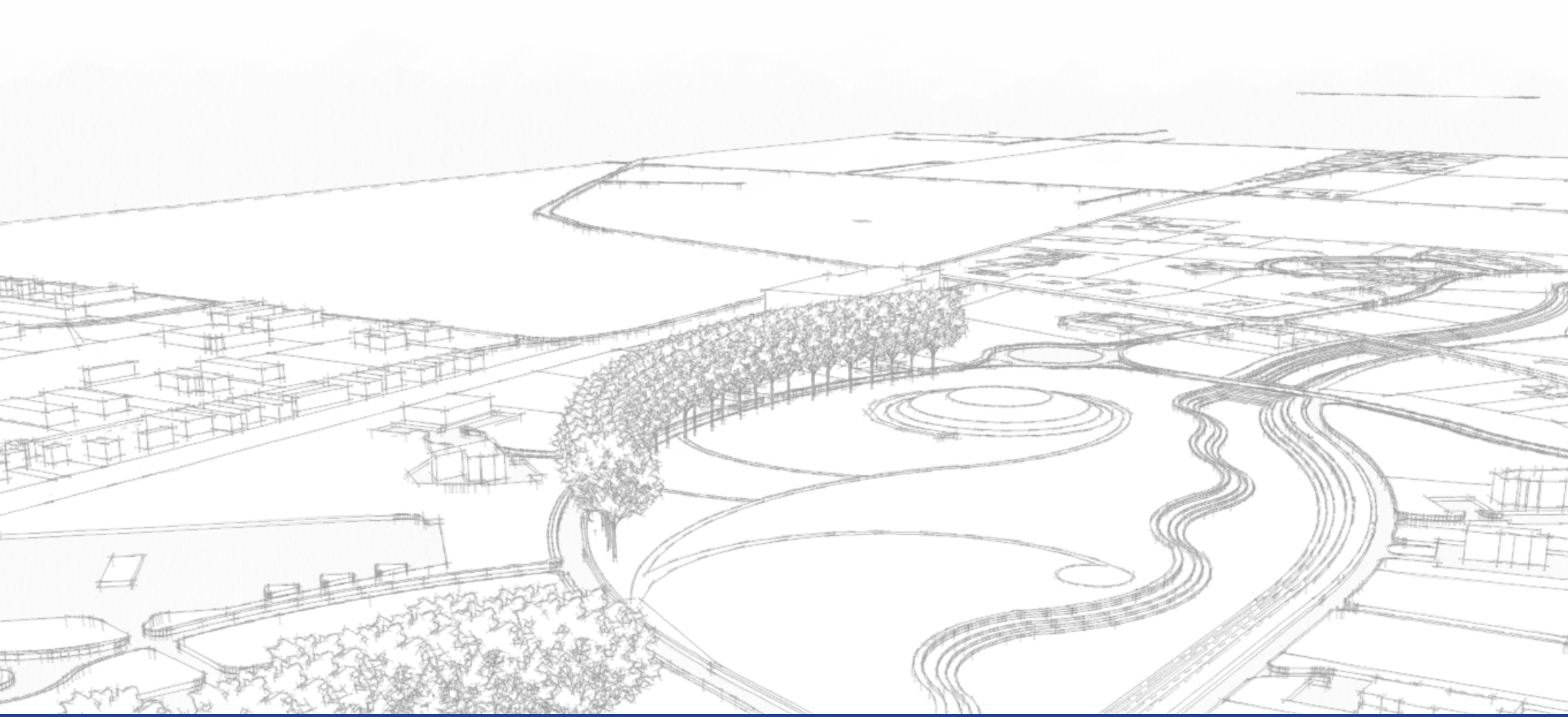

IN PLANE VIEW:

A CLEAR VISION FOR THE FUTURE

City of Valparaiso | Porter County | Porter County Regional Airport

DRAFT DOCUMENT 01.07.13

Appendix 'A'

PROPOSED DEVELOPMENT SQUARE FOOTAGES

PORTER COUNTY AIRPORT ZONE PROPOSED DEVELOPMENT SQUARE FOOTAGE												
						30 Year Plan		100 Year Plan				
	Land Use	Area Size (Acreage)	Percentage of land use	Projected Jobs	Square Feet per Worker	Building (SF)	Site acreage	Building (SF)	Hardscape (SF)	Open Space (SF)	Total Units	Type
Development Zone 1												
1	Residential	129.3									129	Assumes 1 unit per 1 acres
2	Light Industrial	47.7						623,344	727,234.20	727,234.20		
3	Commercial, Retail	125	0.74	2,434	500	1,216,853	140	1,361,250	1,905,750.00	2,178,000.00		
4	Business Park	189.9	0.54	2,228	250	557,073	51	2,068,011	2,895,215.40	3,308,817.60		
5	Residential	14.4									12	Assumes 1 unit per .5 acres
6	Business Park	140.9	0.40	1,653	250	413,331	38	1,534,401	2,148,161.40	2,455,041.60		
7	Residential	86.1									107	Assumes 1 unit per .5 acres
8	Commercial, Retail	44.7	0.26	870	500	435,147	50	486,783	681,496.20	778,852.80		
9	Business Park	230.6						2,511,234	3,515,727.60	4,017,974.40		
Development Zone 2												
1	Institutional	67.3										
2	Business Park	21.9						238,491	238,491.00	381,585.60		
3	Commercial, Retail	35.4						385,506	539,708.40	616,809.60		
4	Commercial, Retail	96.7						1,053,063	1,474,288.20	1,684,900.80		
5	Open Space	189.3										
6	Residential	50.8									100	Assumes 1 unit per .5 acres
Development Zone 3												
1	Light Industrial	607.4	0.41	1,117	750	837,413	64	7,937,503	9,260,420.40	9,260,420.40		
2	Open Space	40.5										
3	Residential	51.3									102	Assumes 1 unit per .5 acres
4	Institutional	76.9										Fairgrounds
5	Agriculture	82.3									8	Assumes 1 unit per 10 acres
6	Institutional	20.7						135,709				Jail
7	Light Industrial	27.5	0.02	51	750	37,914	3	359,370	419,265.00	419,265.00		

PORTER COUNTY AIRPORT ZONE PROPOSED DEVELOPMENT SQUARE FOOTAGE												
						30 Year Plan		100 Year Plan				
	Land Use	Area Size (Acreage)	Percentage of land use	Projected Jobs	Square Feet per Worker	Building (SF)	Site acreage	Building (SF)	Hardscape (SF)	Open Space (SF)	Total Units	Type
Development Zone 4												
1	Heavy Industrial	654.1		1,303	1,500	1,954,500	128	9,972,409	11,397,038.40	9,972,408.60		
Development Zone 5												
1	Aviation	1181.7										
Development Zone 6												
1	Business Park	18.1	0.05	212	250	53,096	5	197,109	275,952.60	315,374.40		
2	Multi-family Residential	35.8									300	Assumes 1 unit per 4,000 SF (.091 Acres)
3	Light Industrial	362.8	0.24	667	750	500,187	38	4,741,070	5,531,248.80	5,531,248.80		
4	Residential	40.4									4	Assumes 1 unit per 10 acres
Development Zone 7												
1	Medium Industrial	488.5	0.33	898	1,000	897,983	64	7,447,671	8,511,624.00	7,447,671.00		
Development Zone 8												
1	Residential	40.26									80	Assumes 1 unit per .5 acres
2	Agriculture	1222.1									122	Assumes 1 unit per 10 acres
3	Conservation Agriculture	853									42	Assumes 1 unit per 20 acres
4	Agriculture	186.6									18	Assumes 1 unit per 10 acres
5	Agriculture	249.9									25	Assumes 1 unit per 10 acres
6	Agriculture	661.5									66	Assumes 1 unit per 10 acres

Appendix 'B'

