segment, “Phase 1”, extending from SR 62 to Upper Mt Vernon Road, opened in 2006. “Phase 2”, from Upper Mount Vernon Road to Marx Road, opened in 2011. “Phase 3”, from Marx Road to SR 66, opened in 2012. The extension of the Parkway north of SR 66 is in the MPO Transportation Plan for construction in 2035 and 2040. Typical cross sections from the “Phase 1” through “Phase 3” construction plans are shown in Figures 6 through 8, on page 11.

Relevant Plans & Studies

The purpose of this section is to summarize the review of existing plans and studies, relevant to the future planning of non-transportation infrastructure, as they pertain to the study area. Those plans and studies that have been reviewed and included are:

- Evansville-Vanderburgh County Comprehensive Plan 2015 - 2035
- Sustainable Evansville Area Coalition Millennial Plan

Evansville-Vanderburgh County Comprehensive Plan 2015-2035

The Evansville-Vanderburgh County Area Plan Commission (APC) produced the Evansville-Vanderburgh County Comprehensive Plan 2015-2035. The City and County use the plan as a guide for future land use and planning decisions to improve the quality of life for its residents and visitors. The plan focuses on several themes which directly influence the corridor:

- Avoid leapfrog development by creating contiguous, responsible, and orderly growth and economic development.
- The conservation of natural, cultural, and historic resources; public and private investments, and other unique community assets.
- Maximize the existing infrastructure and underdeveloped or underutilized land.

The plan documented that the City of Evansville is progressively losing population to suburban sprawl development in the county and surrounding region. However, projections have a positive outlook estimating a growth rate between 6 and 12 percent in the next 20 years for the city and county.

The Plan characterizes the study area at a high level as agricultural and suburban style residential development containing low vacancy with high owner-occupancy rates. This development pattern is expanding and transitioning existing agricultural land to residential.

The plan shows that housing will be a major component of the corridor's future. To the south in Perry township projections show moderate growth (10.7 percent increase in population and 13.6 percent increase in housing). In contrast, on the northern portion of the study area, located in German Township, is expected to have a stable increase in the growth rate (9.5 percent increase in population and 10.9 percent increase in housing).

Key strategies that apply to the study area:

- Encouraging housing diversity beyond detached single-family to include townhomes, senior housing, low-rise apartments, condos, etc.
- Address the older or blighted housing stock, incentivizing homes to be rehabilitated and preserved or rebuilt where appropriate.

New commercial location factors

- High visibility and traffic volumes in the area
- Easy access (frontage roads for this corridor)
- Adequate existing population in the area
- Shovel ready or minimal infrastructure investments required to begin construction.

The comprehensive plan recommends that commercial development in Evansville and Vanderburgh County be built to avoid or mitigate major impacts to existing infrastructure and the visual character of the area. It is anticipated that there will be potential for new commercial, where developers can create compact commercial or mixed-use buildings. Where appropriate, commercial should be built at a neighborhood scale at major intersections to avoid impacting adjacent neighborhoods.

Within the study area, a future commercial and mixed-use development was designated west of University Parkway and north of Lloyd Expressway. Mixed use nodes are designated at key intersections in the southern portion of the corridor supporting existing and future housing development.

The study area currently contains no industrial uses, but the comprehensive plan calls for a new industrial/research park along the existing rail line bisecting the corridor. New industrial is encouraged to use new and clean best practices minimizing waste and reducing the impacts on adjacent properties. To minimize the impacts, industrial projects should use appropriate space and vegetative buffers when adjacent to residential development.

While the plan focuses a great deal on new development, it also promotes the preservation of existing agricultural and environmentally sensitive areas. The study area contains a large quantity of farmland, forested areas, and wetlands. During development, conscious efforts should be made to minimize the loss of these assets especially higher yield farmland. The use of compact development patterns will also help minimize the land needs of future development.

Summary of Relevant Policies for Land Use

Policies for land use planning listed in the Comprehensive Plan which may impact development within the study area include:

- Explore the use of form based codes or overlay zones and incentives as means to upgrade the urban form and intensity of use.
- Examine alternative development types, including cluster developments and planned unit developments, as a means of protecting green space and environmentally sensitive areas.
- Promote more mixed-use development. Encourage street level commercial uses in mixed-use structures that generate pedestrian activity such as retail, restaurants, and services.
- Discourage rezonings that will require a variance to meet code requirements.
- Encourage the wide variety of housing types, which include single family owner-occupied units, condo/townhouse, rental apartments, mobile homes, and progressive senior living (aging-in-place).
- Multi-family housing should be viewed as an appropriate "buffer" use between single family and commercial developments.

- Investigate changes to the Zoning and Subdivision Ordinances that would require rezoning from Agricultural to Residential prior to platting major residential subdivisions.
- Encourage small-scaled, commercial uses that primarily serve neighborhood residents at major intersections or in existing commercial centers within residential areas.
- Encourage new industrial developments to be open and environmentally attractive with good access, parking, circulation, landscaping and utility services.
- Promote development of a new research park (possibly located near University Parkway north of USI) and an intermodal logistics park (possibly located along the U. S. 41 North industrial corridor) on appropriate sites in Vanderburgh County.
- The conversion of moderate to high yield farm lands within the Rural area for urban development shall be discouraged, except in areas designated for other uses on the Future Land Use-2035 Map and in the existing Rural communities.
- Encourage compact development as a way to preserve/protect contiguous parcels of land supporting effective agricultural operations.

Utility/Infrastructure

The need to extend utility services to this area is noted as a potential development constraint. The Comprehensive Plan discusses public utilities (water, sanitary sewer, storm sewer/drainage, and solid waste) that serve the Evansville metro area. Other utilities, including cable, electric, trash collection, natural gas, and telephone, are provided by private companies. It is noted that the location and availability of water and sewer utilities, in particular, are essential to support future development and must be in place before extensive development may occur. Information regarding public utilities, as presented by the Comprehensive Plan, is summarized below:

Water

The Evansville Water and Sewer Utility (EWSU) provides water to approximately 93 percent of the residents within Vanderburgh County with a total of over 60,000 residential and commercial customers. EWSU also has four wholesale customers, one of which includes the German Township Water District. Figure 15: Water Service Area (approximate) on page 220 of the Comprehensive Plan represents those areas of Vanderburgh County currently served, or planned to be served, by EWSU. In the southern portion of the study area, water is generally available east of the Parkway, but west of the Parkway is generally not yet served by EWSU. The northern portion of the study area is primarily served by the German Township Water District, except for a small strip served by only EWSU.

EWSU faces many challenges, including increased costs to operate and maintain aging infrastructure, as well as investments needed to replace or expand existing infrastructure to support future growth. Water treatment plant and storage capacities exceed projected demands through 2035. Therefore, the extension of water utility service to the study area will need to focus on evaluating the impacts and any required upgrades to the distribution system. Throughout the planning stages for future development of the study area, developers should coordinate with EWSU to assess the location and capacity of existing infrastructure, review any planned improvements to expand water service within the area, and evaluate any required upgrades to the distribution system.

Sewer

EWSU's sanitary sewer service area is approximately 60 square miles and includes the City of Evansville and portions of Vanderburgh County as shown on Figure 15: Sewer Service Area (approximate) on page 222 of the Comprehensive Plan. This figure also shows the areas where it is proposed to extend sanitary sewer service.

The study area is outside of the combined sewer area, however, any new sanitary flows will eventually discharge to the combined sewer system located downstream and may impact combined sewer overflows (CSOs). The addition of sanitary

flows may also potentially impact sanitary sewer overflows (SSOs) within the separate sanitary sewer system. EWSU has entered into a federal Consent Decree agreement to correct system deficiencies and construct capital improvements projects designed to address CSOs and SSOs in accordance with its "Renew Evansville" program.

Additionally, EWSU is developing a 30-Year Sewer Master Plan for non-Consent Decree projects to upgrade the sanitary sewer and treatment systems. It discusses the extension of sanitary sewer service to support future growth, including the area around University Parkway south of Upper Mt. Vernon Road. Any new development along the study area should be coordinated with EWSU to determine any potential negative impacts to the downstream collection systems, identify the location of planned sewer service extensions, and determine any necessary system upgrades that may be required.

Stormwater Drainage

Management of storm water in Vanderburgh County is generally the responsibility the Vanderburgh County Drainage Board (County Commissioners). Because the control of surface water drainage is an important concern, any new development should be planned and designed at the outset to attempt to prevent those drainage issues typically associated with the addition of significant amounts of impervious area or the placement of substantial amounts of fill. This includes the control of storm water runoff to prevent surface flooding, as well as the use of best management practices to reduce runoff volumes and flow rates to mitigate negative impacts to receiving waters. Generally, new development is constructed with separate storm sewers that discharge to drainage basins where the runoff can be temporarily stored and released over time. The design of proposed storm water drainage management systems for development projects are evaluated through the commercial site review and subdivision review processes.

Rural Septic Systems

Currently most of the existing development (except for the southern portion of the corridor) is connected to septic systems. Future sanitary sewer service has not been designated for much of the study area. Where service may not be extended, on-site sewage disposal is the primary alternative. However, the majority of the soils in Vanderburgh County have severe limitations for on-site sewage disposal. In areas not served by sanitary sewers and where soils are unfavorable, the County requires a minimum lot size of 2.5 acres for new septic systems. This will impact the density at which new development can occur in unserved areas.

Solid Waste

Allied Waste and Veolia Environmental Services are two major companies that provide trash collection in the City and the County. Several other independent companies also provide service to unincorporated areas of Vanderburgh County.

The Vanderburgh County Solid Waste District has adopted a Solid Waste Management Plan to address solid waste services, waste reduction education, and recycling. The District oversees an ongoing program that emphasizes reduction, reuse, and recycling, especially in the residential and commercial sectors. Additionally, the District offers several public programs for household hazardous waste collection and electronics recycling.

Summary of Relevant Policies for Utilities

Policies for planning non-transportation related infrastructure that are listed in the Comprehensive Plan and which may impact development within the study area include:

- All costs associated with extending and/or accessing the water and sanitary sewer network for new service to a development are the responsibility of the developer.
- After inspection and acceptance, the utility shall assume ownership and maintenance of all water and wastewater facilities installed in the service area.
- Unaccepted water and wastewater facilities not meeting adopted standards shall be privately maintained and their expansion shall be prohibited until standards can be met.

- Ensure that the water and sewer system improvements necessary to accommodate new development are in place when needed to mitigate development impacts.
- Ensure that post development storm water runoff is controlled in accordance with applicable ordinances and does not exceed pre-construction volumes, thereby reducing the impact of new development on the existing drainage system.
- Encourage the incorporation of green infrastructure concepts and other best management practices for storm water management in planning and design of new development/redevelopment.
- Encourage developers in growing areas to work together on constructing regional storm water detention facilities that will serve multiple, large scale developments.

The Millennial Plan for 2040: A Regional Plan for Sustainable Development Vol. 2

The Millennial Plan for 2040: A Regional Plan for Sustainable Development (Millennial Plan) is a planning document that outlines long-term growth and development strategies to guide future policy changes, capitalize on existing regional assets, and optimize the use of available resources to enhance quality of life in the Evansville metro area and promote sustainable growth.

The plan's vision establishes several themes guiding the plan: Great Life, Community, Environment, and People. These themes support compact development and redevelopment establishing hubs for employment, housing, education, open space, and recreational opportunities. These centers should be easily accessible by walking, biking, driving, or public transit.

The plan focuses on key themes supporting its vision:

- Sustainable infrastructure
- Infrastructure extensions
- Annexation
- Compact development
- Environmental Stewardship
- Alternative energy
- Renewable energy
- Land conservation and management
- Smart systems
- Connectivity

To provide insight on how these themes could come to fruition, a few development nodes were created. Two of these development nodes fell in the University Parkway Corridor Study area indicating its potential for future growth. One in particular is located north of University of Southern Indiana (USI) and south of Hogue Road along the west side of University Parkway. This concept development referred to as Lakewood Hills, contains a mixed use walkable core and radiates outward with housing which wanes in density as it moves outward.

A second development node was designated along the corridor. North of the railroad along the east side of University Parkway is the other mixed use concept and technology park. Founder Town would be a regional collaboration between Naval Services Warfare Center (NSWC), the Growth Alliance for Greater Evansville, and USI. The hub of this development would be a business accelerator which partners with a downtown co-working space.

The Millennial Plan also contains land use scenarios which were based on existing land use and past development trends. One scenario served as a baseline, while the other scenarios transitioned from being more focused on outward development to promoting mostly infill development in each successive scenario. In these scenarios, the University Parkway Corridor's area varied greatly from vast suburban growth to targeted or managed growth contained to the southern portion of the corridor.

The future economic development plan proposes several transportation projects that would impact

the University Parkway Corridor. This includes Bus Rapid Transit (BRT), that would service both the City and County. The final phase shows two routes traveling along SR 62 and SR 66. Both BRT routes conclude where the state roads intersect with University Parkway. Additionally, University Parkway has been designated to become a part of the future highway loop servicing the Evansville metro area. Both transportation projects would increase visibility and access to the corridor.

Utilities

The Millennial Plan offers the following recommendations regarding non-transportation related infrastructure, including utilities:

Municipal "Smart Systems" Policy: New utility management technologies, such as handling peak load periods, and distributing power demand through an electric "Smart Grid", or monitoring water consumption through "Smart Metering", would allow for greater efficiency and less waste. For electric utilities, this means less risk of power brown-outs and fewer periods of down time. For water utilities, smart systems can help detect costly leaks. This type of technology is essential for wise allocation of utility resources.

Compact Growth Policy: The plan documents how a proposed development's ability to generate enough tax revenue to cover its financial impacts to a municipality is directly related to its "intensity of development". Therefore, it is less expensive to provide basic infrastructure services to compact growth than to less dense "sprawl" developments. The plan recommends the establishment of minimum building intensity levels to promote cost-efficient development. Alternatively, if developers build in a less intensive manner, it is recommended to charge impact fees or other value-added levies to supplement tax revenues and cover the expenses of providing utility services.

Green Infrastructure Policy: Private and public development should incorporate green infrastructure strategies to manage storm water runoff including rain gardens, bioswales, pervious pavements, and natural retention systems.

Internet Access Policy: Access to broadband telecommunications infrastructure is important. For educational, commercial, and governmental uses, a modern broadband Internet system can help reduce the operational costs, while improving products and services. Increasingly, the way residents work, play and live are structured and framed by technology. It is critical that wireless broadband linkages be accessible.

Existing Physical Conditions

Land Use

Located on the edge of Vanderburgh County, the University Parkway Corridor study area, as shown in the figures below is primarily agricultural and low-density residential development. In the last few decades, the southeast section of the corridor has developed into suburban style residential as Evansville utilities have become available. The residential growth is supported by local institutions, including West Terrace Elementary School, the University of Southern Indiana and several places of worship. The corridor study area has no retail within its boundaries. Residents currently drive 1 ½ miles east to the nearest shopping district along Lloyd Expressway for goods and services.

German Township

The north area of the corridor is dominated by agricultural land which comprises 45 percent of its land area. Thirty-one percent of the Township is large lot single family with some larger land users like the Daughters of Charity Ministries, Seton

Harvest, and a few churches. The Township has a lower population and growth rate with only a 5.4 percent change in population (378 people) from 1990 to 2010. Commercial and industrial uses are limited in German Township accounting for less than one percent of the Township.

Perry Township

Perry Township is similar, however, the area has a higher population base and growth rate. Perry Township recorded a 21.8 percent increase in population between 1990 and 2010. Residential development is expanding west around Lloyd Expressway. Perry Township's residential growth is supported by local institutions like USI, West Terrace School, and several churches. Residents in Perry Township also access the retail along the Lloyd Expressway for their daily goods and services.

Development Policies

The University Parkway Corridor is primarily zoned agricultural comprising 85 percent of the area, as shown in Figure 2. The second most prominent

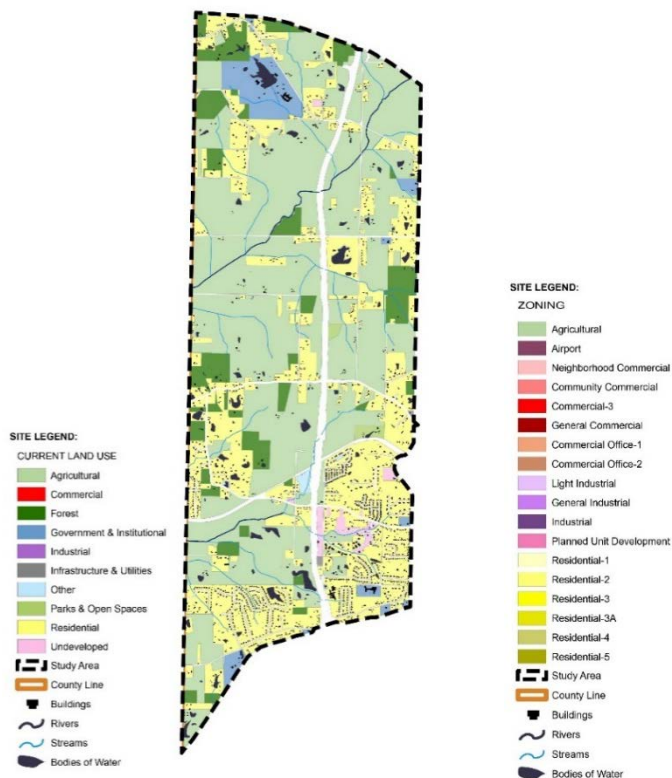


Figure 1: Existing Land Use

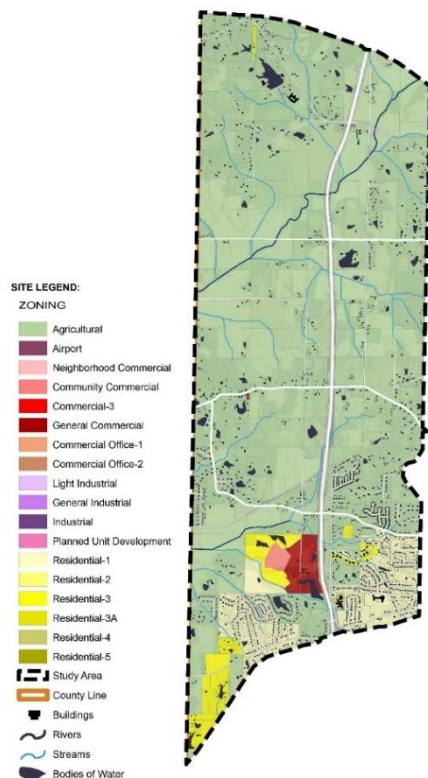


Figure 2: Existing Zoning

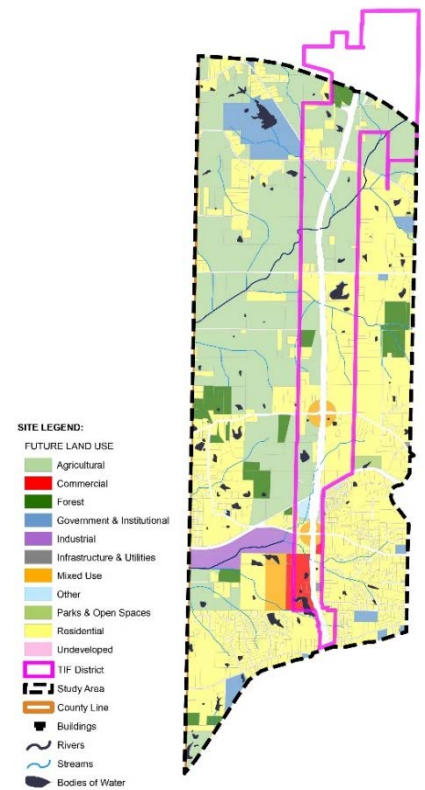


Figure 3: Future Land Use and TIF District

EXISTING CONDITION

zoning category is residential (R-1) at seven percent. Both zoning districts require a 6,000 square feet (s.f.) minimum lot size and minimum setbacks at 25 feet for front and rear and 5 ft. for side yards (except corner lots which are 10 ft.). These standards work well for these types of districts when served by sewer. However, when not served by sewer, a minimum lot size of two-and-a-half-acres is required to allow for septic tank installation and a backup if that one fails. These large lot sizes quickly consume agricultural land when residential development occurs without public utilities.

A Tax Increment Financing District (TIF) was established that runs narrowly along the University Parkway and expands near the intersection with SR 66, as shown in Figure 3. The TIF is a funding source due to the collection of an increment of tax dollars within the boundary which can be used for infrastructure improvements. The TIF District is narrow and misses key opportunities in the southern half of the corridor, some of which is designated by the Comprehensive Plan for mixed use and industrial growth.

Natural Features

The corridor study area has some physical limitations but overall does not hinder development. The study area is generally flat with exceptions north of Little Creek and to the west between Little Creek and Wolf Creek. Little and Wolf Creeks are the major tributaries in the study area which create floodplains. The Federal Emergency Management Agency (FEMA) requires new structures located within floodplains to be built to different standards.

Soils

- Most soils have moderate limitations for development
- The majority of the corridor has soils that are rated moderate yield for crop productivity
- Corn, soybeans, and winter wheat are the major crops grown in the county

Forest Resources

- The corridor has several large forested areas
- Oak, hickory, hard and soft maple, and tulip poplar are the most prevalent species

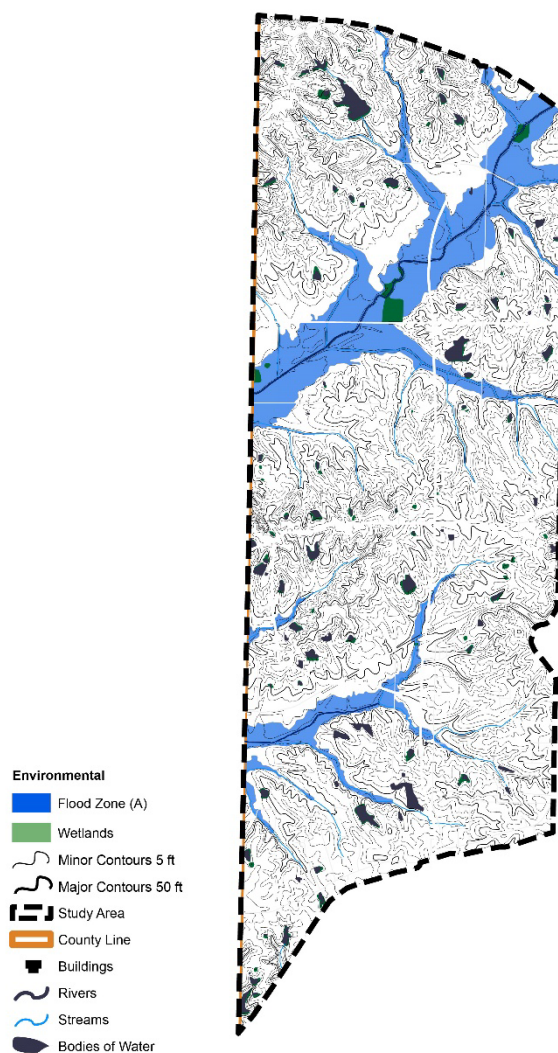


Figure 4: Environmental constraints map

Wetlands

- 131 acres of wetlands exist in the study area
- Most of the wetlands are associated with a lake or pond suggesting most are lacustrine or palustrine wetlands

Floodplains

- Little Creek has a substantial 1,000 acre floodplain (100 year) in the study area
- Regulations require new structures within the flood zone to be elevated at least two feet above the floodplain, and covered by flood insurance, in addition to other standards
- These floodplains place limitations on development in the corridor

Transportation System

Introduction

The study limits include University Parkway from Diamond Avenue (SR 66) to the north and Middle Mount Vernon Road to the South. The interchange at the Lloyd Expressway (SR 62) is being analyzed as part of a separate, concurrent study of SR 62 / SR 66 from St. Phillips Road in Posey County to SR 261 in Warrick County.

Functional Characteristics

University Parkway is the primary north/south road through southwestern Vanderburgh County. Classified as a Minor Arterial, it extends five miles from SR 62 and the University of Southern Indiana (USI) North to SR 66. University Parkway is limited access, offering a high degree of mobility along the corridor. The functional classification map in Figure 5 shows the functional classification of University Parkway and each of the intersecting roads.

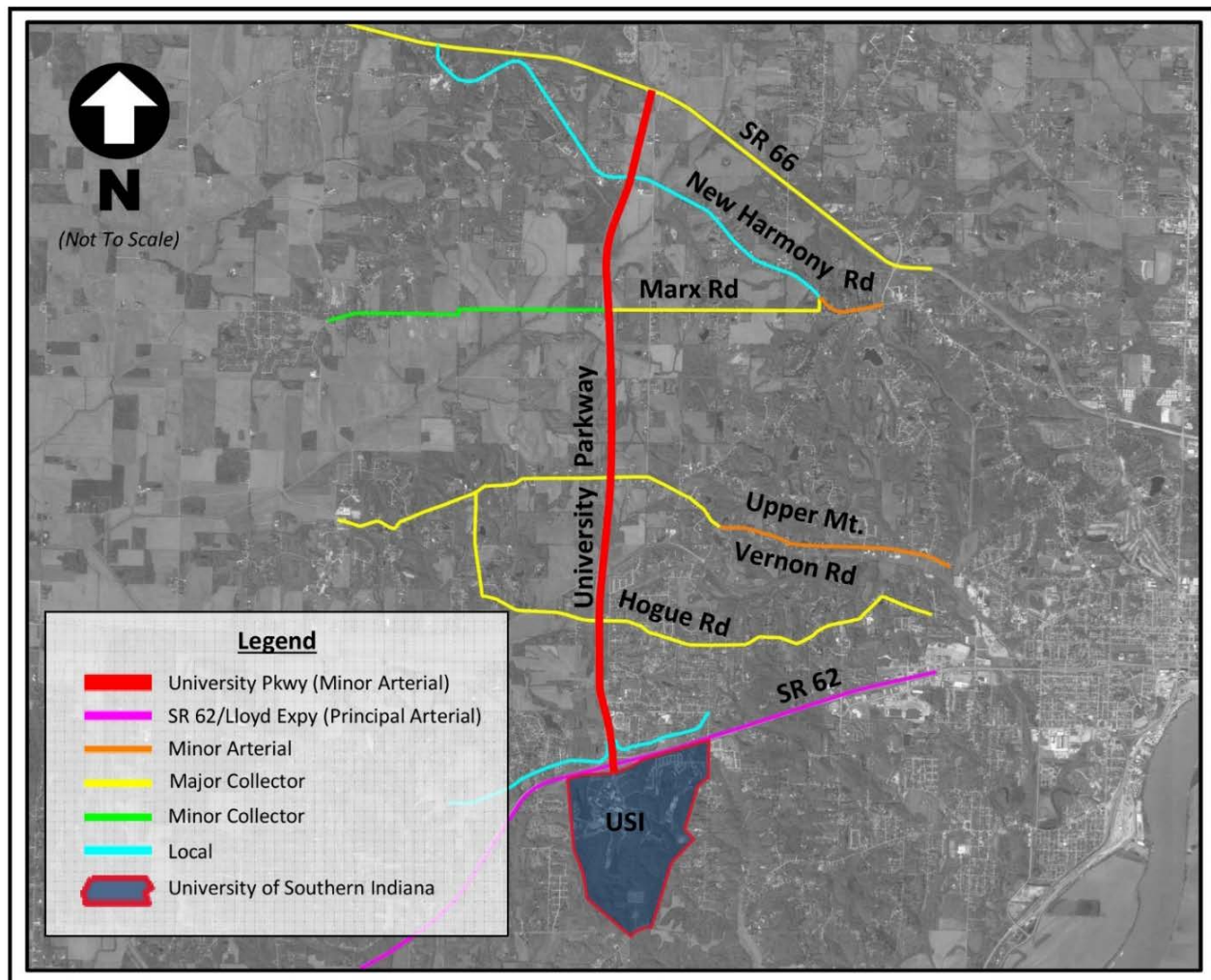


Figure 5 Functional Classification Map Showing Parkway Intersection

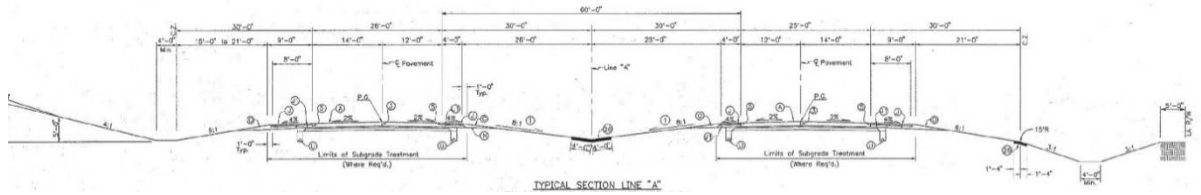


Figure 6: Typical Cross Section from Phase 1 plans, 2013 (R-26719)

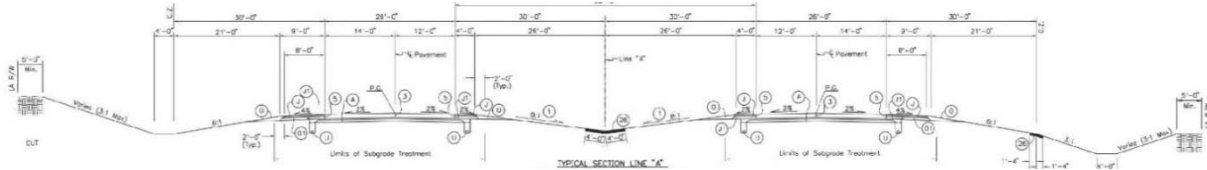


Figure 7: Typical Cross Section from Phase 2 plans, 2009 (R-30654)

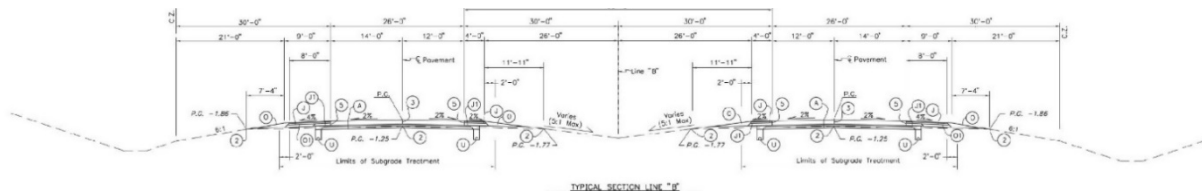


Figure 8: Typical Cross Section from Phase 3 plans, 2010 (R-30194)

Roadway Conditions

The cross section of University Parkway remains constant throughout the length of the corridor. Four 12-foot lanes, paved shoulders, a wide grass median, and long turn bays to accommodate, the full deceleration distance of turning vehicles, are provided between SR 66 and Middle Mount Vernon Road ("Phase 1" through "Phase 3"). The Lloyd Expressway interchange, completed 12 years prior to the subsequent three phases, built a paved median

rather than a wide grass median and shorter turn bays at the ramp intersections.

The posted speed limited along University Parkway is 55mph except for the 45mph section in the immediate vicinity of the SR 62 interchange. There are no existing bicycle or pedestrian facilities along University Parkway. The existing lane configuration and intersection traffic control is shown on the following page in Figure 9.