TRIP GENERATION

PORTER COUNTY AIRPORT ZONE TRIP GENERATION										
	Land Use	ITE Trip Generation Code	Size	Unit	AM Trips	AM IN	AM OUT	PM Trips	PM IN	PM OUT
Development Zone 1										
1	Residential	210 - Single-Family Detached Housing	129	units	100	25	75	135	85	50
2	Light Industrial	110 - General Light Industrial	623.3	1000 sft	647	569	78	728	87	641
3	Commercial, Retail	814 - Specialty Retail Center	1361.3	1000 sft	0	0	0	3289	1447	1842
4	Business Park	770 - Business Park	2068.0	1000 sft	2785	2339	446	2450	564	1886
5	Residential	210 - Single-Family Detached Housing	12	units	18	4.5	13.5	16	10	6
6	Business Park	770 - Business Park	1534.4	1000 sft	2079	1746	333	1862	429	1433
7	Residential	210 - Single-Family Detached Housing	107	units	85	21.25	63.75	114	72	42
8	Commercial, Retail	814 - Specialty Retail Center	486.8	1000 sft	0	0	0	1190	524	666
9	Business Park	770 - Business Park	2511.2	1000 sft	3368	2829	539	2929	674	2255
					9082	**7535**	**1547**	**12713**	**3892**	**8821**
Development Zone 2										
1	Institutional									
2	Business Park	770 - Business Park	238.5	1000 sft	336	282	54	336	78	258
3	Commercial, Retail	814 - Specialty Retail Center	385.5	1000 sft	0	0	0	947	417	530
4	Commercial, Retail	814 - Specialty Retail Center	1053.1	1000 sft	0	0	0	2549	1122	1427
5	Open Space		189.3	acres						
6	Residential	210 - Single-Family Detached Housing	100	units	80	20	60	108	68	40
					416	**302**	**114**	**3940**	**1684**	**2256**

PORTER COUNTY AIRPORT ZONE TRIP GENERATION										
	Land Use	ITE Trip Generation Code	Size	Unit	AM Trips	AM IN	AM OUT	PM Trips	PM IN	PM OUT
Development Zone 3										
1	Light Industrial	110 - General Light Industrial	7937.5	1000 sft	9277	8164	1113	11188	1343	9845
2	Open Space		40.5	acres						
3	Residential	210 - Single-Family Detached Housing	102.0	units	81	20.25	60.75	110	69	41
4	Institutional - Fairgrounds	495 - Recreational Community Center	149.5	1000 sft	243	148	95	246	71	175
5	Agriculture	210 - Single-Family Detached Housing	8.0	units	16	4	12	12	8	4
6	Institutional - Jail	571 - Prison	450.0	beds	45	24	21	23	2	21
7	Light Industrial	110 - General Light Industrial	359.4	1000 sft	335	295	40	351	42	309
					9997	**8655**	**1342**	**11930**	**1535**	**10395**
Development Zone 4										
1	Heavy Industrial	120 - General Heavy Industrial	654.1	acres	1296	1063	233	1413	297	1116
Development Zone 5										
1	Aviation		1181.7	acres						
Development Zone 6										
1	Business Park	770 - Business Park	197.1	1000 sft	279	234	45	282	65	217
2	Multi-Family Residential	240 - Mobile Home Park	300	units	101	17	84	174	117	57
3	Light Industrial	110 - General Light Industrial	4741.1	1000 sft	5506	4845	661	6617	794	5823
4	Residential	210 - Single-Family Detached Housing	4	units	13	3.25	9.75	6	4	2
					5899	**5100**	**799**	**7079**	**979**	**6100**

PORTER COUNTY AIRPORT ZONE TRIP GENERATION										
	Land Use	ITE Trip Generation Code	Size	Unit	AM Trips	AM IN	AM OUT	PM Trips	PM IN	PM OUT
Development Zone 7										
1	Medium Industrial	130 - Industrial Park	7447.7	1000 sft	2850	2337	513	5777	1214	4563
Development Zone 8										
1	Residential	210 - Single-Family Detached Housing	80	units	66	16.5	49.5	88	55	33
2	Agriculture	210 - Single-Family Detached Housing	122	units	95	23.75	71.25	129	81	48
3	Conservation Agriculture	210 - Single-Family Detached Housing	42	units	39	9.75	29.25	50	32	19
4	Agriculture	210 - Single-Family Detached Housing	18	units	23	5.75	17.25	23	14	9
5	Agriculture	210 - Single-Family Detached Housing	25	units	27	6.75	20.25	31	20	11
6	Agriculture	210 - Single-Family Detached Housing	66	units	56	14	42	74	47	27
					306	**77**	**230**	**395**	**249**	**146**
					AM Trips	**AM IN**	**AM OUT**	**PM Trips**	**PM IN**	**PM OUT**
					29846	**25069**	**4777**	**43247**	**9851**	**33396**

Appendix 'C'

ESTIMATED WASTEWATER AND WATER DEMANDS

PORTER COUNTY AIRPORT ZONE PROPOSED DEVELOPMENT SQUARE FOOTAGE (UTILITY CALCULATIONS)									
	Land Use	Area Size (Acreage)	Wastewater Flow Factor*	Units	30 year Average Daily Flows	Fully Developed Average Daily Flow	Water 30 year Peak Demand	Water Fully Developed Peak Demand	
					(gallons/day)	(gallons/day)	(gallons/day)	(gallons/day)	
Development Zone 1									
1	Residential	129.3	330	gallons/(day*acre)	42570	42570	200329	200329	
2	Light Industrial	47.7	1149	gallons/(day*acre)	0	54812	0	257938	
3	Commercial, Retail	125	1149	gallons/(day*acre)	128400	143637	604237	675938	
4	Business Park	189.9	1149	gallons/(day*acre)	58781	218213	276618	1026885	
5	Residential	14.4	660	gallons/(day*acre)	9240	9240	43482	43482	
6	Business Park	140.9	1149	gallons/(day*acre)	43614	161907	205242	761917	
7	Residential	86.1	660	gallons/(day*acre)	56760	56760	267106	267106	
8	Commercial, Retail	44.7	1149	gallons/(day*acre)	45916	51365	216075	241715	
9	Business Park	230.6	1149	gallons/(day*acre)	0	264981	0	1246970	
				Subtotal:	**385,282**	**1,003,485**	**1,813,090**	**4,722,281**	
Development Zone 2									
1	Institutional	67.3	1149.094	gallons/(day*acre)	0	0	0	0	
2	Business Park	21.9	1149	gallons/(day*acre)	0	25165	0	118424	
3	Commercial, Retail	35.4	1149	gallons/(day*acre)	0	40678	0	191426	
4	Commercial, Retail	96.7	1149	gallons/(day*acre)	0	111117	0	522906	
5	Open Space	189.3	0	gallons/(day*acre)	0	0	0	0	
6	Residential	50.8	660	gallons/(day*acre)	33660	33660	158400	158400	
				Subtotal:	**33,660**	**210,621**	**158,400**	**991,156**	

**Metcalf & Eddy, 2003*

PORTER COUNTY AIRPORT ZONE PROPOSED DEVELOPMENT SQUARE FOOTAGE (UTILITY CALCULATIONS)									
	Land Use	Area Size (Acreage)	Wastewater Flow Factor*	Units	30 year Average Daily Flows	Fully Developed Average Daily Flow	Water 30 year Peak Demand	Water Fully Developed Peak Demand	
					(gallons/day)	(gallons/day)	(gallons/day)	(gallons/day)	
Development Zone 3									
1	Light Industrial	607.4	1149	gallons/(day*acre)	73635	697960	346519	3284518	
2	Open Space	40.5	0	gallons/(day*acre)	0	0	0	0	
3	Residential	51.3	660	gallons/(day*acre)	33660	33660	158400	158400	
4	Institutional	76.9	1149	gallons/(day*acre)	22091	22091	103959	103959	Used 25% of Fairground site based on Google Earth approximation
5	Agriculture	82.3	3.3	gallons/(day*acre)	168	168.3	792	792	
6	Institutional	20.7	1149	gallons/ (day*inmate)	53738	53738	252886	252886	Used 450 Liters per inmate per day for jail (452 inmate capacity per Porter County Sheriff's Department)
7	Light Industrial	27.5	1149	gallons/(day*acre)	3334	31600	15689	148706	
				Subtotal:	**186,627**	**839,218**	**878,245**	**3,949,261**	
Development Zone 4									
1	Heavy Industrial	654.1	2993	gallons/(day*acre)	383694	1957715	1805619	9212776	
				Subtotal:	**383,694**	**1,957,715**	**1,805,619**	**9,212,776**	
Development Zone 5									
1	Aviation	1181.7	1149	gallons/(day*acre)	203683	203683	958507	958507	Used 15% of Airport Property as Light Industrial/Commercial based on Google Earth image.
				Subtotal:	**203,683**	**203,683**	**958,507**	**958,507**	