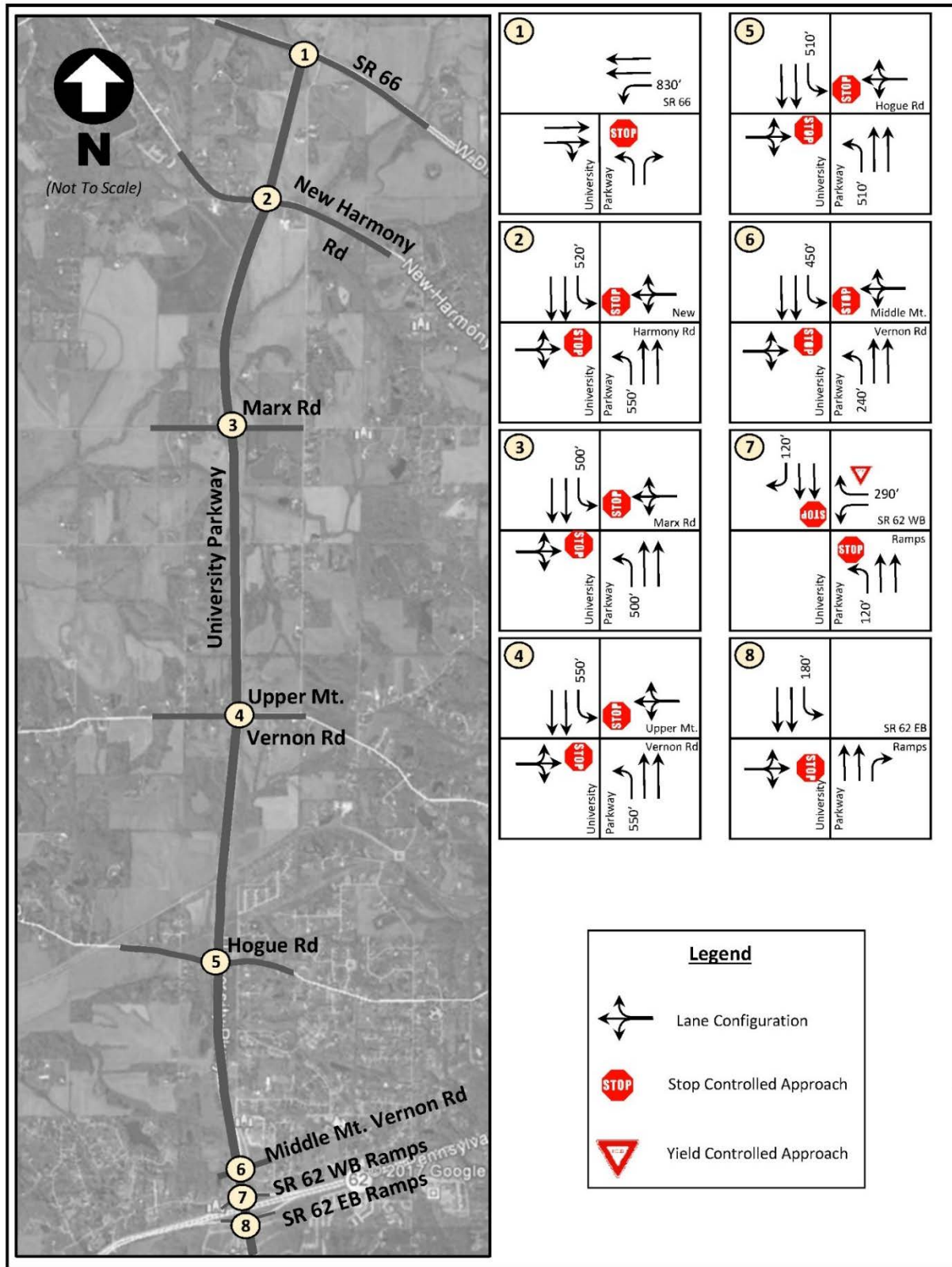


Figure 9: Existing Traffic Control and Lane Configurations

(Count Station ID: 82X150, approximately 1,500' south of Hogue Road)

Year	Days	AADT	Truck %age	Light Vehicles (ADT)	Buses (ADT)	Single-Unit Trucks (ADT)	Two-Unit Trucks (ADT)
2017	Jun 12-13	7,131	7%	7,081	47	296	178

Table 1: University Parkway AADT count

Operating Conditions

Turning movement counts were performed on Tuesday, August 27, 2017 for peak period traffic during the morning (6:30 AM to 8:30 AM) and afternoon (4:00 PM to 6:00 PM) at the six major intersections along the corridor:

- University Parkway and Diamond Avenue (SR 66)
- University Parkway and New Harmony Road
- University Parkway and Marx Road
- University Parkway and Upper Mt Vernon Road
- University Parkway and Hogue Road
- University Parkway and Middle Mt Vernon Road

The counts revealed that the peak hours of traffic occurred from 7:00 AM to 8:00 AM and 4:15 PM to 5:15 PM. The existing AM and PM peak traffic

volumes are summarized in Figure 10 with additional details provided in Appendix A.

The Average Daily Traffic (ADT) is summarized in Figure 11. Data from the INDOT Traffic Count Database System (TCDS) was used to populate this figure and supplemented with ADTs calculated from the turning movement count data summarized in Figure 10. To best match the available AADT data provided by INDOT, a K-factor of 12.5% was assumed for both major and minor approaches. Applying this K-factor to the peak hour turning movement volumes produced ADTs for the remaining roadway segments.

Summarized in Table 1 the INDOT vehicle count data shows approximately 7% trucks along University Parkway. For comparison, truck percentages along US 41 between SR 62 and I-64 vary from 12% to 18%.

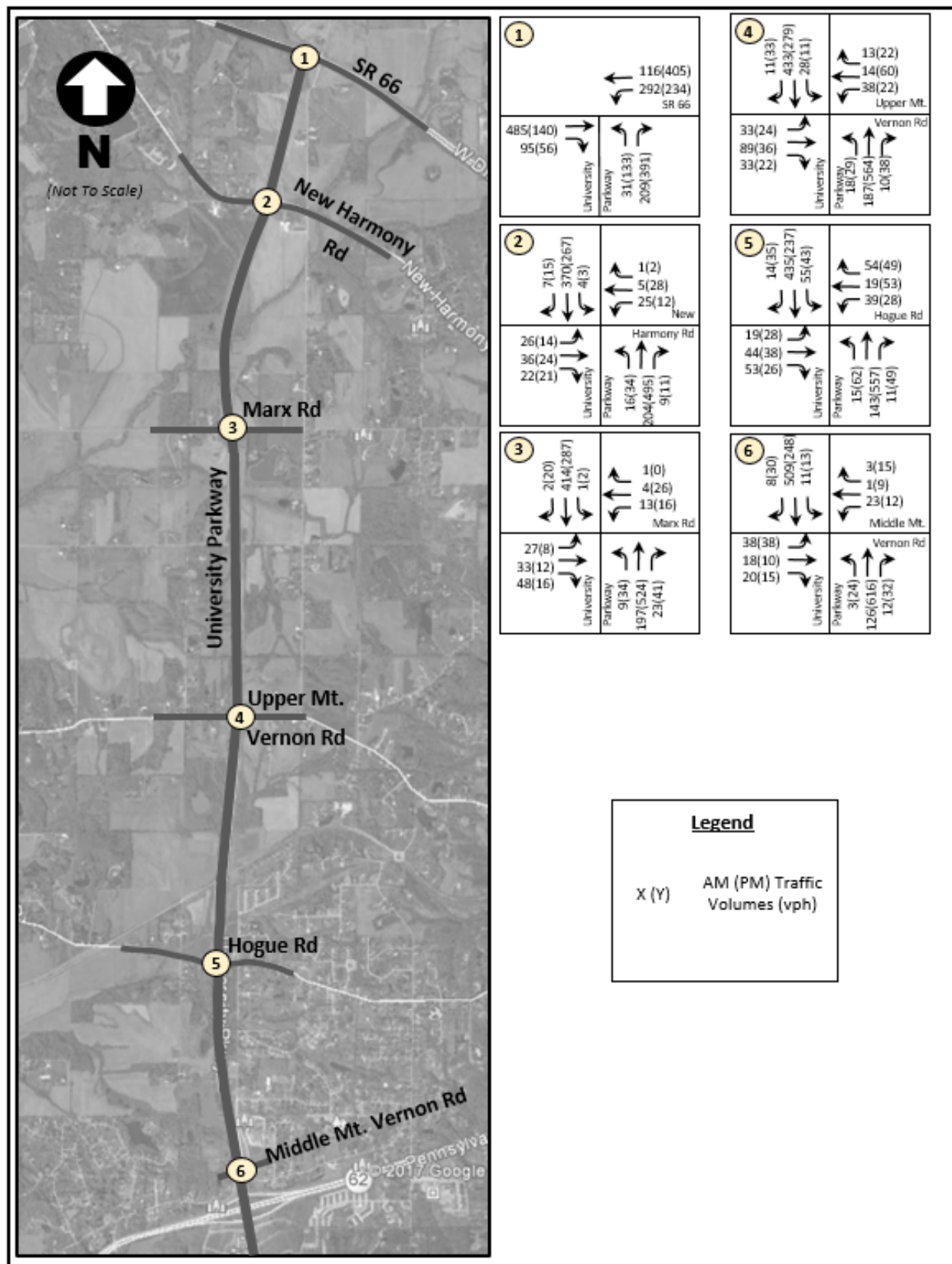


Figure 10: Existing AM and PM peak hour traffic volumes

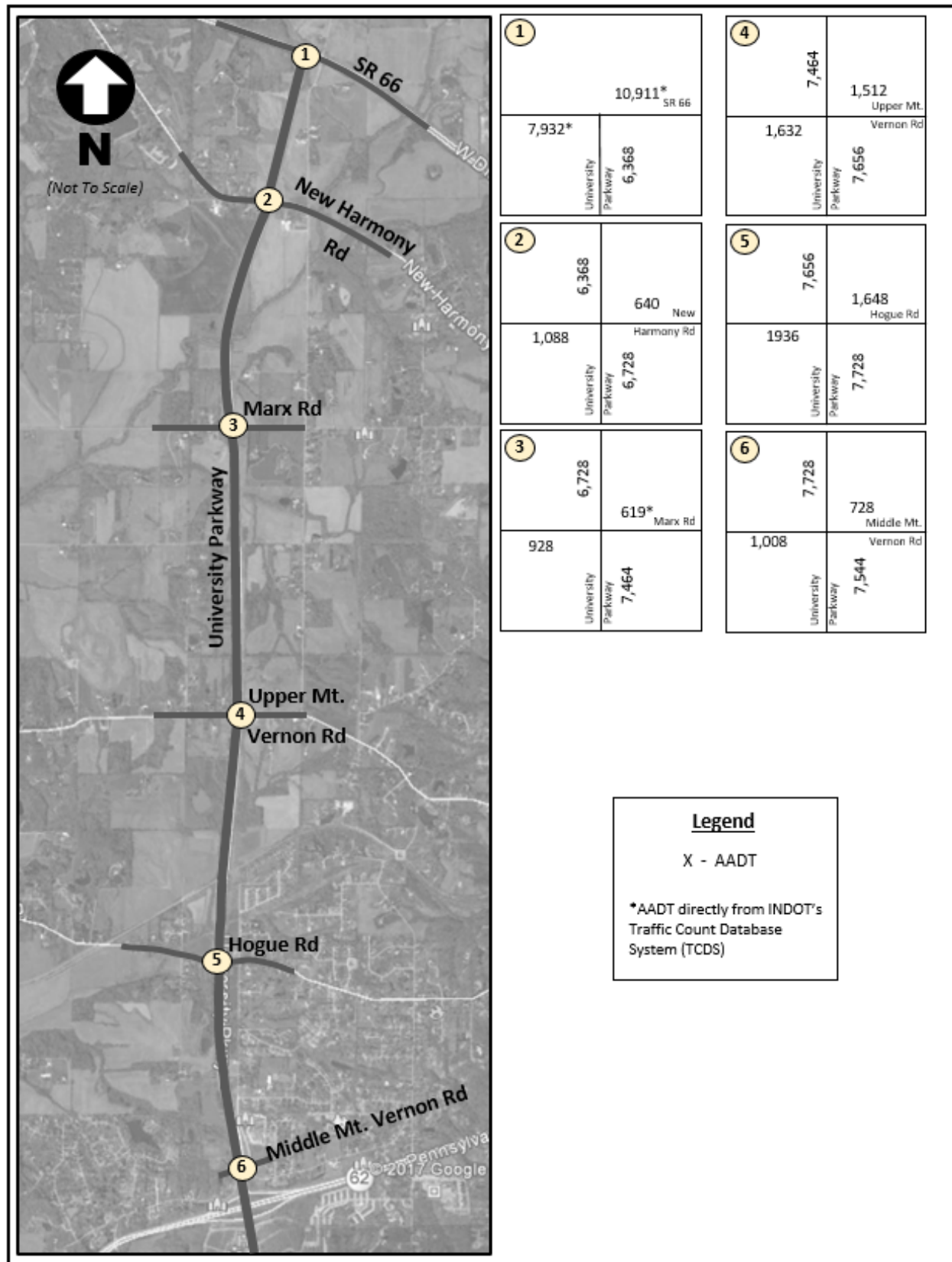


Figure 11: Existing AADT traffic volumes

Traffic operating conditions at the study intersections were evaluated using Synchro 10 traffic modeling software. The performance of the transportation system is quantified by Levels of Service (LOS), which are measures of traffic flow that consider factors such as speed, delay, interruptions, safety, driver comfort, and convenience. There are six levels of service ranging from LOS A (“free flow”) to LOS F (“oversaturated”). For design purposes, LOS D is commonly considered to be the minimum acceptable operating conditions with LOS C or better considered to be desirable operating conditions.

Level of service criteria vary depending upon the roadway component being evaluated. Intersections are commonly evaluated because roadway capacity is typically dictated by the number of vehicles that can be served at critical intersections. For intersections, the level of service criteria are based on delay and the type of control (i.e., signalized vs. unsignalized). Signalized intersections reflect higher delay tolerances as compared to unsignalized and roundabout locations because motorists are accustomed to accepting of longer delays at signals.

For all-way stop intersections, the average control delay per vehicle is estimated for each movement and then aggregated for each approach and the intersection as a whole. For intersections with partial (side-street) stop control, delay is calculated for the minor movements only (side-street approaches and major road left-turns), since through traffic on the major road is not required to stop.

The thresholds for intersection levels of service are summarized in Table 2. The existing operating conditions for the AM and PM peak hours are summarized in Figure 12 and 13 respectively, and are presented in terms of Level of Service, delay (seconds per vehicle), and 95th percentile queue length (feet). The detailed Synchro reports are provided in Appendix B.

LOS	Delay Per Vehicle (Unsignalized Intersection)
A	≤ 10 sec
B	> 10 sec and ≤ 15 sec
C	> 15 sec and ≤ 25 sec
D	> 25 sec and ≤ 35 sec
E	> 35 sec and ≤ 50 sec
F	> 50 sec

Table 2: LOS Criteria

The minor street approaches of Upper Mt. Vernon Road and Hogue Road currently operate with unacceptable traffic conditions (LOS E or worst) during the peak hours. Of the remaining intersections, only Middle Mt. Vernon Road operates at desirable conditions (LOS C or better) during all hours of the day. The minor street approaches of Upper Mt. Vernon Road and Hogue Road also experience queues in excess of 100 feet, or approximately four cars, during the peak hours.

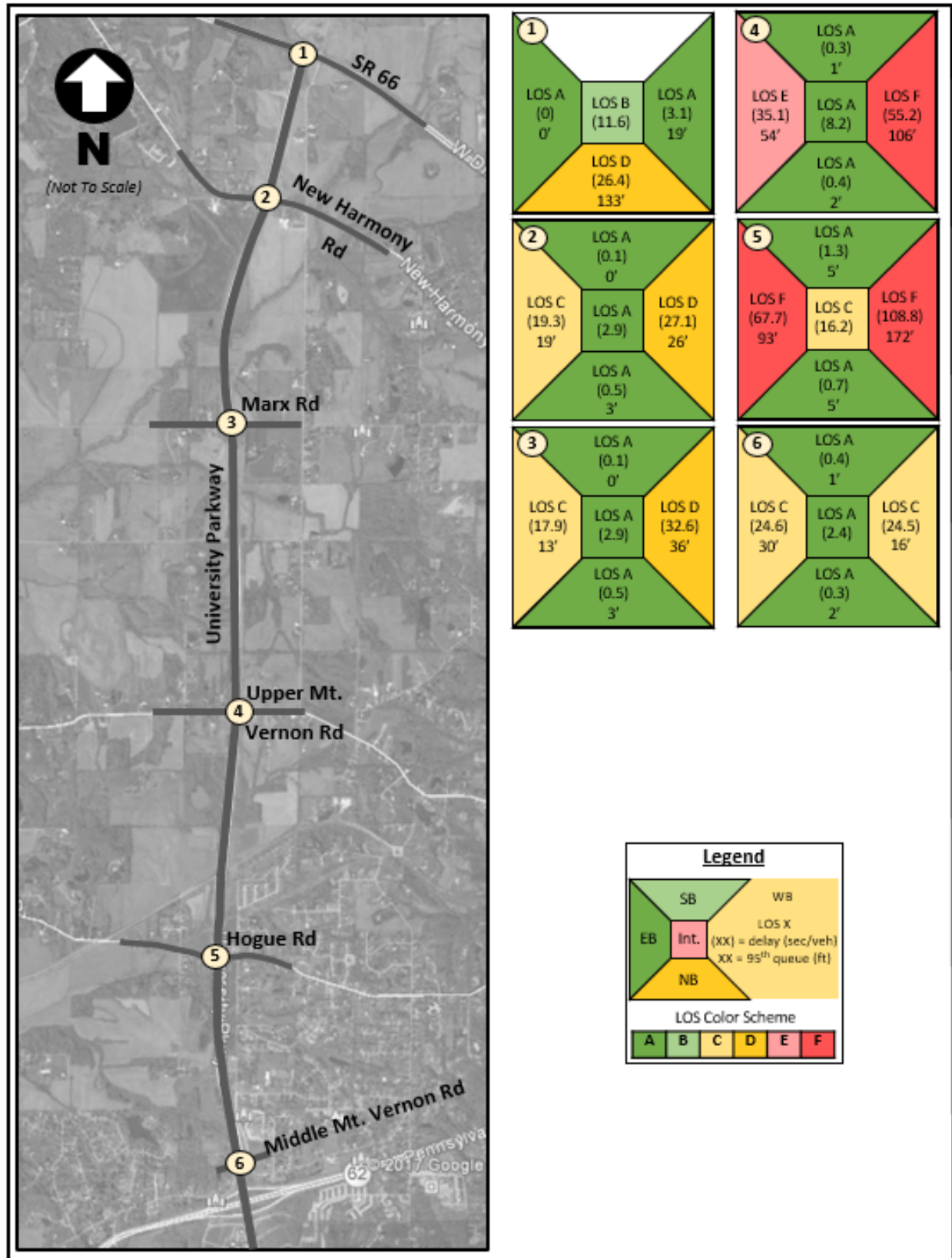


Figure 12: PM Peak Hour LOS, delay, and 95th percentile queue

Crash Analysis

Throughout the crash analysis period (January 2012 through December 2016), there were 188 crashes on University Parkway between SR 66 and the westbound SR 62 ramps. Shown in Figure 13 is a breakdown of the accidents by location, accident type, manner of collisions, severity, and time of day. Fifteen percent of crashes caused injuries, out of which two were incapacitating injuries. There was one crash that resulted in a fatality.

28 percent of the crashes were right-angle collisions, closely followed by 20 percent rear-end collisions, 12 percent head-on collisions (not including animal collisions), and 12 percent run-off the road. Narratives provided in the police crash reports listed animal or object in roadway as causes for approximately 25 percent of the crashes. Another 25 percent of the crashes were reported as of failure to yield right of way. Other prevalent factors causing crashes were:

- Following too closely (20%),
- Unsafe backing (8%), and
- Ran off Road (7%).

Right-angle collisions are common at unsignalized intersections and are mainly caused by:

- Restricted sight distance,
- Inadequate roadway lighting,
- Excessive speed on approach, and
- High intersection volumes.

Rear-end collisions at unsignalized intersections also frequently occur due to excessive speed, large numbers of turning vehicles, and because of drivers not being aware of the intersection far enough in advance.

Tables 3 and 4 show crash rates per million entering vehicles (MEV) for intersections and crash rates per hundred million vehicle-miles of travel (HMVMT) for segments. Since the crash rate/MEV is highest for the University Parkway and SR 66 intersection, a detailed crash diagram is provided for this intersection in Figure 14.

Intersection	Average Daily Traffic	Total Crashes	Crash Rate/MEV
University Parkway/SR 66	12,606	37	1.61
University Parkway/New Harmony Rd	7,520	6	0.44
University Parkway/Marx Rd	7,920	1	0.01
University Parkway/Upper Mt. Vernon	9,328	9	0.54
University Parkway/Hogue Rd	9,708	9	0.52
University Parkway/Mid Mt. Vernon	8,613	3	0.19

Table 3: Crash Rate per MEV for individual intersections (2012 – 2016)

Segment	Average Daily Traffic	Total Crashes	Length	Crash Rate/HMVMT
SR 66/New Harmony Rd	6,368	11	0.67	142.33
New Harmony Rd/Marx Rd	6,728	8	1.01	64.51
Marx Rd/Upper Mt Vernon	7,464	10	1.23	59.68
Upper Mt. Vernon/Hogue Rd	7,656	9	1.05	61.35
Hogue Rd/Middle Mt. Vernon Rd	7,728	12	0.91	93.81
Middle Mt. Vernon Rd/SR 62 Ramps	7,544	2	0.38	38.53

Table 3: Crash Rate per MEV for individual intersections (2012 – 2016)

There were 37 crashes at the intersection of Diamond Avenue (State Road 66) and University Parkway throughout the crash analysis period. The crash rate for the intersection was 1.61/MEV, which is the highest amongst the intersections in the study area.

More than half of the crashes at Diamond Avenue and University Parkway involved vehicles on the northbound approach. The intersection has a stop sign for the northbound vehicles and most of the crashes were reported as the drivers not yielding the right of way or stopping in time, due to which most of the crashes were either rear end collisions (52%) or right-angle collisions (14%).

During the study period, a crash at the Diamond Avenue and University Parkway resulted in a fatality and an additional four crashes resulted in injuries. Also of note is that three of the five westbound crashes occurred while the road surface was wet or snowy.

University Parkway - Corridor Analysis

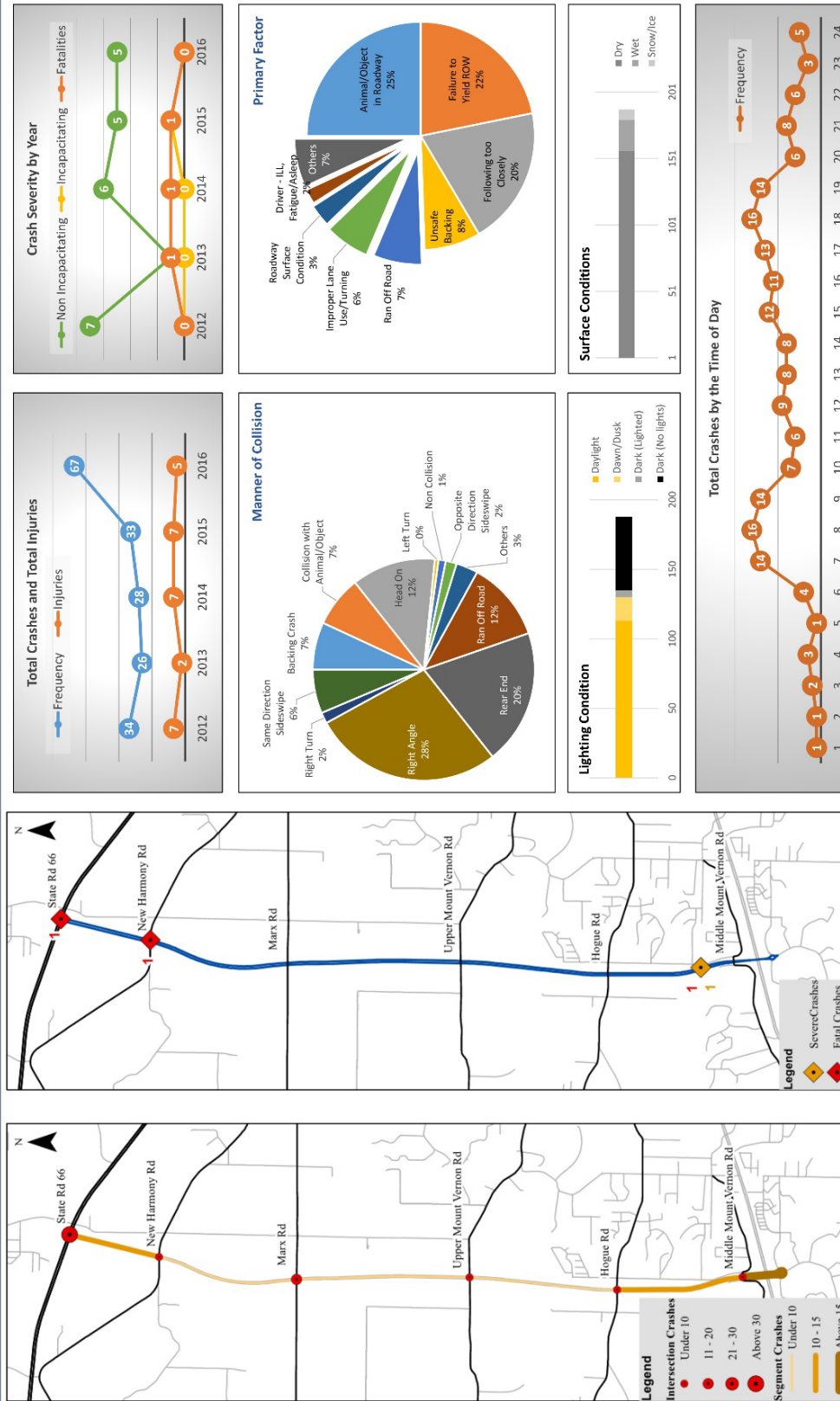


Figure 13: Corridor Crash Summary

Utility & Infrastructure

The purpose of this section is to summarize the review of existing utility planning documents and discussions with utility staff regarding the planning of non-transportation infrastructure as it pertains to the study area.

WATER

The Evansville Water and Sewer Utility (EWSU) owns, maintains, and operates water utility infrastructure that currently serves some portions of the study area, as shown in Figure 15. According to the Evansville-Vanderburgh County Comprehensive Plan for 2015-2035, the remaining areas are primarily served by the German Township Water District (which is a wholesale customer of EWSU).

EWSU has developed a Water Master Plan, which outlines water line improvements needed to upgrade aging infrastructure and support future growth. These planned improvements are part of EWSU's "Refresh Evansville" program, a long-term strategy to replace aging infrastructure and ensure a reliable supply of safe drinking water. Those planned projects which have a direct impact on the study area are on Figure 16 and include the following:

- Eickhoff Road Water Main Extension
- Middle Mt. Vernon Road Water Main Extension
- Hogue Road Water Main Replacement

These projects will increase the reliability of the existing distribution system and will help ensure that needed capacities are available to support future growth and service extensions within the study area.

Areas of Deficiencies and Potential Need

EWSU is implementing system-wide improvements to the water distribution system on an ongoing basis, through the "Refresh Evansville" program, to address deficiencies and necessary upgrades. Throughout the planning stages for future development of the study area, developers should coordinate with EWSU to assess the location and capacity of existing infrastructure, review any planned improvements to expand water service within the area, and evaluate any required upgrades/extensions of the distribution system. Additionally, a portion of the study area, at the northern end, is located within the German

Township Water & Sewer District. Separate coordination will be required with the District for development within their service area.

SANITARY SEWER

EWSU owns, maintains, and operates sanitary sewer utility infrastructure that currently serves residential areas located in the southern portion of the study area, as shown in Figure 15. Based on available GIS mapping information, this infrastructure primarily consists of 8-inch to 10-inch diameter gravity sewers and four small lift stations with 6-inch to 8-inch diameter force mains.

According to the Evansville-Vanderburgh County Comprehensive Plan for 2015-2035, although a majority of the study area is not currently served by sanitary sewers, much of the area is planned to be served in the future. Based on discussions with EWSU, a regional lift station is planned to be built on Creamery Road with the purpose of serving future service areas, as well as accepting flows from the service areas of four existing small lift stations so that they may be decommissioned.

EWSU is also planning to make several improvements to its existing sanitary sewer infrastructure. As part of a consent decree agreement with the Environmental Protection Agency, EWSU recently completed a Sanitary Sewers Remedial Measures Plan (SSRMP), as part of its overall "Renew Evansville" program and federally-mandated Integrated Overflow Control Plan (IOCP). EWSU is also in the process of developing a Sewer Master Plan (SMP) to address sanitary sewer system (SSS) needs not addressed by the SSRMP. Both plans include provisions for upgrades to the existing SSS that are needed to address sanitary sewer overflows (SSOs) and support future growth and development. The development of the plans included field investigations, flow data collection, and hydraulic modeling to identify system defects and capacity constraints. This effort also included the use of flow projections for future anticipated residential, commercial, mixed-use, and industrial flows to plan necessary capital improvements projects.

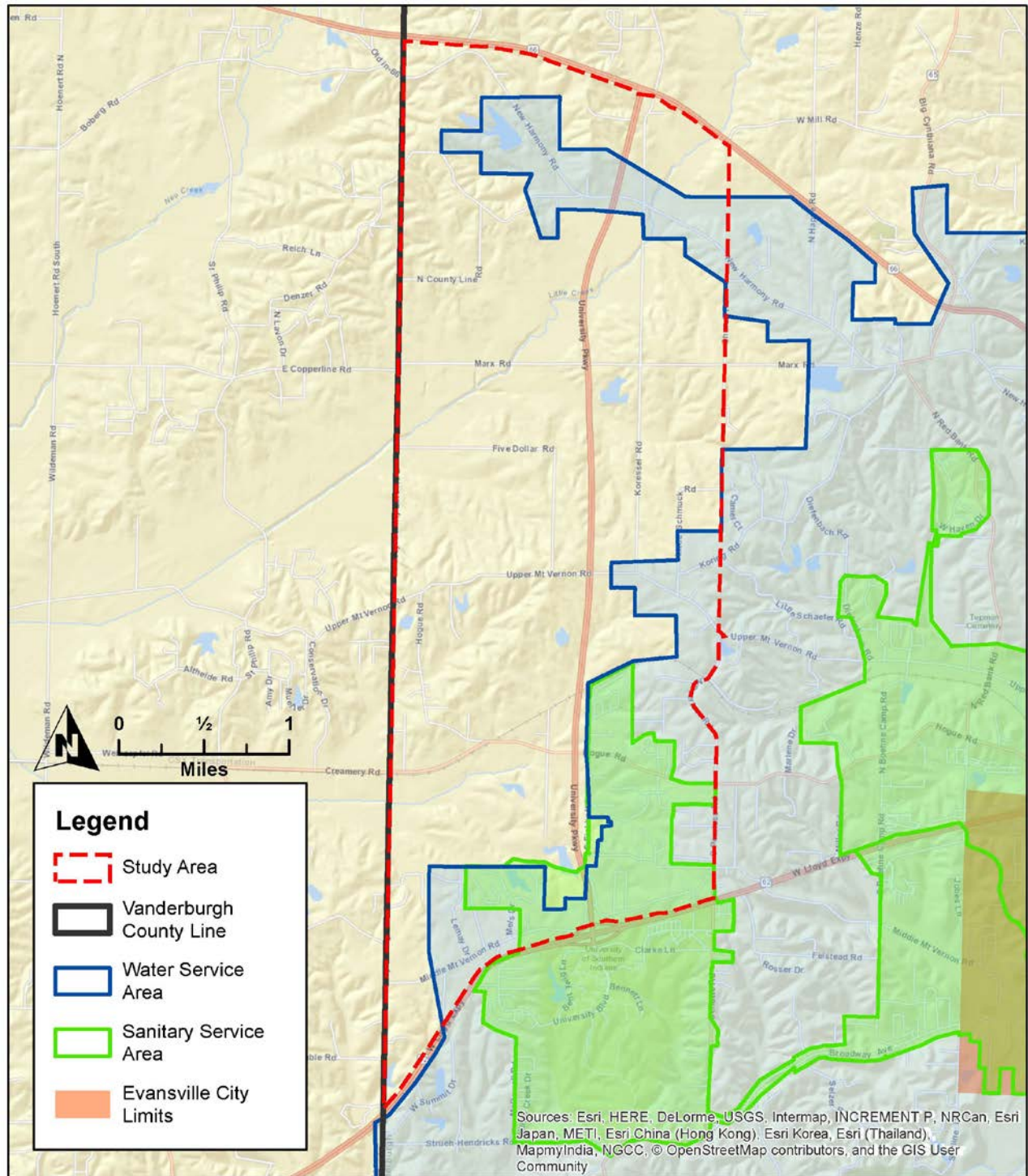


Figure 15: Existing Water and Sanitary Service Areas

The SSS basins which pertain to the study area are identified as the Northwest and Southwest basins in the SSRMP and SMP. System defects and capacity constraints were identified. Several remediation and system upgrades are recommended to correct existing defects and support capacity requirements to meet future demands, including:

- Inflow Reduction Projects
- Manhole Rehabilitation Projects
- Sewer Main Rehabilitation
- Lift Station Capacity Upgrades
- New Lift Stations
- Upsize Existing Trunk Sewers
- New Relief Sewers

In accordance with the schedule requirements of the consent decree, the system rehabilitation projects identified in the SSRMP for the Northwest and Southwest basins will be constructed between 2023 and 2027. Capacity upgrades to existing lift stations and trunk sewers, as well as new lift stations and relief sewers, will be constructed between 2027 and 2028. Those planned projects which have a direct impact on the study area are as shown on Figure 16 and include, but are not necessarily limited to, the following:

- Creamery Road Regional Lift Station
- Middle Mt. Vernon Road Neighborhood Manhole Rehabilitation Projects
- Trunkline Capacity Upgrade from near Red Bank Road & Upper Mt. Vernon Road to the West Wastewater Treatment Plant
- Trunkline Capacity Upgrade Along Broadway Avenue

These projects will help increase the reliability of the existing collection system and will help ensure that needed capacities are available to support future growth within the study area.