**Metcalf & Eddy, 2003*

PORTER COUNTY AIRPORT ZONE PROPOSED DEVELOPMENT SQUARE FOOTAGE (UTILITY CALCULATIONS)									
	Land Use	Area Size (Acreage)	Wastewater Flow Factor*	Units	30 year Average Daily Flows	Fully Developed Average Daily Flow	Water 30 year Peak Demand	Water Fully Developed Peak Demand	
					(gallons/day)	(gallons/day)	(gallons/day)	(gallons/day)	
Development Zone 6									
1	Business Park	18.1	1149	gallons/(day*acre)	5603	20799	26365	97876	
2	Multi-family Residential	35.8	1320	gallons/(day*acre)	52800	52800	248471	248471	
3	Light Industrial	362.8	1149	gallons/(day*acre)	43982	416891	206976	1961842	
4	Residential	40.4	330	gallons/(day*acre)	13200	13200	62118	62118	
				Subtotal:	**115,585**	**503,690**	**543,929**	**2,370,306**	
Development Zone 7									
1	Medium Industrial	488.5	2245	gallons/(day*acre)	132214	1096557	622185	5160267	
				Subtotal:	**132,214**	**1,096,557**	**622,185**	**5,160,267**	
Development Zone 8									
1	Residential	40.26	330	gallons/(day*acre)	13200	13200	62118	62118	
2	Agriculture	1222.1	3.3	gallons/(day*acre)	168	168	792	792	
3	Conservation Agriculture	853	3.3	gallons/(day*acre)	168	168	792	792	
4	Agriculture	186.6	3.3	gallons/(day*acre)	168	168	792	792	
5	Agriculture	249.9	3.3	gallons/(day*acre)	168	168	792	792	
6	Agriculture	661.5	3.3	gallons/(day*acre)	168	168	792	792	
				Subtotal:	14,042	14,042	66,078	66,078	
				Totals (mgd):	**1.45**	**5.83**	**6.85**	**27.43**	

**Metcalf & Eddy, 2003*

Appendix D

FAA ADVISORY CIRCULAR DOCUMENTS

ADVISORY CIRCULAR 150/5300-13 AIRPORT DESIGN

Contains the Federal Aviation Administration's (FAA) standards and recommendations for the geometric layout and engineering design of runways, taxiways, aprons, and other facilities at civil airports.This substantial revision fully incorporates all previous changes to AC 150/5300-13 as well as new standards and technical requirements.

ADVISORY CIRCULAR 150/5070-6B: AIRPORT MASTER PLANS

This Change adds a new drawing, the Runway Departure Surfaces Drawing, into the Airport Layout Plan drawing set. The requirement to add this drawing is based on the new 40:1 and 62.5:1 departure surfaces added to Appendix 2 under Change 9 of FAA Advisory Circular 150/5300-13, Airport Design. It also incorporates a reference to FAA Advisory Circulars 150/5300-16, 17, and 18, which is recently published guidance on conducting aeronautical surveys.

ADVISORY CIRCULAR 150/5200-33B: HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS

This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

These FAA Airport Ciculuars can be found at http://www.faa.gov/regulations_policies.com

Appendix E

SAMPLE INTERGOVERNMENTAL AGREEMENT

Project Introduction

CHAPTER ONE

In Plane View: A Clear Vision for the Future outlines a vision for future land uses, infrastructure investments, and economic development initiatives for the area surrounding the Porter County Regional Airport. It was commissioned by The Porter County Regional Airport, the City of Valparaiso, Porter County and the Valparaiso Economic Development Corporation. The Valparaiso and Porter County community has been experiencing economic development growth and development in the vicinity of the Porter County Regional Airport. Given continued development interest and impacts of Federal Aviation Administration (FAA) regulations and design guidelines, the study area was delineated to include approximately 15 square miles surrounding the airport.

The plan is a long-range guide for making policy decisions, preparing improvement programs, and determining the rate, timing, and location of future growth. It is based on establishing long-term vision, goals, and objectives that direct investment and development activity within the community. The plan spans a potential 30-year time horizon and while many of the improvements are intended to occur in a much shorter time frame, larger development projects will likely happen as market forces dictate. Whether in the near-term or twenty-years in the future, it is important that the airport zone create balanced development. Balanced development is that in which the economic, social, and environmental systems provide a productive, healthy, meaningful life for residents as well as affording the opportunity for prosperity.

This means meeting the needs of the present and planning for the future, by striving to achieve the following goals:

Economy: Promoting vital economic development and fiscal stability that focuses on retaining existing businesses and attracting new businesses that fit within the scale and character of the study area.

Environment: Promoting orderly growth and development that leads to a balanced community with great neighborhoods and commerce, sufficient infrastructure, connected parks and open space, and a positive appearance.

Social Well-Being:
Providing community and social facilities strategically located to provide for the safety, health, and well-being of its residents and promote efficient use of resources, ensuring that future generations have opportunities for meaningful livelihoods.

It is intended that this plan be used as a tool by the City of Valparaiso, Porter County, City and County Redevelopment Commissions and the Porter County Regional Airport decision makers and other public and private entities. Multiple stakeholders representing a wide variety of interests and organizations have been included in the planning process. As such, the City and County should continue to evolve these public-private partnerships through the implementation of this plan. In doing this, the plan reflects the values of the community, serves as a guide to decision making regarding new development potential, and outlines governmental strategies that can be employed to accomplish the various recommendations.

PROJECT PROCESS

A joint City-County-Airport led plan was initiated in 2007 when representatives of various jurisdictions came together to discuss how to facilitate economic development efforts around the airport. The small committee worked at securing funding through Northwest Indiana Regional Plan Commission (NIRPC), Federal Highways, Indiana Department of Transportation, Porter County Economic Development Alliance and the Valparaiso Economic Development Corporation. After a RFP and selection process, the joint selection team recommended the hiring of RW Armstrong in 2009. The contract was signed and initiated in early 2010.

The planning process included six key stages: 1) collection and review of documents, 2) outreach and education, 3) planning analysis and physical context, 4) visioning, 5) development framework plans, and 6) implementation. Each of these stages included tasks that built a foundation for the plan's final recommendations.

The RW Armstrong planning team began the In Plane View planning process through research and review of Valparaiso's and Porter County's existing physical, economic, and social conditions and previous planning efforts (summary is provided in Chapter 2 – Existing Conditions of this document). Additional research and analysis included field reconnaissance, stakeholder interviews, and market analysis reflecting the current economic conditions. Using the City and County's inventory of aerial photographs and geographic information system (GIS), a series of maps were created to catalog the area's existing assets, conditions, and opportunities. Maps pertain to transportation and infrastructure, natural systems, community character, points of interest, quality of life, and economic development.

As part of the outreach and education process, the RW Armstrong Team worked with the Porter County Regional Airport Authority to organize a project Steering Committee. Steering Committee members were identified with assistance from Porter County, the City of Valparaiso,Economic Development staff, and Airport board members and were charged with overseeing the planning process and provided meaningful feedback and input at various stages of the plan. Each steering committee member was chosen because they represented a variety of community, government and local community groups that would either be included in the implementation of this plan, or would directly benefit from continued development in and around the area. Beginning in December 2010, the project team and the steering committee met and began discussing the project study area, preliminary project goals, opportunities and challenges of the area and other relevant information collected throughout the data gathering stage of the project. Over the course of fourteen months, the steering committee met ten times to discuss proposed recommendations related to land use, transportation utilities, community amenities, economic development and implementation strategies.

In addition to providing feedback and suggestions during the project meetings, steering committee members were encouraged to present the project to the constituents that they represent. In order to better facilitate these presentations the RW Armstrong team prepared three presentations along with speaker bullet points. These presentations were prepared after the first and second public meeting and after the final project presentation.

While the project steering committee provided feedback and suggestions throughout the project, additional stakeholders and parties of interest were identified early on in the project process. These stakeholders represented the interests of local school corporations, utility companies, higher education institutions, local business owners and real estate brokers. Interviews were conducted with these stakeholders to gain practical knowledge of the local business economy, community facilities, and the role the airport can play in future economic development initiatives.

The project also included a significant public input process that utilized facilitated meetings, a project website and social media outlets. Early on in the project, the RW Armstrong team constructed a website that provided on-going, up to date information to the public. Throughout the project the website offered links to project documents, meeting minutes, proposed plans and public input exercises along with general project information.