Areas of Deficiencies and Potential Need

EWSU is implementing system-wide improvements to its sanitary collection and treatments systems on an ongoing basis, through the “Renew Evansville” program, to address deficiencies and necessary upgrades. Throughout the planning stages for future development of the study area, developers should coordinate with EWSU to assess the location and

capacity of existing infrastructure, review any planned improvements to expand sanitary service within the area, and evaluate any required upgrades/extension of the collection system. Additionally, a portion of the study area, at the northern end, is located within the German Township Water District. Separate coordination will be required with the District for development within their service area.

STORMWATER DRAINAGE

The corridor sits on predominately rolling terrain of largely undeveloped farmland which drains primarily southerly and westerly to two tributaries of Big Creek. The primary soils types are eroded Hosmer silt loams and eroded Alford silt loams, and the balanced comprised of Stendal silt loams, Wilbur silt loams and various other silt loams as indicated on the USGS Soils Map or USDA website.

In the northern section of the corridor, the Little Creek-Headwaters watershed encompasses 12,640 acres. It begins near St. Wendel Road, located to the north of the University Parkway corridor then generally flows south then northwesterly to Big Creek which ultimately flows west into the Wabash River. Three Little Creek tributaries cross under the University Parkway in the northern segment of the corridor, from south of Marx Road to S.R. 66. 100-year flood plain extends into the University Parkway corridor for these tributaries.

In the southern section, the Little Creek-Wolf Creek watershed encompasses 6,815 acres. Wolf Creek begins south of Hogue Road and to the west of Rosener Road, then generally flows westerly. Little Creek-Headwaters into Big Creek which ultimately flows west into the Wabash River. Little Creek-Wolf Creek tributaries do not cross under the University Parkway in the northern segment of the corridor, from south of Marx Road to S.R. 66. However, the 100-year flood plain extends upstream east of the University Parkway corridor in at least three locations.

Please refer to Figure 16 for existing drainage conditions.

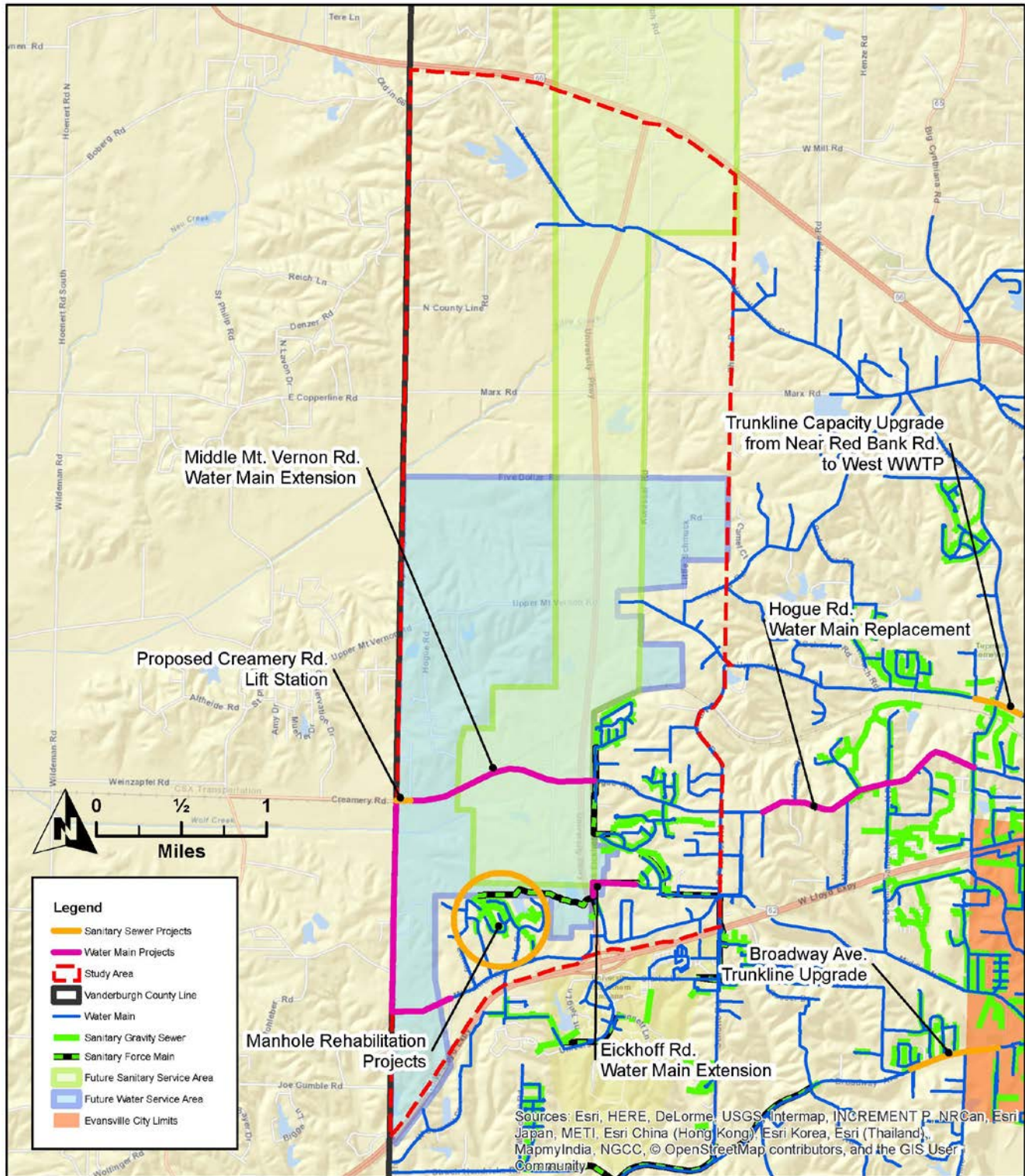


Figure 16: Future Water and Sanitary Service Areas

Vanderburgh County Engineering Department Considerations

The Engineering Department is under the jurisdiction of the Vanderburgh County Board of Commissioners. The department is charged with providing technical advice to the County Highway Department and the Board of Commissioners of Vanderburgh County. The Department is also responsible for road and bridge improvement projects let by the Board of Commissioners. The department maintains over 560 miles of County maintained roads in unincorporated areas and over 150 bridges throughout the entire County.

Since the University Parkway is in an unincorporated area of Vanderburgh County, it is maintained by Vanderburgh County. The Parkway was built in several sections, the last of which was completed in 2012. The County also maintains several bridges, box culverts, drainage pipes and appurtenances under and along the University Parkway right-of-way. There are no additional drainage easements or regulated drains that tie into the University Parkway.

There are no known drainage issues recorded at the Vanderburgh County Engineering Department along the University Parkway, attributable to the parkway construction or the tributaries of Little Creek-Headwaters or Little Creek-Wolf Creek. Any development along the corridor would have to meet the County Drainage Board policies which are published in the Vanderburgh County Drainage Code 13.04.

Vanderburgh County Surveyor's Office Considerations

The Vanderburgh County Surveyor performs several duties under the Indiana Code. As related specifically to drainage, the County Surveyor is a non-voting member of the County Drainage Board and serves as the Technical Advisor to the Board. The County Surveyor's statutory duties and powers with regard to the County Drainage Board and regulated drains are more specifically described at IC 36-9-27 and in the County Drainage Board policies as published in the Vanderburgh County Drainage Code 13.04. The County Surveyor's office is responsible for seeking public bids for drainage construction projects, as well as construction and maintenance of

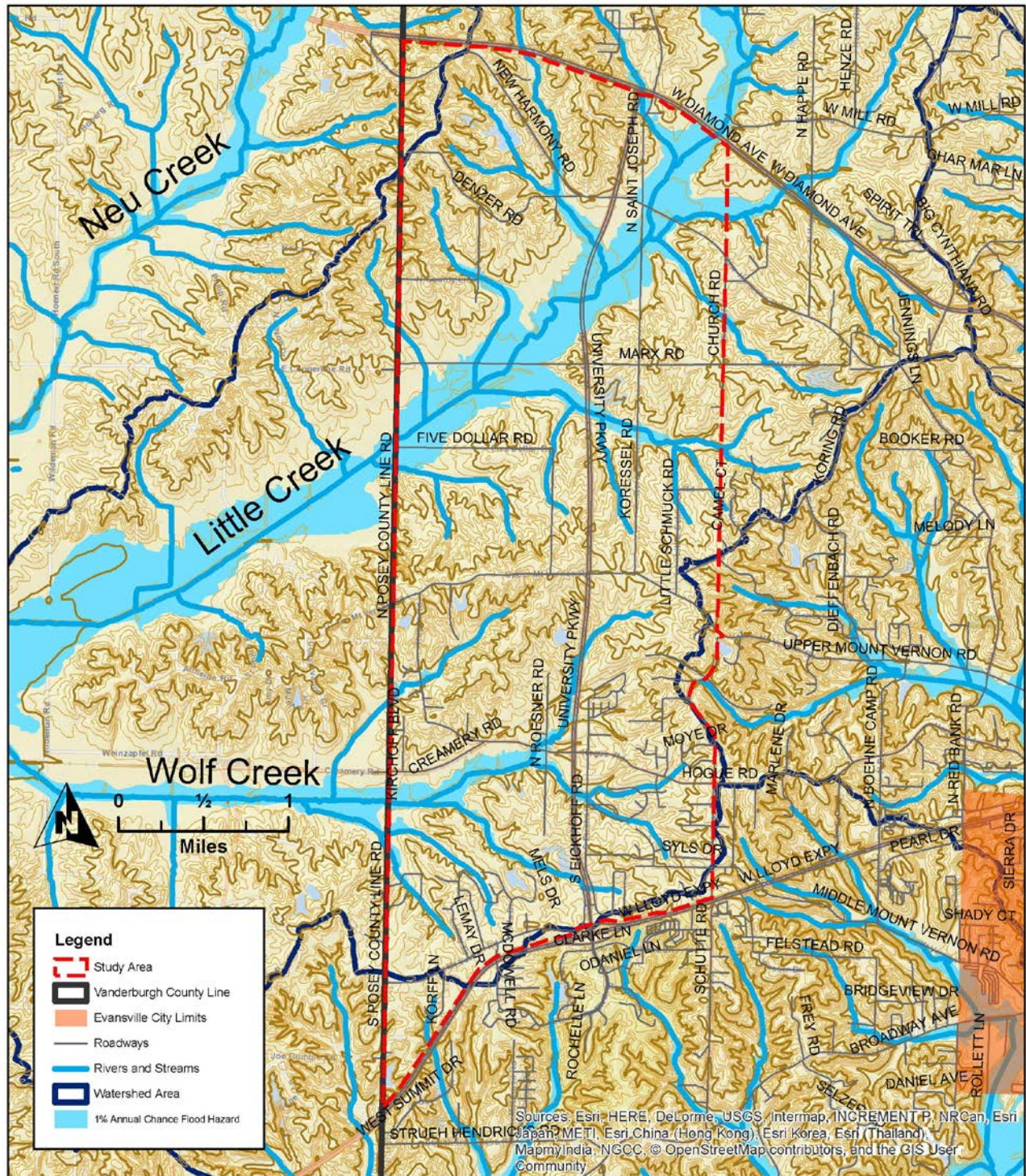
all existing or proposed regulated drains in the county. Regulated drains are large drains, open ditches or piped storm water systems serving tributary areas of agricultural, residential, commercial, and industrial land. Vanderburgh County maintains about 80 miles of regulated drain systems with about 20 miles of urban drains located within the corporate limits of Evansville.

Vanderburgh County Drainage Board Considerations

Management of storm water in Vanderburgh County falls under the purview of the Vanderburgh County Drainage Board. The Drainage Board consists of the three county commissioners. The County Surveyor is also a technical advisor to the board.

Since the University Parkway is in an unincorporated area of Vanderburgh County, stormwater runoff from existing or proposed development is controlled by Vanderburgh County. However, there are no regulated drains or drainage easements that tie into the University Parkway.

There are no known drainage issues recorded at the Vanderburgh County Surveyor's Office or with The Vanderburgh County Drainage Board along the University Parkway, attributable to the parkway construction or the tributaries of Little Creek-Headwaters or Little Creek-Wolf Creek. Any development along the corridor would have to meet the County Drainage Board policies as published in the Vanderburgh County Drainage Code 13.04.



Areas of Deficiencies and Potential Need

Both the County Engineering Department and the County Surveyor's Office commented that higher standards than outlined in the County Drainage Board policies could be considered for the corridor. Consideration to designate the area an Impacted Drainage Area should be determined allowing more stringent design parameters. Currently, the post development peak release rate of storm water runoff during a one hundred (100) year return period storm in an Impacted Drainage Area is limited to the peak release rate during a ten (10) year return period storm from the same land area prior to its development. In all other areas, the post development controlled peak release rate of stormwater runoff during a twenty-five (25) year return period storm from a project is limited to the peak release rate during a ten (10) year return period storm from the same land area prior to its development. The County Drainage Board would have to approve any changes to the policies.

Additionally, the County Surveyor's Office commented that adding regulated drains along the University Parkway corridor may be beneficial to the protection of downstream regulated drains.

TELECOMMUNICATIONS

The University Parkway study area may be serviced by several telecommunications companies, including AT&T, Spectrum, WOW, etc. AT&T provides wireless, internet, and cable. Internet is only available in the southern portion of University Parkway, whereas wireless and cable are available throughout. Spectrum provides internet, phone and cable and it is available throughout the corridor. WOW is business fiber and its only offered in the southern portion of University Parkway. These service lines may be buried or overhead on shared Vectren poles.

Areas of Deficiencies and Potential Need

Consideration should be given to how many utilities may need to share a utility easement to determine a reasonable width. Additionally, railroad crossings as well as INDOT road crossings should be avoided if possible.

Market Analysis

Introduction

A market analysis studies the trends and growth rates of a specified market area. This analysis can identify the opportunities for future growth and limitations for various industries. This study will focus on Vanderburgh County's laborshed, economic baseline; and commercial, industrial, and housing real estate analyses.

The emphasis will be on the Vanderburgh County market area to establish a baseline for the University Parkway Corridor Plan. This information will assist in predicting the development potential of University Parkway and what industries would be best suited for this corridor.

Data Sources

Data for the following report was collected from the US Census Bureau, Evansville-Vanderburgh County Comprehensive Plan, and ESRI ArcGIS Records provided by the county, Reis Retail Report, ESRI Retail MarketPlace Profile, Stats Indiana data, and Hoosier by the Number. Data was then consolidated, aggregated, and analyzed by REA to depict Vanderburgh County's current economic conditions.

Methodology

Laborshed, Commute, Economic Base

US Census data tools such as OnTheMap and FactFinder were used to establish a base demographic and commuter trends for Vanderburgh County. This highlighted where the economic strengths of the housing interest lie. Stats Indiana used 2015 tax data to assist in the illustration of daily employment exports and imports.

Commercial

The commercial analysis utilized REIS commercial real estate report for the metro region and ESRI retail marketplace profile for designated market sectors to provide insight on retail in the county relating to the study area. The data from each report was aggregated and analyzed to illustrate the existing community needs.