Informative posts were also added to Twitter and Facebook profiles so that the public could follow the project status in real time and as part of their normal day activities. These social media sites also offered the means for the public to post feedback, suggestions and questions throughout the life of the project. These social media outlets, along with the project website can be used by the City, County and Airport Board after the completion of this plan for ongoing updates and marketing purposes.

In addition to social media and internet outlets, three public meetings were offered to present the project at various milestones. On May 16, 2011 the first public open house was held at the Porter County Regional Airport Terminal from 4pm to 6pm. The meeting was an open house format utilizing printed boards and information dialogue to present the information. This meeting was focused on the information gathered during the initial phase of the project. In addition to displaying project findings, multiple exercises were provided to allow the public the opportunity to provide additional information related to perceived opportunities and constraints of the study area, desired development types, and desired development areas within the dedicated 15 square miles.

The May 16th meeting was attended by over 200 people. Attendees participated in the provided exercises and discussed concerns with representatives from the design team, City, County, and airport representatives. After the meeting the presentation boards and exercises were posted online and the public was invited to continue to provide feedback.

On November 21, 2011 the second public meeting was held at Ivy Tech Community College in Valparaiso, Indiana. Meeting attendees were invited to review information pertaining to proposed land use and transportation recommendations prior to the formal presentation by the design team. Attendees were also asked to participate in an implementation exercise to help identify future priorities in terms of additional studies, property acquisition, and utility or transportation projects. Surveys were also provided to attendees to help identify the public's level of understanding towards the project and any additional concerns or suggestions related to the presentation.

On April 10, 2012 a third meeting was held at Ivy Tech Community College to present the final recommendations of the plan. This presentation was used to inform City and County officials on the project's process, recommendations and implementation steps. This meeting was not open to the public, but a final presentation to the general public will be held during the adoption phase of this study.

During the visioning process the design team and steering committee worked to develop a set of guiding principles to further support the economic, social and environmental systems in the area. The purpose of these principles is to ensure that important issues are addressed when planning for and reviewing new development and redevelopment. These principles are reflective of fundamental planning values and were validated by the project steering committee and during the public outreach process.

The principles are grouped into seven categories and include:

- Land Use and Zoning
- Transportation Systems
- Utilities and Infrastructure
- Multimodal Connections
- Landscape & Natural Systems
- Community Amenities
- Economic Development

Within each category, the principles are organized across four scales: regional, study area, development zone, and site. When combined, the seven principle categories and four scales create a matrix of general planning recommendations that are applicable now as well as in the future. This organization allows each element to be examined individually, while still seeing it in the context of the whole. It provides the basis for future planning and code revisions that address development form and function at all scales. This means considering all of the effects of particular planning and development decisions in one category at one level in relationship to all of the other elements in the matrix.

The planning analysis and physical context used the data, issues, opportunities, initiatives, and recommendations outlined during the collection and review of documents phase and organized it into a series of strengths and weaknesses. The opportunity analysis is both a written and graphic assessment that can be seen in Chapter Two. It focuses on how current conditions impact potential development opportunities. The compiled development suitability exercise identified development potential based on natural and built systems. This composite map and its findings were referred to throughout the plan recommendation process and influenced the land use and transportation components discussed in Chapters Five and Six of this report.

Using the seven guiding principle statements, several rounds of public input and the opportunity analysis exercise, concept frameworks were developed to illustrate desired planning directions for the area that capitalize on strengths and mitigate the weaknesses. Recommendations and initial action steps were completed for the seven categories identified in the vision and development phase, as these elements are key to successful and balanced development.

The final stage in the planning process was the outline for policy directions and next steps. The intent of the planning process was to analyze opportunities, establish a vision and goals, outline objectives, identify priority areas, and build capacity for implementation among community leaders and stakeholders. The outline for implementation provides the City, County and community stakeholders with a set of tasks that will prepare the area for additional planning projects, transportation and utility projects and additional community actions. Included in the outline for implementation are a series of recommended steps, priorities and time frames to guide each jurisdictions' allocation of efforts and financial resources. These three categories of implementation actions are described in further detail in Chapter Twelve, along with key implementation tools and resources.

Existing Conditions

CHAPTER TWO

To better understand the study area's existing conditions, a complete inventory has been done to document existing facilities, land uses, transportation, multi-modal and utility infrastructure and any environmental conditions to determine areas of potential concern. A thorough review of the existing Porter County Regional Airport facility and regulated protection zones, along with a review of the proposed master plan are also included in this section. In addition existing planning documents have been reviewed to assess the hierarchy of roadways, existing and proposed land uses, planned multi-modal systems and recreation systems. This analysis helped to identify opportunities and constraints that could affect future development and conditions that could influence development patterns, transportation and utility needs.

AIRPORT SAFETY REGULATIONS AND PROTECTION ZONES

As with any public-use airport, Porter County Regional Airport (VPZ) is subject to a complex system of federal, state, and local regulations that are established to ensure safe and efficient operations at the Airport. These regulations restrict the land use and structure height in areas surrounding the Airport. The Porter County Regional Airport is included in the National Plan for Integrated Airport Systems (NPIAS), meaning that the FAA has determined the Airport to be significant to the national air transportation network. Because of its inclusion in the NPIAS, the Airport is subject to a variety of Federal Aviation Regulations (FAR), United States Code of Federal Regulations (CFR), and other FAA-mandated orders and notices. To assist airport management and other aviation related personnel in understanding and applying procedures dictated by the federal regulations, the FAA has made available a series of Advisory Circulars (ACs) associated with each regulation and policy. These ACs are constantly updated and often changed. In addition to these documents, airports are also subject to state and local civil regulations specific to the airport's metropolitan area. All regulations to which the airport is subject should be considered in *This Study*.

The FAA has established surfaces surrounding the paved areas used for aircraft movement (i.e. runways and taxiways), that enhance the margin of safety for aircraft to operate at an airport. The sizes and dimensions of these surfaces are based on the physical characteristics of the aircraft that will operate at the Airport. These surfaces include the Runway Safety Area (RSA), Runway Object Free Area (ROFA), Obstacle Free Zone (OFZ), Taxiway Safety Area (TSA), and the Taxiway Object Free Area (TOFA) and are shown in Figure 1. These surfaces are typically cleared of all objects other than those that function as navigational aids (NAVAIDs) for aircraft. These surfaces are all located within Airport property and, therefore, should have no impact on the surrounding development.

The FAA has also established Runway Protection Zones (RPZ). The RPZ is a trapezoidal zone located off the end of each Runway end and is primarily a land use control. Any development within the RPZs should be prepared in accordance with the guidance in AC 150/5300-13 *Airport Design*. Land uses prohibited within the RPZ include: residences and places of public assembly (e.g. churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of public assembly). Golf courses and agricultural operations are examples of commonly accepted land uses within RPZs, as long as they do not attract wildlife, are outside of the Runway OFA, and do not interfere with NAVAIDs. Roadways are also commonly accepted within RPZs, subject to traffic height restrictions. As displayed in Figure 1, the existing east, west, and south RPZs extend off of airport property. The four future RPZs as included in the 2009 *Porter County Airport Master Plan* would all extend off of airport property.

As with the paved areas of the airfield, NAVAIDs often have a clear zone or protected area. The NAVAIDs at The Porter County Regional Airport include a localizer, glide slope antenna, and the Approach Lighting System (ALS), which together make up the Instrument Landing System (ILS). All these facilities and their associated protected zones are located on Airport property. Although not technically a NAVAID, the Automated Surface Observing System (ASOS) (a weather reporting antenna) is located north of Runway 9/27 surface about 950' from the runway 27 threshold. A 500

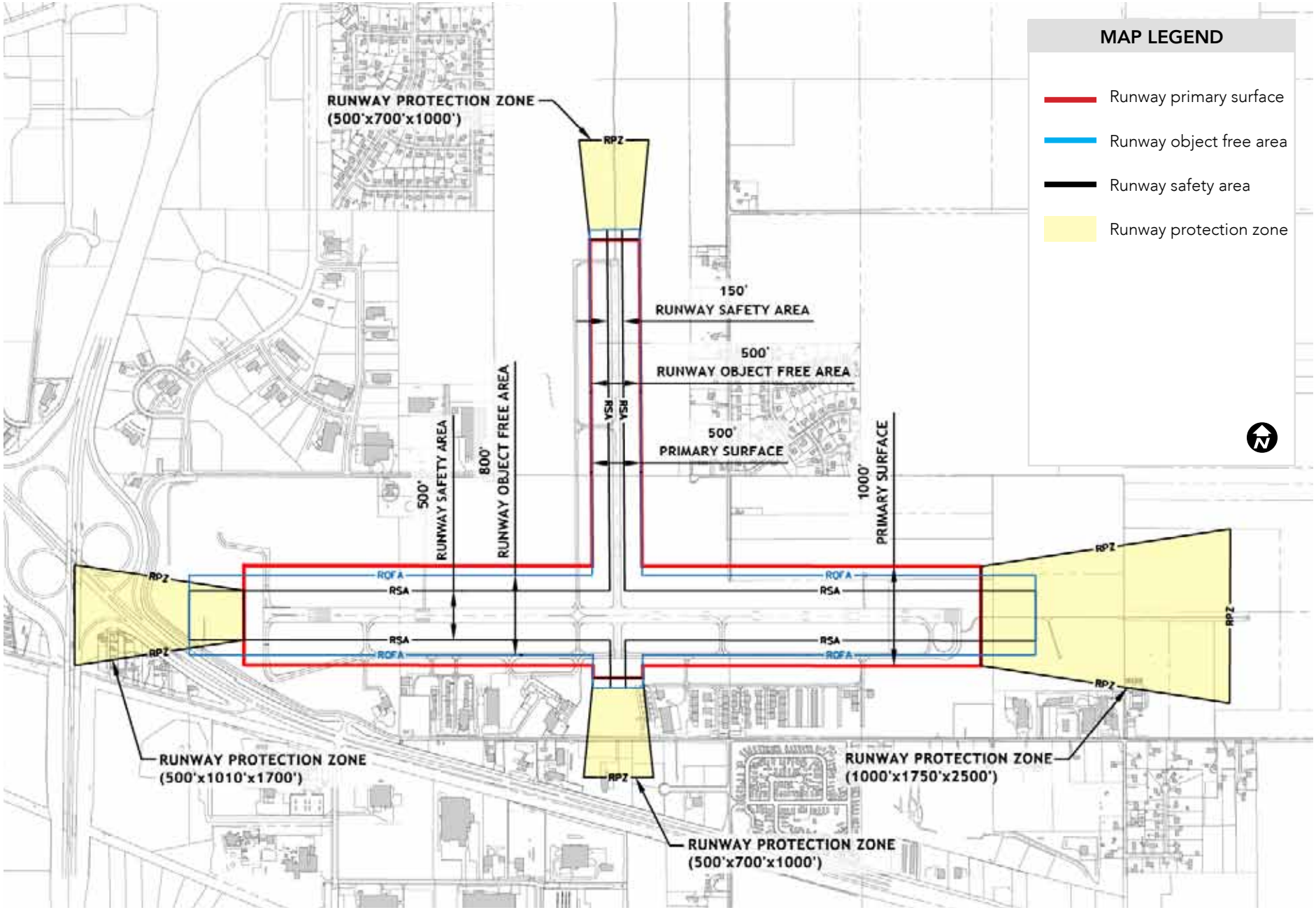

Figure 1: Existing Porter County Regional Airport ground surfaces

foot radius protection zone surrounds the ASOS, and part of that zone extends slightly off of Airport property to the north. According to FAA Order 6560.20B, siting criteria for automated weather observing systems (AWOS), this protection zone assumes flat terrain. No development should occur within this protection zone.

Physical constraints are placed upon the area surrounding the Airport based on the imaginary zones and surfaces created by noise levels and airspace height restrictions. Noise concerns are important as they can be a conflict with noise-sensitive land uses (such as residential zones, schools, hospitals, etc.). Airspace restrictions are important as they ensure safe operations at the airport by restricting the heights of objects surrounding the Airport that would be a danger to operating aircraft.

Aircraft noise is most significant during approach and departure. Current federal standards prescribe Day-Night Average Sound Levels (DNL) as a commonly accepted measure for noise exposure. DNL can be defined as the average decibel level over a 24-hour period with an adjustment provided for night-time operations. The FAA commonly accepts 65 DNL as the limit for noise exposure to noise-sensitive areas, such as residential neighborhoods, education, health or religious structures, or sites and outdoor recreational, cultural or historic sites. According to the VPZ 2009 Master Plan document, the latest noise study at VPZ was conducted in 1998 as part of the *Environmental Documentation Report Summary* prepared for the 1,000 ft. extension of Runway 9/27. The 65 DNL noise exposure limit is displayed in Figure 2, and is completely contained within Airport property.

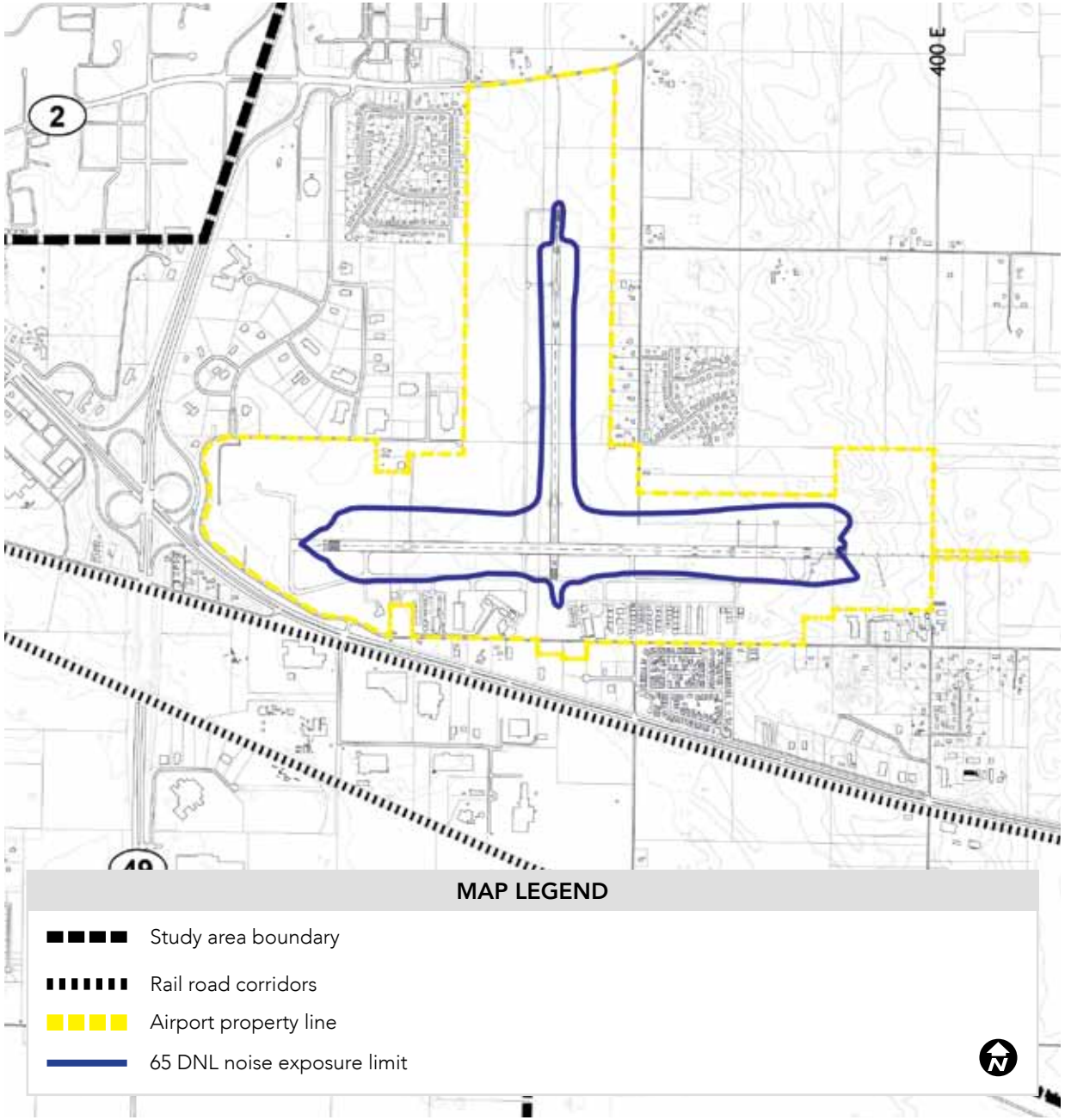

Figure 2: Existing transportation system with existing and proposed rail crossings and potential rail access points.