Industrial

Hoosier by the Number, an Indiana Department of Workforce Development tool, was used to gather data on the industrial sectors. This data was compiled to determine employment trends.

The North American Industry Classification System (NAICS) 5-digit code for manufacturing were used to represent various industry groups like plastic and rubber product or paper manufacturing. This depicts a broadened perspective yet offers enough detail needed to recognize what the focuses for the County should be.

Economics and Demographics

Vanderburgh/Evansville Profile

According to the US Census Bureau, the county's population in 2010 was approximately 179,700 and in 2016 was estimated at 181,720 people. Evansville had a recorded population of 120,080 in 2010 and is estimated to have decreased to 119,477 in the last 5 years. The study area was found to have 4,146 residents in 2010. It is evident that recently the city has seen a small decline of 0.5 percent which the county has likely absorbed with a growth rate of 1.1 percent. This is an improvement for the city which saw a 4.5 percent drop between 1990 to 2010.

Populations change over time due to births, aging and deaths. Observing these trends within the corridor study area, there are shifts that have occurred over the last 20 years. The population group that is 55 and older has been steadily increasing while other age groups have fluctuated or been decreasing.

Over the last 15 years, the education level of Vanderburgh County's citizens has risen. The percent of citizens with a Bachelor's Degree or greater was 19 percent in 2000 and rose to 24 percent in 2015. Residents without a high school diploma decreased from 16 percent in 2000 to 10 percent in 2015. These changes result in a more qualified workforce in the region creating a more attractive market for prospective businesses.

Vanderburgh County has historically, and continues to be, a net importer of jobs. On average, the county draws over 40,000 employees while retaining over 56,000 (70%) of the county's workforce.

Figures 20 and 21 illustrate prior and present employment figures. The county has more jobs than workers in its borders therefore, it imports workers from adjacent counties, with Warrick County being the most prevalent. Even during the recession, unemployment remained relatively low. This can be attributed to the surplus of jobs with a current unemployment rate of 6.5 percent.

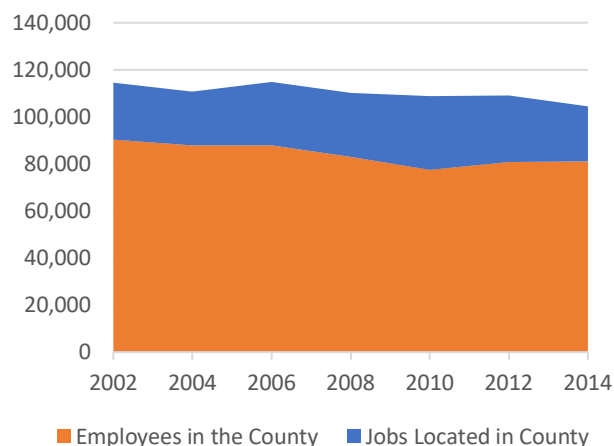


Figure 17: Employment and Resident Workforce Comparison

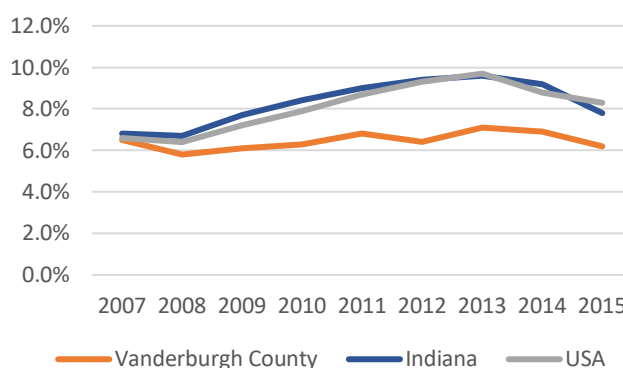


Figure 18: Unemployment Rate Comparison

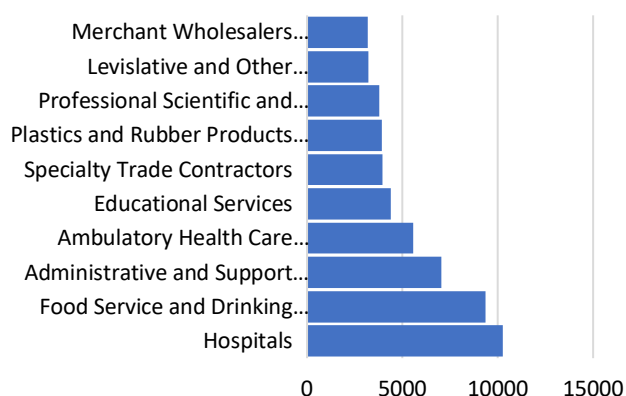


Figure 19: Top 10 Industries by Employment, Vanderburgh County.

Industry Distribution

Vanderburgh County has a number of industries within its labor market that offers a variety of employment. In 2015, according to Indiana Business Research Center (IBRC), hospitals led the employment market with over 10,000 employees. Following behind were food and drinking establishments; administrative and support staff; etc. as seen in Figure 19. In general health care is one of the largest employers for Vanderburgh County. Other sectors that employ large numbers of residents include retail trade and manufacturing. Retail trade generally is lower in wages than healthcare and manufacturing jobs. This means retail workers may have less disposable income to spend in the community.

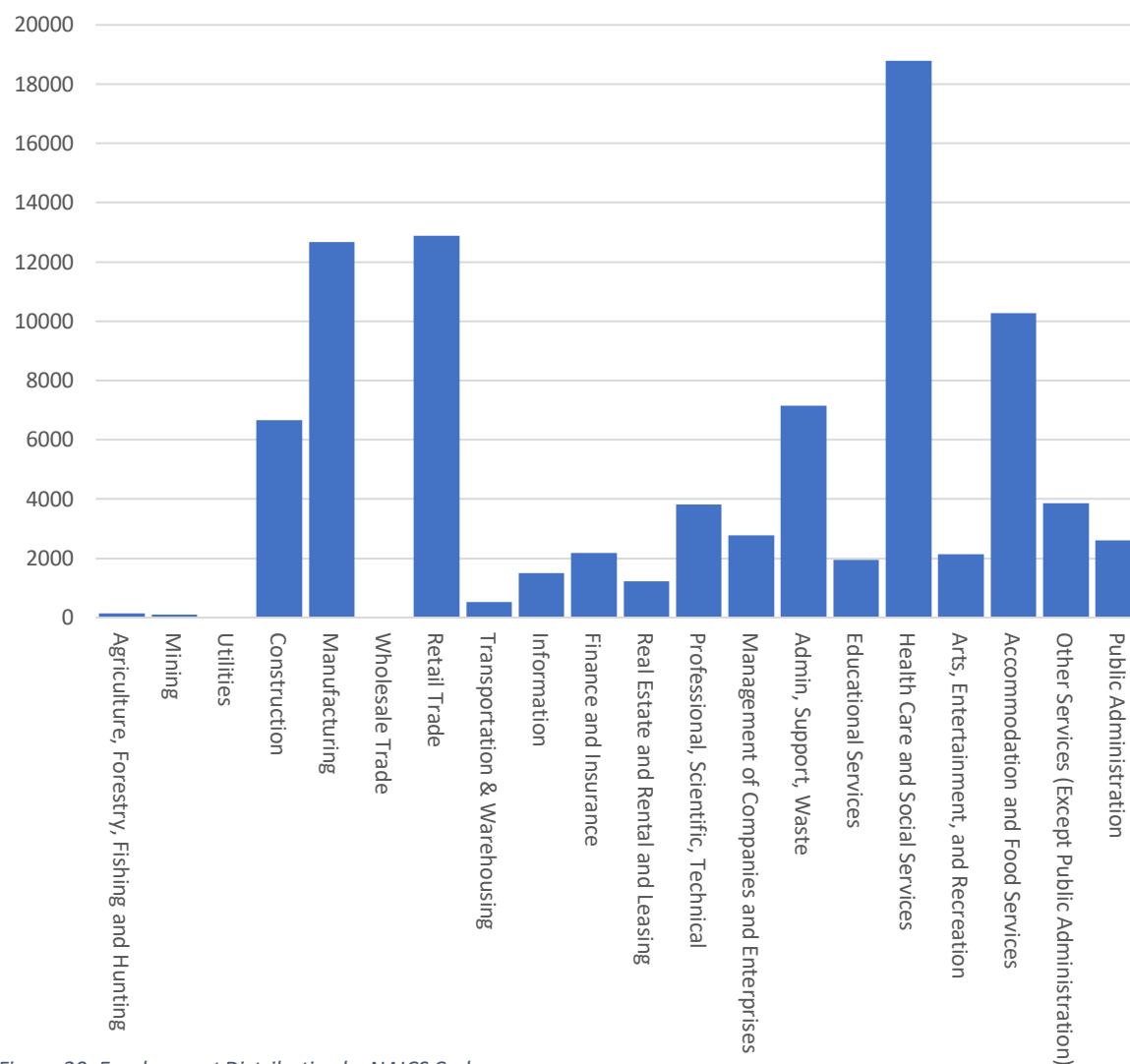


Figure 20: Employment Distribution by NAICS Code

Laborshed

Labor availability, skilled workforce, or training opportunities for employees can be a determining factor for new or expanding businesses. Establishing what constitutes the labor market depends on several factors such as commute time, transportation costs, individual priorities, and wages paid.

Residents of Vanderburgh / Evansville

Figures 23 to 26 depict the general laborshed for Vanderburgh County in 2014. The colored regions represent the location of households of those employed within Vanderburgh County. Darker areas indicate larger quantities of employees. Counties like Warrick (14,566 workers) and Posey (4,874 workers) export many workers to Vanderburgh County.

Workers who Live in Vanderburgh / Evansville but are Employed Elsewhere

Individuals living in Vanderburgh County generally work in the county. Figure 24 depicts the dispersal of jobs held by County residents. The center for employment in the region is Evansville's downtown which supports a majority of Vanderburgh's population. Other areas of employment include the area surrounding the intersection of Lloyd Expressway and N. Green River Road, and Toyota Motor Manufacturing Indiana.

Daily Commute

Workers willingness to travel for work is an important component for new or expanding employment centers. Within Evansville and Vanderburgh County, workers are most likely to live less than 10 miles from home with a commute of 20 minutes on average as seen in Figures 21 and 22.

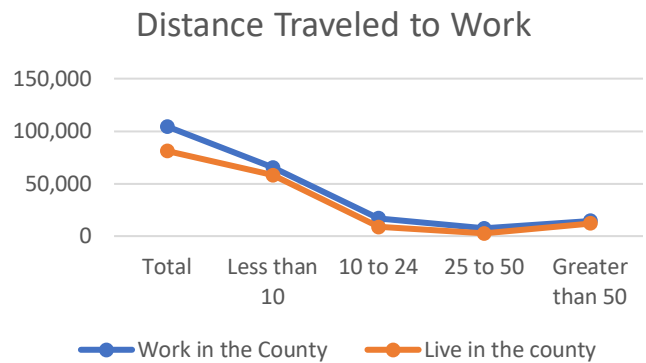


Figure 21: Distance Traveled to Work

Travel Time to Work 2015

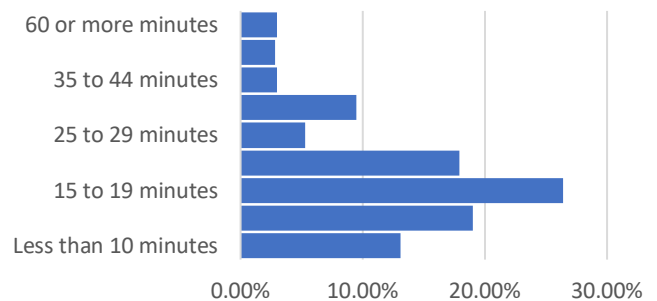


Figure 22: Travel Time to Work 2015

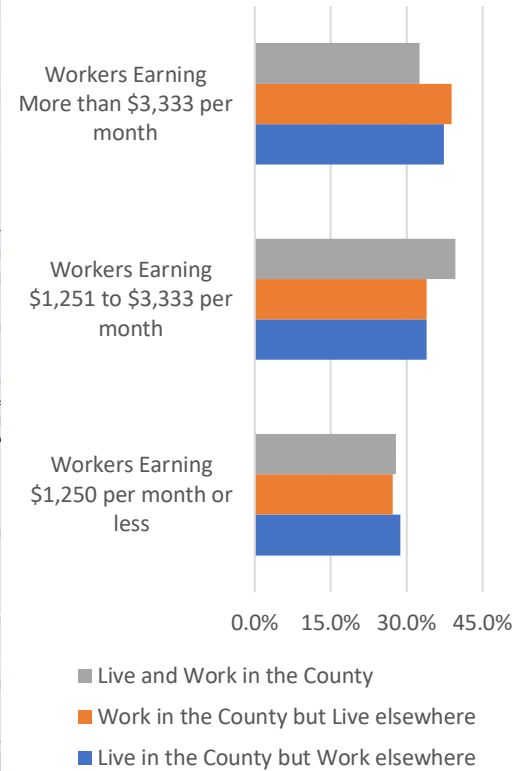
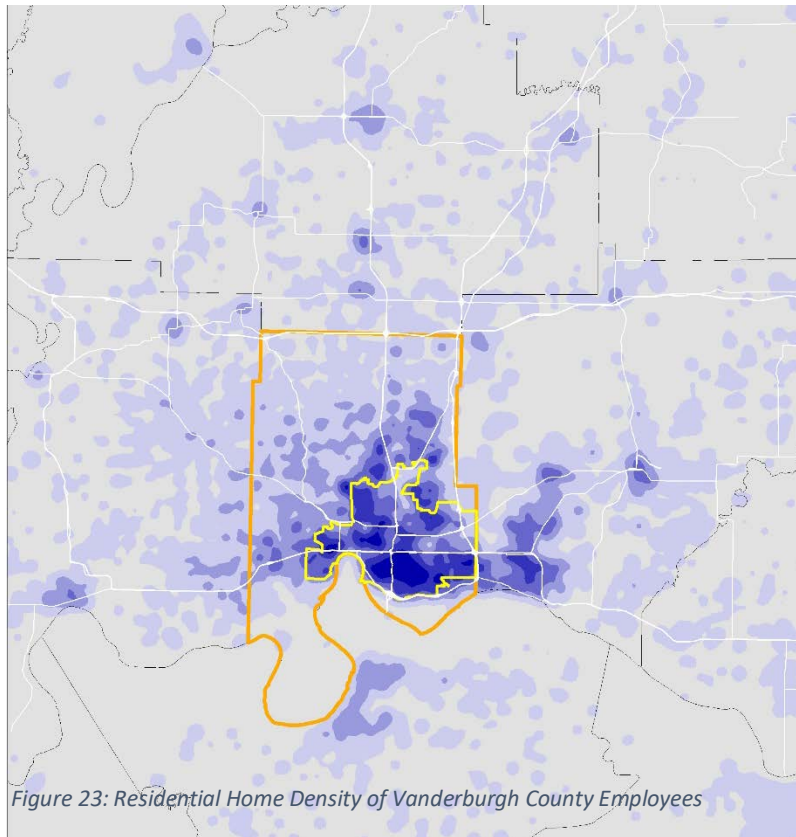