In addition to noise exposure limits, airspace protection surfaces are another factor that can influence the land uses surrounding an Airport. Airspace protection is established by FAR Part 77 *Objects Affecting Navigable Airspace*. FAR Part 77 defines a series of imaginary surfaces that determine the maximum allowable height of any structure that may be placed in the vicinity of an active runway. These surfaces are described below and can be viewed in Figure 3 (obtained from 90% completion ALP set, dated October 2010). Any development surrounding the Airport will have to conform to the height restrictions of these surfaces.

Primary Surface. The primary surface is longitudinally centered on the runway and extends 200 feet beyond each runway end for a paved runway centerline. The elevation of this surface is the same as the elevation of the nearest point of the runway. The width of this surface varies based on the approach capabilities of that runway. Runway 9/77 has a 1,000 foot wide primary surface and Runway 18/36 has a 500 foot wide primary surface.

Horizontal Surface. The horizontal surface is a horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway. For VPZ, the horizontal surface extends 10,000 feet from both the primary runway and the crosswind runway.

Conical Surface. The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Approach Surface. The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the primary surface. An approach surface is applied to each runway end and the dimensions are based on the approach capabilities of the runway.

Transitional Surface. Transitional surfaces extend outward and upward at right angles to the runway centerline and extended runway centerline at a slope of 7 to 1 from the sides of the primary surface approach surfaces.

The Indiana legislature passed P.L. 117-1983 (IC 8-21-10), commonly referred to as the Tall Structures Act. This law recognized the importance of unobstructed airspace to safe flight of aircraft, safety of persons and property on the ground, and maintenance of electronic communication. The Act regulated the location and height of structures and the use of land related to those structures near public-use airports. Generally following the limitations spelled out in FAR Part 77, the Act provides a vehicle for enforcement by local officials.

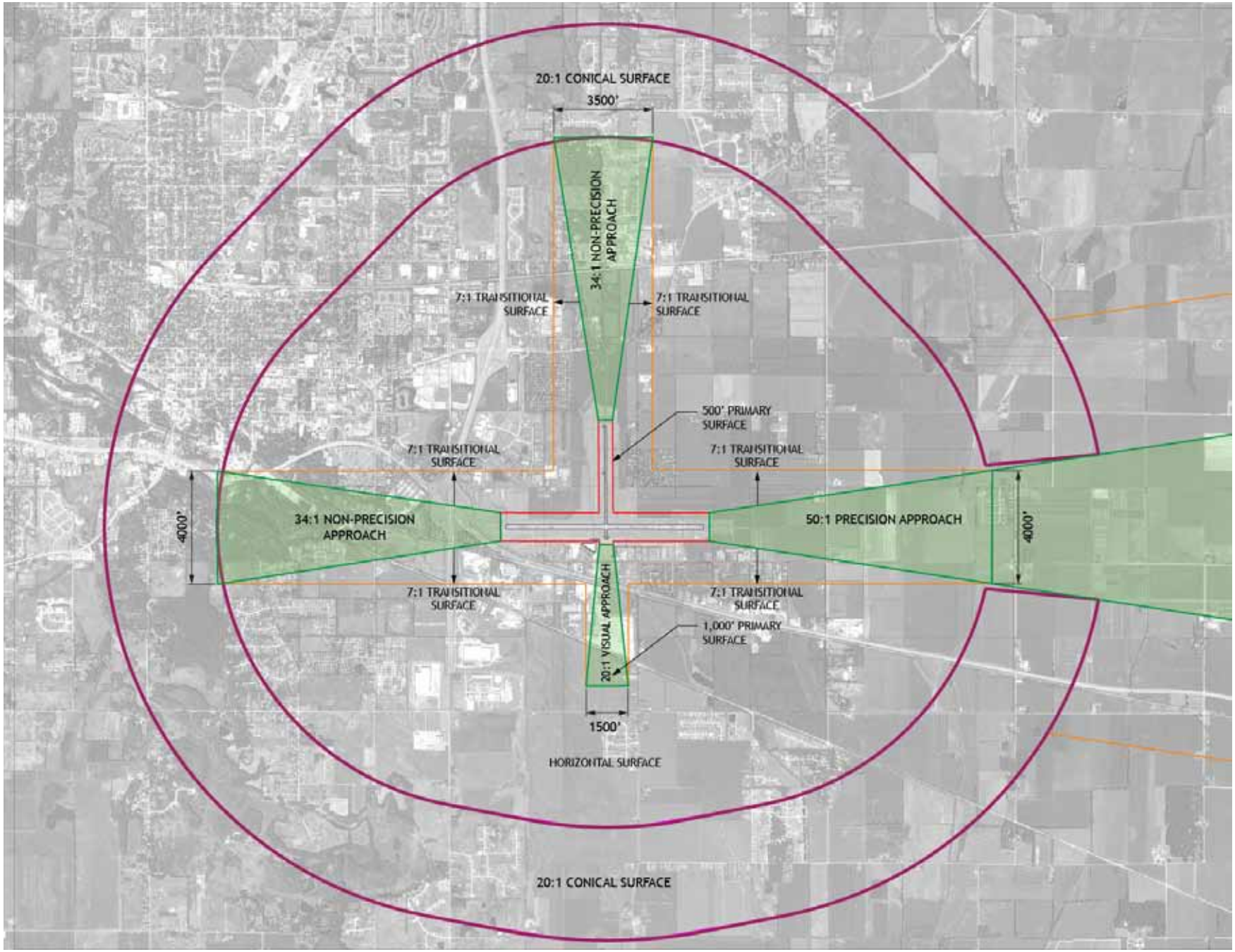

Figure 3: Porter County Regional Airport existing FAR Part 77 Surfaces.

LAND USE PLANNING

The Porter County Regional Airport is surrounded by land uses ranging from agricultural production to industrial fabrication. The majority of the planning area is under the jurisdiction of Porter County while a smaller portion falls within the corporate limits of the City of Valparaiso. Additionally, the entire planning area falls under the jurisdiction of the Northwest Indiana Regional Planning Commission (NIRPC), a sub-state, area-wide planning agency. Mechanisms to manage land use include zoning ordinances, comprehensive plans, and thoroughfare plans. The comprehensive plans for the City and the County provide a framework for what the Plan Commission envisions as the best use for land. The comprehensive plan does not necessarily reflect current land uses, but it describes what land uses should ultimately become through annexation, development, and redevelopment. Zoning ordinances identify what are the acceptable uses for a tract of land in regard to a structure's use, design, lot location, and landscaping as designated by the City or County. Thoroughfare plans, which are discussed in the Transportation component of this chapter, discuss the transportation network and its relationship and support of the future land use map and necessary improvements to keep the system safe and efficient. These regulations are an additional layer to the framework set out by the comprehensive plan. Understanding the existing development patterns, future planning studies already completed, and the multi-jurisdictional regulations that encompass the Porter County Regional Airport and surrounding lands is critical to future planning efforts.

EXISTING LAND USE

The existing land uses in the study area include higher-intensity industrial fabrication, office, retail, residential, institutional, and agriculture. Commercial and industrial development is primarily located along the major transportation routes; US 30, State Road 49, and State Road 2. Residential development is divided amongst several clusters throughout the Study Area. Four residential developments are of particular concern as they have been constructed adjacent to Airport property and residents are often susceptible to the noise and vibration of aircraft. Agricultural land is the predominant use for the southern and eastern portions of the Study Area. The Study Area is home to a major institutional user, the Airport, and also includes institutional uses such as the County Fairgrounds, a police station, Ivy Tech, and several religious institutions. The main campus of Valparaiso University is adjacent to the study area and some ancillary university buildings are located within the project boundary. Commercial property is located along State Road 49 and is centered around two clusters that are anchored by a retail mall at State Road 2 and a Wal-Mart at US 30. Office uses are along the east side of State Road 49 northwest of the Airport. Industrial facilities are primarily located on the south side of US 30 east of State Road 49. These include large-scale storing of utility transformers and refining of raw materials.

Existing land use is presented in Figure 4 This map is a synthesis of information provided by Porter County and the City of Valparaiso, field visits conducted by the project team, and aerial survey. It provides a snapshot of the land uses at the time of this planning study. The land use definitions shown on page 15 are presented as general descriptors of land use categories on the map.

The existing land use pattern is a result of past, long-term planning initiatives and market forces over time. The most recent future land use plans covering the study area are presented in the *Porter County Land Use & Thoroughfare Plan* (2001) and the *City of Valparaiso Comprehensive Plan* (2004). Some of the land use changes proposed in these plans have not been fully realized; either due to changes in market demand for residential and industrial property or because of conflicting recommendations within the two plans.

The Porter County Land Use & Thoroughfare Plan classifies the western portion of the study area as urban fringe development; this is to be primarily residential in use but may include institutional and neighborhood-scale commercial uses. "Urban" here is not to imply increased density or that the character of the area is city-like but instead that it is adjacent to the urbanized area of the City of Valparaiso. This area is generally west of Rigg Road and north of Division Road, exclusive of the incorporated city limits. The portion of the study area east of Rigg Road is proposed for suburban development, characterized by low density residential use with some neighborhood or community type commercial use along major roads. The portion of the study area south of Division Road is proposed to remain rural and/or agriculture in use.

The Porter County Land Use & Thoroughfare Plan goes further to identify the majority of the Airport Zone study area, specifically the area south of State Road 2, east of State Road 49, and north of the Norfolk Southern rail line, as an existing industrial node proposed for future growth. This proposed industrial node is overlaid on the urban fringe and suburban development proposed land use areas. This was done to provide flexibility in both industrial and residential use as the area

developed. Since this planning initiative, little of the planned residential development has occurred. While some new industrial uses have developed in the recommended industrial node, the majority of recent growth in the planning area has been community serving commercial uses in the area recommended as urban fringe. Most of the area recommended for suburban development has remained agriculture in use.

The *City of Valparaiso Comprehensive Plan* Proposed Land Use Map does not cover the entire Airport Zone study area; this plan stops at Division Road to the south and County Road 400 E to the east. In addition to recognizing existing land uses, this proposed land use plan includes expansion of industrial and commercial areas, conservation of major forested areas, and new residential development of varying densities.

Airport property expansion is shown to the south in the area between the primary runway and County Road 100 North and to the east end of the primary runway to County Road 400 East, with the exception of the existing industrial properties at the intersection of County Road 100 North and County Road 400 East. This property expansion has been realized.

Industrial expansion is generally shown in the area bounded by County Road 150 East to the west, Division Road to the south, and the Highway 30 to the north. While some new industrial uses have occurred in this area, it has not been developed to the intensity as proposed in the future land use plan. Further, industrial use has been proposed for the area to the northeast of the airport property as well as east of State Road 2 and north of County Road 250 North were it to continue west to State Road 2. This growth has not been realized.

None of the proposed residential land uses have developed as such; all of these areas have remained agricultural in use. What residential development there has been in the area has been piecemeal and rural in character. The areas proposed as conservation have remained forested and/or open space although they are not protected by any conservation easements or land trusts. These areas are to the west of State Road 49, between the railroad tracks; south of County Road 100 North between County Road 325 East and County Road 400 East; and south of Highway 30 on the east and west sides of County Road 400 East.

In general, the future land use planning initiatives represented in the *Porter County Land Use & Thoroughfare Plan* and the *City of Valparaiso Comprehensive Plan* have not fully been realized. This is due to the fact that there has been little development in the area around the Porter County Regional Airport and subsequently, little implementation whatsoever. Reasons for this include an increasingly competitive market for industrial and business park development and a significant decline in new housing starts beginning in early 2005.

EXISTING LAND USE DEFINITIONS

Airport: Parcels dedicated to both airside and landside airport related function. Airside activities include runways, taxiways, aprons, and hangars. Landside activities include terminals, parking and transportation facilities, and other airport-support facilities accessible to the public.

Institutional: Institutional uses are those parcels that contain schools, religious facilities, government facilities, hospitals, utilities, and other quasi-public facilities. These uses are typically located near residential areas or urban centers and serve the local population.

Residential, Single Family: Residential development, characterized by lot sizes of one eighth of an acre to one acre. In areas with a concentration of units, such as urban neighborhoods and suburban subdivisions, public services are necessary.

Residential, Multi-Family: Higher density residential development characterized by multiple primary structures or units per lot; common forms are apartments, condominiums, and mobile home parks.

Residential, Transition: Areas near Valparaiso University which are predominately single-family residential in use, although some structures have been converted to duplexes, triplexes, and quadplexes as well as some small-scale nonresidential uses. These uses are served by public utilities.

Commercial, Office: Buildings used to conduct business where no sales of stock-in-trade, manufacturing, or warehousing occur. Examples include medical and dental offices, professional offices and office buildings with single or multiple tenants. Office development may include other ancillary commercial support uses such as restaurants, day cares or business services that are encouraged to be integrated into the interior of office buildings with primary intent on serving the other users of the office development.

Commercial, General: Broad spectrum of business uses including office, retail, and personal service. May vary in intensity from neighborhood serving, convenience uses to community or regionally serving centers.

Industrial, Light: Low intensity manufacturing and industrial uses which are totally enclosed in a building(s). Outside storage of materials is limited and associated negative effects such as noise, light, and exhaust are not transmitted to adjacent properties. Light industry is generally less capital intensive and more consumer-oriented and may also include service-oriented commercial users.

Industrial, Heavy: More intensive industrial and manufacturing uses which may involve the processing of raw materials. End products are more likely used by other industries rather than directly by consumers.

Agriculture: Lands that are sparsely populated and used primarily for farmland, agriculture uses, and single family homes on large lots. These parcels may include one or more accessory structures and utilize on-site services where public utilities are not available.

Parks: Park and recreation uses are those parcels which contain active and/or passive amenities such as play equipment, sports fields, open green areas, golf courses, community gardens, and trails. Recreation and park areas should be used to connect residential, commercial, and institutional uses.

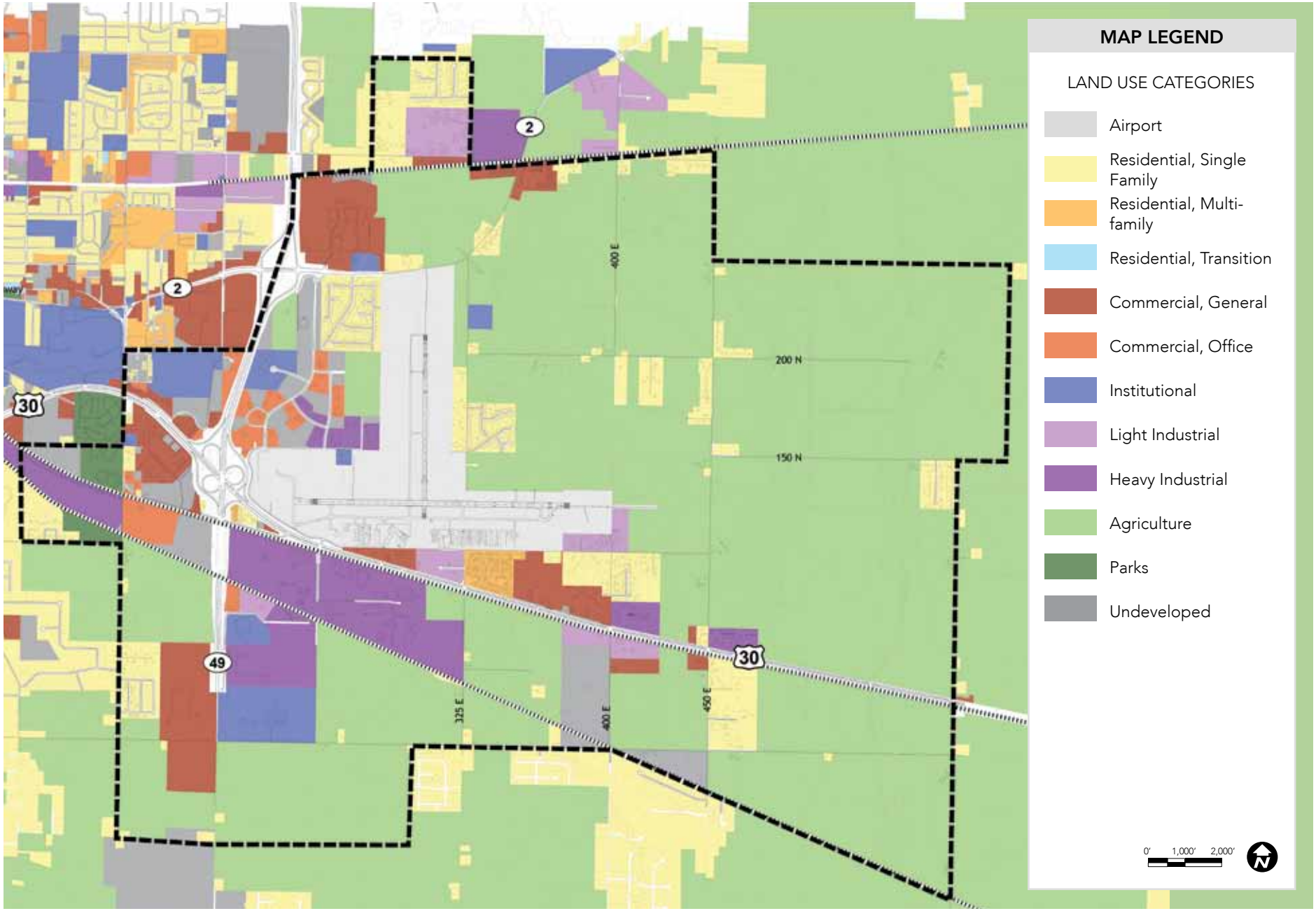

Figure 4: Existing land use map based on City of Valapariso and Porter County data.