Figure 25: Earnings by Residence and Employment

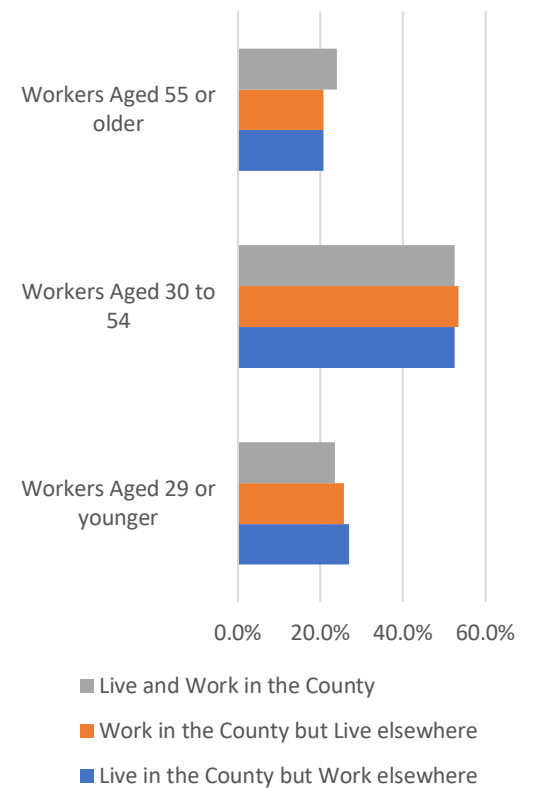
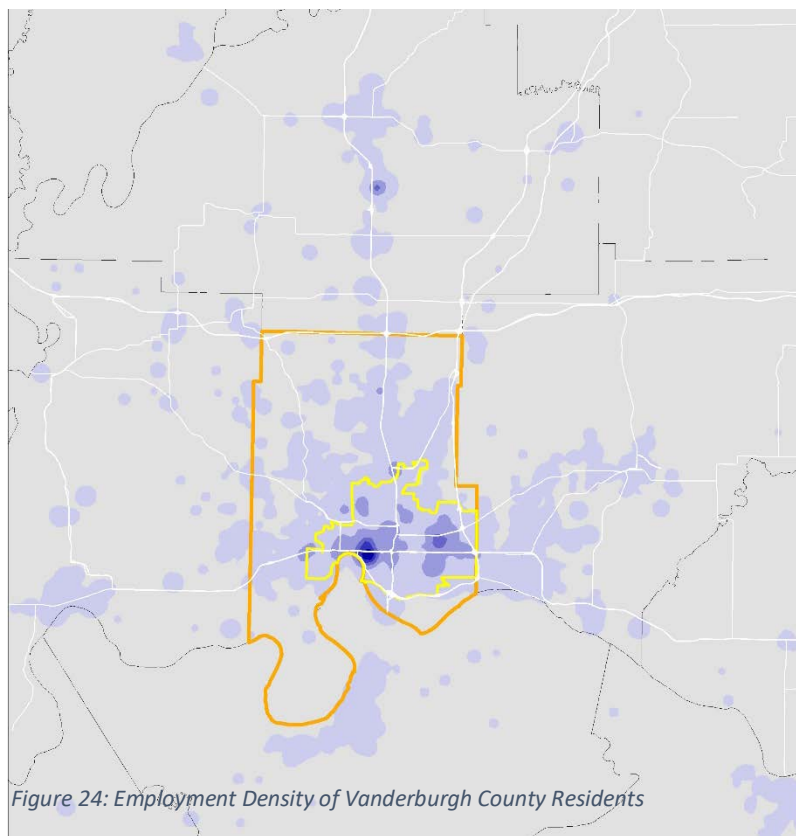


Figure 26: Age by Residence and Employment

Commercial

Evansville Metro Area

To understand the study area's capacity for retail development, a better understanding of the surroundings area's market is needed. The study area currently has no retail within its boundaries. Analyzing the surrounding retail market offers insight on whether the study area is appropriate for retail, how much, and/or what kind.

The Evansville Metro Area has a well-established retail market. The makeup of the metro's existing retail is seen in Figure 29. Regional malls represent seven percent of the market. These centers are typically enclosed or interconnected by a common space with major anchor department stores like Macy's, Sears, J.C. Penny, Nordstrom, etc. Typically, these have at least 400,000 square feet of leasable space. Most of the retail, approximately 50 percent, is classified as community shopping centers. Power Centers are a grouping of three or more anchor stores accounting for 75 percent of a center containing more than 250,000 square feet of retail space. These centers often act similarly to regional malls/centers serving a larger market. Community shopping centers are large retail properties like Walmart or Target which have a large building footprint and offer a wide range of merchandise. Neighborhood shopping centers make up one fourth of the market. These neighborhood centers have an anchor of a supermarket, drugstore or other large daily needs store. They are small and draw from the immediate surrounding neighborhoods rather than a larger market.

The retail centers in the Evansville Metro Area vary in age. However, 45 percent of the existing stock was constructed in the 1980's, as shown in Figure 27. Within these retail centers there are the nonanchor stores. Their rental rates vary by age of construction, as shown in Figure 28. The newest constructed retail has the highest rents. However, nonanchors which were constructed in the 1980's are outperforming the newer establishments from the 1990's.

Inventory by Center Age

Year Built	Percent
Before 1970	17.0 %
1970-1979	12.0 %
1980-1989	45.0 %
1990-1999	7.0 %
2000-2009	19.0 %
After 2009	0.0 %
All	100.0 %

As of July 31, 2017

Figure 27: Inventory of Existing Retail Centers by Age

Nonanchor Asking Rent by Age

Year Built	Rent
Before 1970	\$ 9.81
1970-1979	\$ 11.50
1980-1989	\$ 12.86
1990-1999	\$ 12.33
2000-2009	\$ 13.17
After 2009	n/a
All	\$ 10.89

As of July 31, 2017

Figure 28: Existing Rent by Age of Nonanchor Retailers

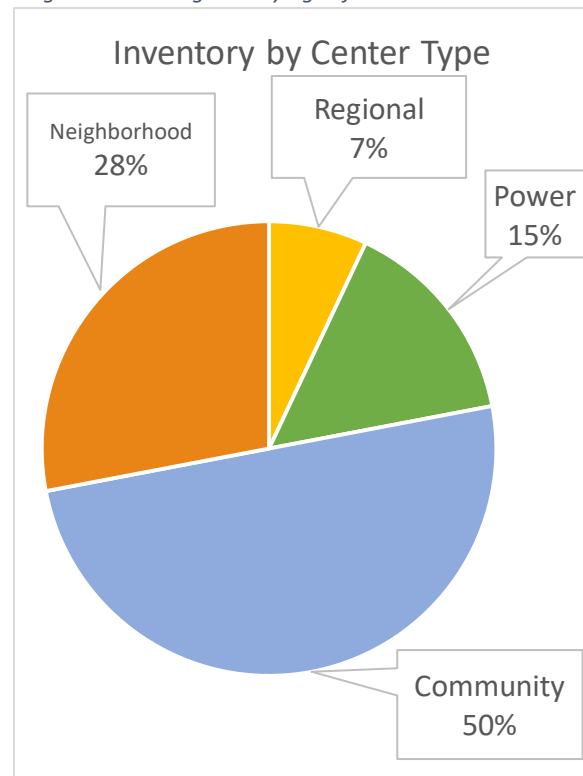


Figure 29: Retail Shopping Center Inventory by Type.

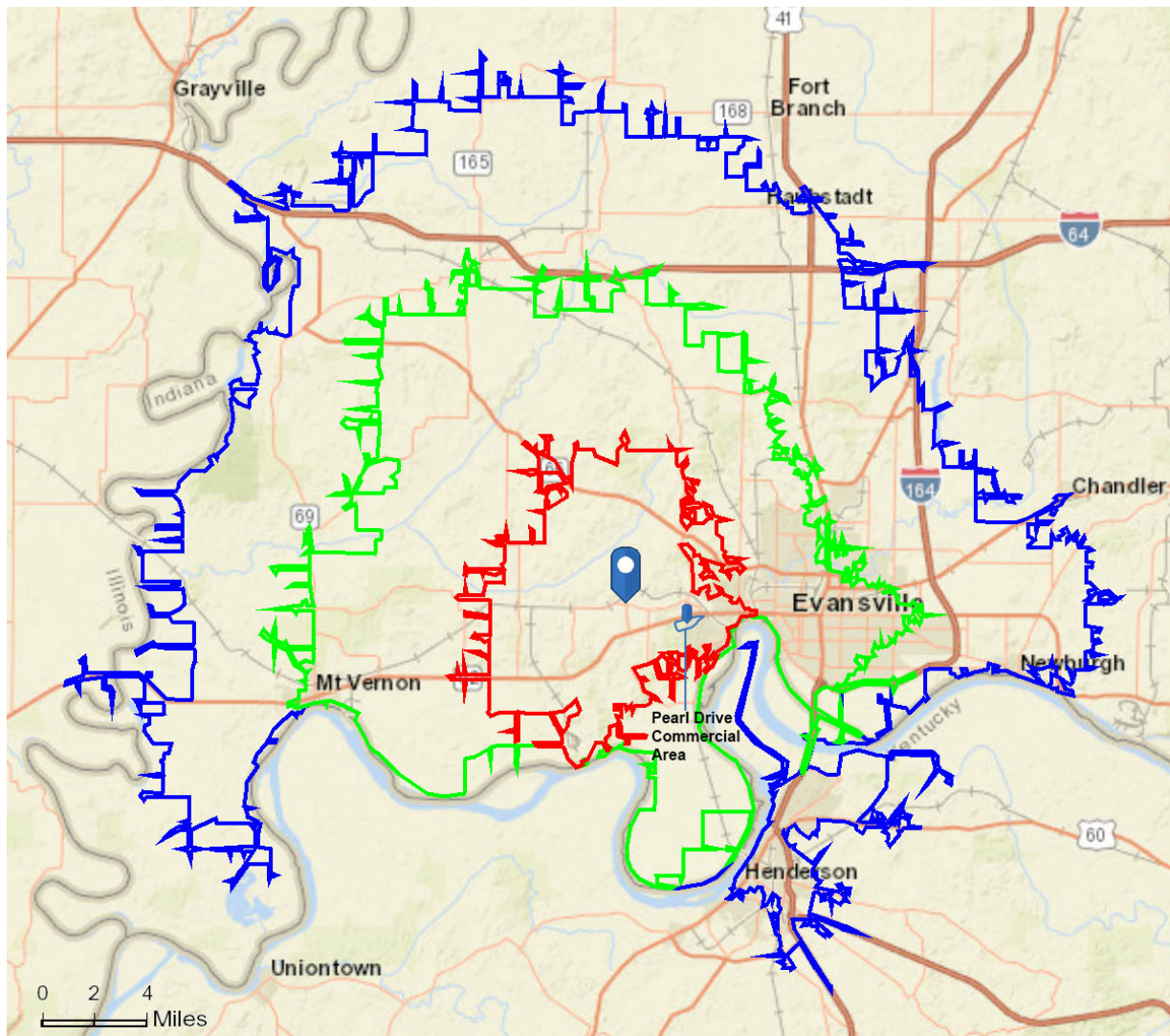


Figure 30: Drivetimes illustrated for the intersection of Hogue Rd. and University Pkwy.

Drive time Markets Analysis

An ESRI Retail Marketplace Profile was used to estimate the retail demand and supply establishing a better understanding of the market conditions affecting the study area and its surroundings. The demand is based on the retail potential or the typical household spending in selected areas. Supply is represented by the actual retail sales and where households are spending within a selected region (surplus) or outside (leakage).

Drivetime zones were created to establish how far people are required to travel for basic services and retail needs. This indicates gaps and what types of retailers may be needed as the study area develops.

The intersection of Hogue and University Parkway was used as the point of origin to create 10, 20 and 30-minute drivetime areas. These identify levels of convenience for the study area. The ten-minute includes the entire study area and the nearby Lloyd Expressway/Pearl Dr. retail center. The 20-minute zone offers access to the downtown and to a majority of Evansville, including a portion of the Green River Rd. corridor. Finally, the 30-minute area captures a majority of the county.

10-Minute Market

The 10-minute zone, outlined in red in Figure 30, is the immediate area around the study area. Figure 31 on page 31 depicts the surplus and leakage present in this zone.

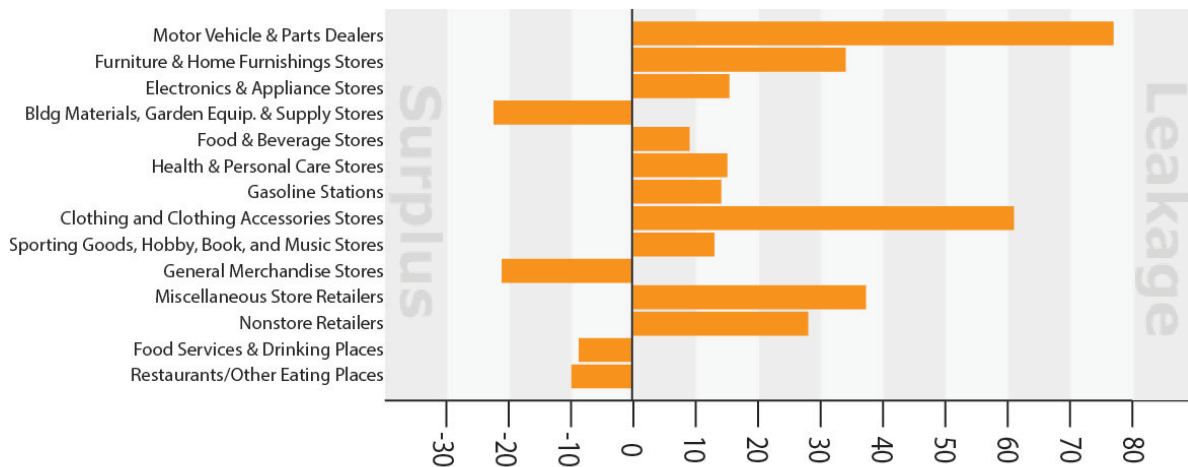


Figure 31: 10-Minute Market Industry Subsectors Surplus & Leakage Analysis

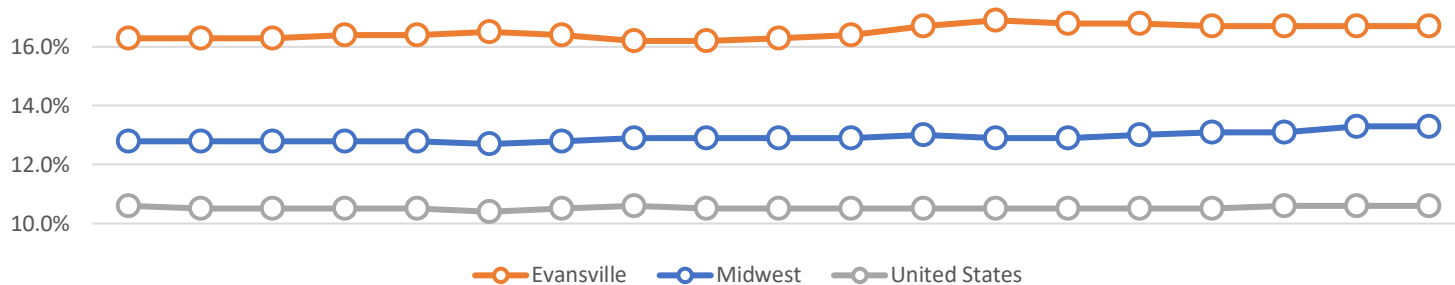


Figure 32: 20-Minute Market Industry Subsectors Surplus & Leakage Analysis



Figure 33: 30-Minute Market Industry Subsectors Surplus & Leakage Analysis

Monthly Metro Vacancy Rate Trends



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Evansville	16.3%	16.3%	16.3%	16.4%	16.4%	16.5%	16.4%	16.2%	16.2%	16.3%	16.4%	16.7%	16.9%	16.8%	16.8%	16.7%	16.7%	16.7%	16.7%
Midwest	12.8%	12.8%	12.8%	12.8%	12.8%	12.7%	12.8%	12.9%	12.9%	12.9%	12.9%	13.0%	12.9%	12.9%	13.0%	13.1%	13.1%	13.3%	13.3%
United States	10.6%	10.5%	10.5%	10.5%	10.5%	10.4%	10.5%	10.6%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.6%	10.6%	10.6%

Figure 34: Evansville Metro Area Vacancy Rate Comparison

The areas of surplus are *Building Materials, Garden Equipment & Supply; General Merchandise Stores; Food Service & Drinking Places; and Restaurants/Other Eating Places*. A majority of the surplus is likely due to the Lloyd Expressway/Pearl Dr. commercial center. Major retailers that contributed to this surplus include Home Depot, Lowes, Walmart, numerous other smaller retail, and food and drink establishments, etc. This indicates the daily convenience needs are met in this 10-minute drive time. The retail leakage is mostly specialty stores and retailers which are infrequent purchases. The only exception would be *Food & Beverage Stores*.

20-Minute Market

The 20-minute zone, outlined in green on figure 30, offers a surplus of retail in all industry subsectors, seen in Figure 32 on the previous page. The only exceptions are *Gasoline Stations and Nonstore Retailers*. This means that the daily and regional needs are well met within a short drive for current and future residents of the University Parkway Corridor. The *Nonstore Retailers* are infomercials, online sales, catalog sales, etc. which means it is highly unlikely any community will have a surplus in this category.

30-Minute Market

The 30-minute zone, outlined in blue on Figure 30, offers a surplus in all industry subsectors. The only exception in this market area is *Nonstore Retailers*. The county metro area is well served by all retail services and even draws shoppers/diners from larger areas outside of the County.

Vacancy

Retail vacancy within the Evansville Metro Area appears to be higher on average than the Midwest and national average at 16.7 percent. Figure 34 depicts this difference with the Midwest at 13.3 percent and the country at 10.6 percent. The vacancy rates are the most apparent in buildings constructed between 1980 and 1999 shown in Figure 35. The 1990's retail should be functional and in good condition so the vacancy could be due to a large anchor leaving a center affecting the adjacent retail. Additionally, the national trend in retail has been shifting away from bricks and mortar buildings to online sales. This has affected many communities, including Evansville and Vanderburgh County, increasing vacancy. This high availability raises the question of whether the metro has too much retail, if there is a need for a different variation, or location.

Inventory by Center Age

Year Built	Vacancy Rate
Before 1970	9.1 %
1970-1979	7.4 %
1980-1989	11.9 %
1990-1999	38.4 %
2000-2009	3.8 %
After 2009	n/a
All	100.0 %

As of July 31, 2017

Figure 35: Metro Vacancy Rates by Year Built

Industrial

In Vanderburgh County, industrial accounts for 12 percent of the economy by employment. As noted in Figure 38 on page 39, the County has diverse industries. However, a few industries stand out in the county including plastic and rubber manufacturing which is one fourth of all the manufacturing jobs in the county.

Existing Industrial Location and Land

In Vanderburgh County, a majority of the industrial land is concentrated along major highways. Industrial sites that are marketed by Indiana Economic Development Corporation strive to be no farther than a mile from an interstate. There are exceptions where industrial locates farther from major interstates, such as the Toyota site in Gibson County (1996). Most of the new industrial sites are concentrated in Scott and Center townships on the northeast side of Vanderburgh County. US 41 and SR 57 are these industrial site's main access roads leading directly to Interstate 69 or 64. There are also scattered sites that fall outside these townships.

In evaluating potential industrial sites, an important consideration is the readiness of the site for development. The Shovel Ready Indiana Site Certification is a program designed to reduce the risk associated with economic development, create a state-wide marketing tool, and emphasize a community's dedication to economic development. These sites appeal to potential builders, developers, industry leaders and entrepreneurs. Indiana has a tiered system of certifications including Silver, Gold, and at the top is Prime Certification. Important criteria for consideration for certification are:

- Transportation infrastructure
- Rail corridor adjacency
- Utility infrastructure
- Appropriate zoning
- Environmental conditions
- Topography and other natural features
- Contiguous acres of land

In addition to the prime locations mentioned above, there are other sites that are shovel ready according to these standards; and at least one site is Indiana Site Certified Gold.

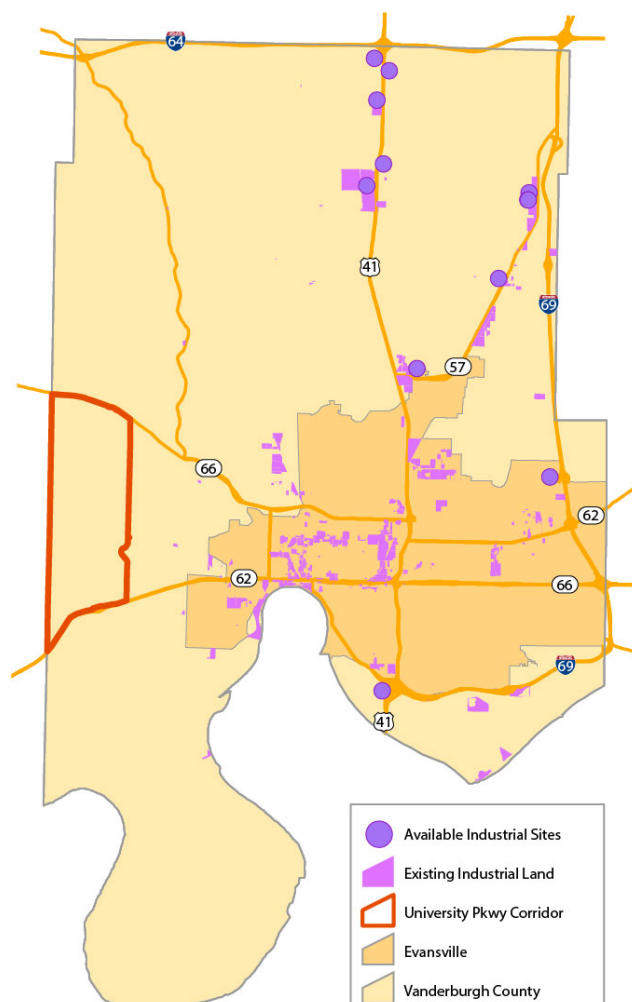


Figure 36: Existing Industrial land-use and available parcels for industrial development

Lease and Sale Trends

Industrial space purchase or rental prices have been steadily climbing over the last few months. According to Loopnet, prices for the County dropped close to \$4.40/SF/YR for rental leases and \$29/SF sale price in 2016 from \$32/SF asking price and \$4.60/SF for rental rates. These have improved in the last year rising to \$4.64/SF/YR for rent and \$34.36/SF by June 2016. This has likely continued to increase into 2017.

In comparison, Evansville usually out performs the County slightly. The State has consistently outperformed the City, County, and Metro except in 2016 where the Metro region experienced major increases in sale price per square foot.

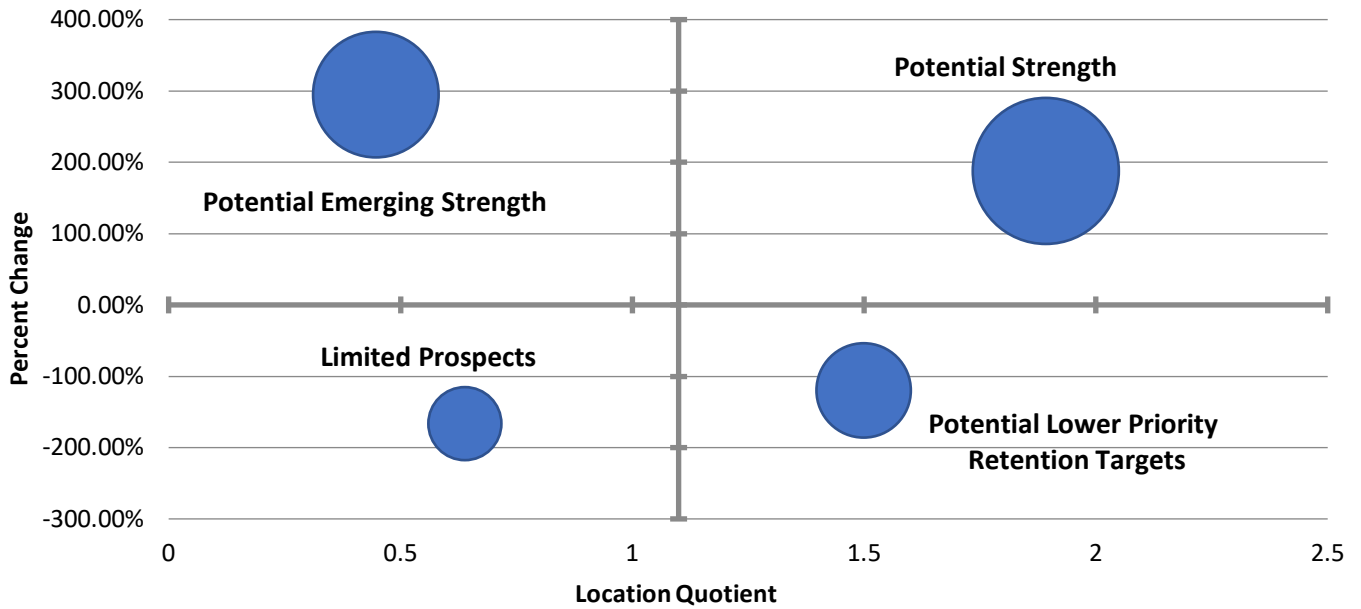


Figure 37: Example Industry Performance

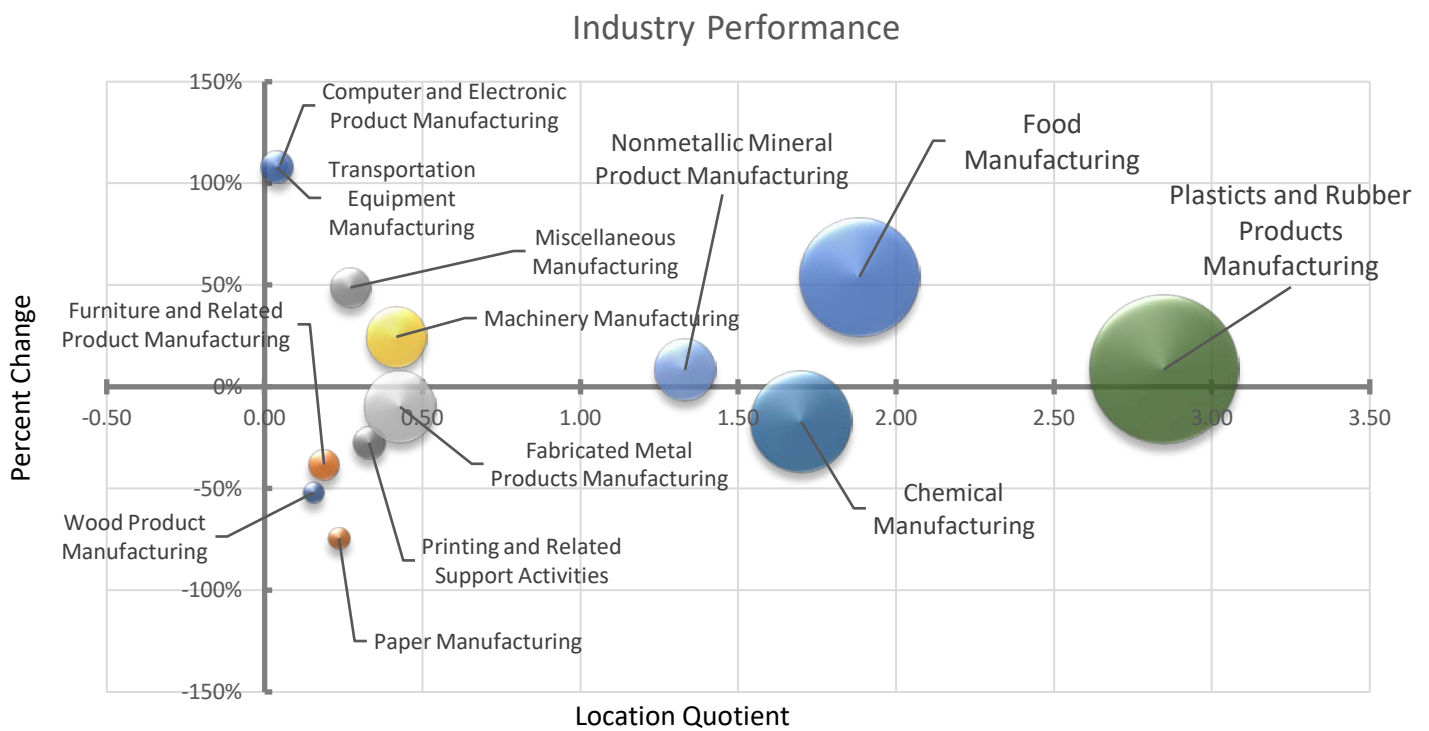


Figure 38: Industrial Industry Performance

Location Quotient/Industry Performance

The Industry Performance has four quadrants, each of which represents a specified sector. These include successful, emerging strength, a lower priority for retention, and an industry with limited potential. The bubble's size represents its employment in relation to others in the manufacturing sector.

The US Bureau of Labor Statistics established groupings of various employment sectors. The intent was to establish a base for similar employment sectors to be generalized together and analyzed. The sector in Figure 38 is Manufacturing displaying the performance of the various employment sectors.

The Industry Performance graphic on page 39 displays the analysis results depicting the current emerging and existing strengths for manufacturing. Three industries that showed potential included:

- Plastic and rubber product manufacturing
- Food manufacturing
- Nonmetallic mineral product manufacturing

Plastic and rubber product manufacturing outperformed all the other sectors by far appearing to be an existing strength for Vanderburgh County.

Potential Emerging Strengths had much smaller labor forces but still offer potential for improving over time.

- Computer and electronic product
- Transportation equipment
- Miscellaneous manufacturing
- Machinery manufacturing

Housing

Vanderburgh County has been expanding its housing rapidly in various townships across the city. On average, the percent change in housing units is about 11.5 percent between 1990 and 2010. The largest growth, absorbing a large portion of the market is unincorporated Center Township at 95 percent change and Scott Township with an 87 percent of change, both in the northeast part of the county. The townships along University Parkway Corridor did not experience the same level of growth. Unincorporated Perry Township experienced a more moderate housing unit increase of 50 percent, while German Township grew by 13 percent.

Future housing projections for 2035, in the Comprehensive Plan, follow similar trends. Scott Township continues to dominate the housing market with the largest percent change at 36 percent. The remaining townships are on the moderate end of growth reaching an average of 14 percent of change. This includes the townships for the University Parkway Corridor, Perry and German Township, which between them have a projected average of 12 percent change in the next 20 years. This change accounts for about 1,650 housing units.

Population and housing projections are based on assumptions made during the comprehensive plan process. These projections had some basic assumptions which directed the results of the model. For example, the various modeling scenarios in the Plan displayed different levels of growth occurring as infill development in the City, as opposed to outward development in areas akin to University Parkway. The Comprehensive Plan chose a moderate infill scenario. Each township also had different assumptions on lot size and housing mix which were stated in the Comprehensive Plan, as "parcelizations of 5 or more acres, subdivided lots with septic systems at 2.5 acres or more per lot; homes in an urban setting on the minimum 6,000 square foot lot allowed by the Zoning Code; and a higher density mix of single family and some multi-family use" (Evansville-Vanderburgh Comprehensive Plan).

Conclusions

Advantages & Disadvantages

The corridor study area is located in the County and remains relatively undeveloped. Being a greenfield creates a blank slate for new development whether that may be housing, mixed-use, industrial, or agriculture.

Developing this corridor offers several benefits for a prospective developer. Land prices are likely cheaper due to lower demand along the corridor in comparison to the east side of the county where land is in high demand. In addition, the access to an active railway could help industrial prosper in the area.

There are some issues that could deter developers. At present, the lack of sanitary sewer in much of the study area is a disadvantage. However, this will become less in the future with the planned sewer extension to service more of the corridor. Substantial slope exists in most of the study area but becomes more prevalent along the Posey-Vanderburgh County Line. Little Creek, in the northern portion of the study area, has a flood zone and likely a floodway which will have limitations for development in the future.

The market study illustrates that there will be some limitations on the amount of development. Retail vacancy rates are high in comparison with the Midwest and country indicating either a lack of need, the wrong type, or location. Retail will not be in great demand until the existing retail has been addressed. Industrial may also have difficulty due to the limited access the study area has to Interstates 64 or 69. A number of available industrial sites, on the east side of the county have this advantage over the study area.

Conclusions

The study area has a great deal of potential for the future. Residential development is already sprouting in the southeast corner of the study area. If there is continued new residential development, more neighborhood retail can be supported.

Neighborhood commercial or small scale nodal development would be more beneficial for the residents of the area and would also avoid syphoning retail potential from other parts of the county, particularly the commercial centers on west Lloyd Expressway between Rosenberger Avenue and S. Boehne Camp Road.

The feasibility of larger retail within the study area may be limited. With the combination of retail surpluses nearby and higher vacancy rates in the metro area, large retail is not needed. Limited convenience retail and restaurant uses may be in demand with the growth of population in the area, office development, or increased USI enrollment.

The industrial or the technology park will likely need to take advantage of the opportunities and partnerships with the University of Southern Indiana. Due to limited access to a major interstate, industrial in this area will be limited even with access to the active railroad.