EXISTING ZONING

Zoning is the implementation mechanism for comprehensive plans, thoroughfare plans, and area specific plans. Therefore, zoning differentiates what type of development is appropriate for tracts of land within a specific jurisdiction. Zoning in the Study Area is carried out through the use of two separate unified development ordinances. The City of Valparaiso extends into portions of the area's west side while Porter County has jurisdiction over the remaining lands. Zoning is subject to change through rezonings and annexation proceedings.

The Study Area contains many different zoning classifications. Figure 5 displays a combined city and county zoning map for the study area and surrounding environment. This figure should not be construed as an official zoning map; as districts from the *Porter County Unified Development Ordinance* and the *City of Valparaiso Unified Development Ordinance* were combined to ease presentation. In reality, there are differences in the naming conventions and standards of zoning districts, even if they have a similar purpose. For example, the *Porter County Unified Development Ordinance* has an R-2: Medium Density Single-family Residential classification, while the *City of Valparaiso Unified Development Ordinance* contains a Suburban Residential classification. The two are similar but not exactly the same. Subsequently, the zoning map in Figure 5 is meant to show zoning trends; the proper applicable development ordinance must be referred to for specific standards. Tables A and B summarize the zoning districts of the *Valparaiso UDO* and *Porter County UDO*, respectively.

The central portion of the study area, excluding the airport, and the eastern portion, are mostly zoned for agriculture, although this generally allows low-density residential development on large lots. A portion of the airport property remains zoned agriculture while the remainder is zoned industrial. The area south of the airport and north of Division Road, between State Road 49 and County Road 450 E is a combination of general industrial and light industrial zoning. Exceptions include the Fairgrounds, classified as institutional, Williamsburg Manor residential development, zoned as multi-family residential, and several small commercial-zoned parcels. General commercial zoning is prominent northwest of the airport along State Road 49 at the US 30 and State Road 2 interchanges. The northern-most portion of the study area contains a combination of Industrial, commercial, and residential zoning.

Land use generally corresponds with zoning within the study area. Where differences between zoning and land use do occur, it generally involves agriculture and wooded lands zoned for industrial uses. This occurs south of US 30 between County Road 325 E and County Road 450 E, and in the area around the intersection of State Road 2 and County Road 300 N. In addition, the airport property contains a combination of agriculture and industrial zoning whereas airport land use is commonly categorized as institutional or infrastructure-related.

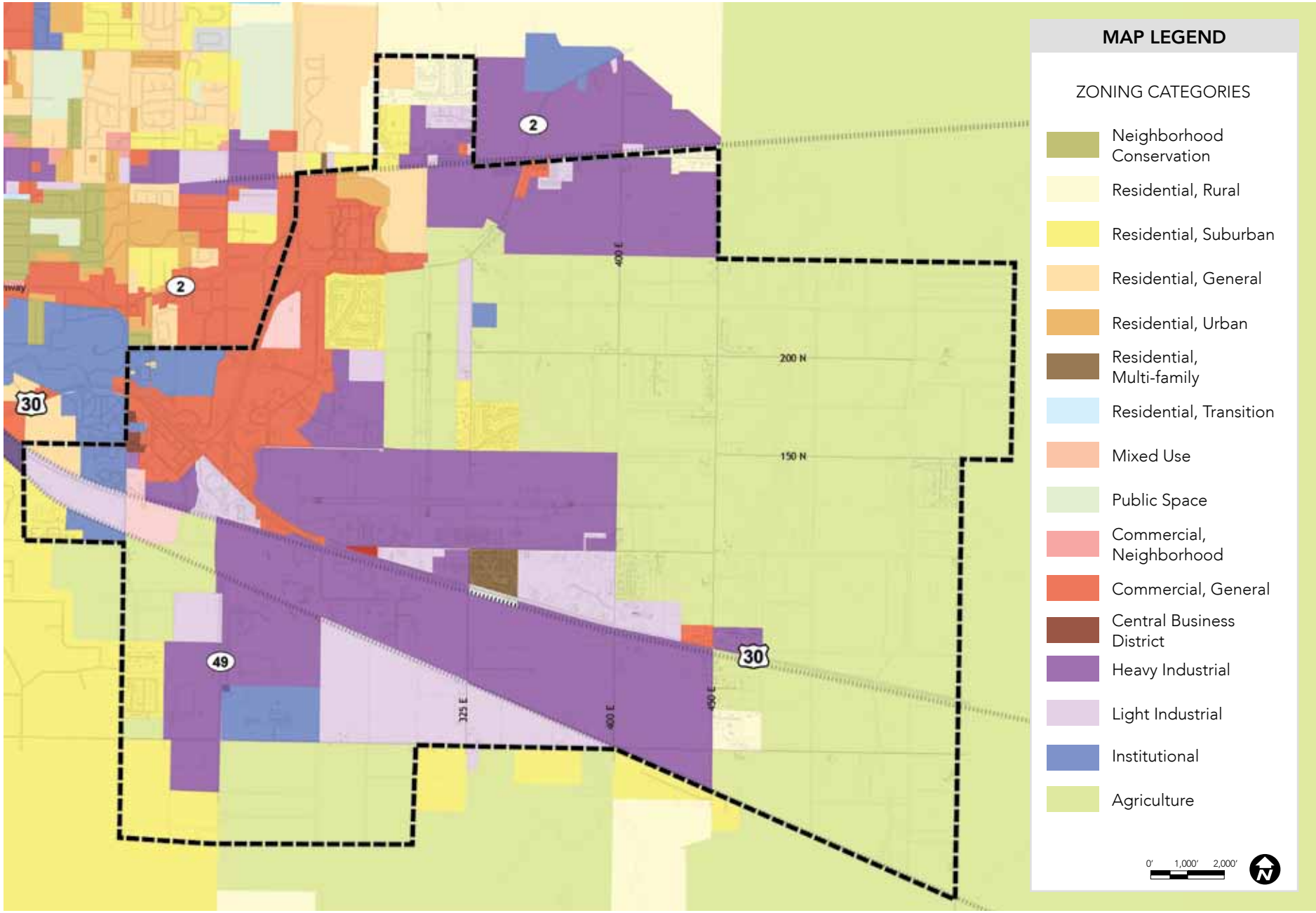

Figure 5: Existing zoning map with combined information for The City of Valparaiso and Porter County. This is not an official zoning map. It is a synthesis of the City and County zoning maps.

ZONING	USE	DESCRIPTION
PS	Public Space	Intended for public parks and public schools
GR	General Residential	Primary residential district
UR	Urban Residential	Highest intensity residential district
CG	Commercial, General	Primary commercial district
BP	Business Park	Intended to provide for business park environments that combine limited light industrial and professional office uses
INL	Light Industry	Provides for a range of light industrial uses that have fewer off-site impacts than heavy industries, and therefore require fewer performance standards to ensure that public safety, community character, public infrastructure, and land use compatibility are protected
INH	Heavy Industrial	Provides for a range of heavy industrial uses. The district provides performance standards that protect public safety, community character, public infrastructure, and land use compatibility

Table A: Valparaiso Unified Development Ordinance

ZONING	USE	DESCRIPTION
A1	General Agriculture	Agricultural operations, ag-businesses, and sales of produce and products
A2	Prime Agriculture	Significant protection of agricultural operations
RR	Rural Agricultural	Rural estates and hobby farming
R1	Low Density Single-Family Residential	Single-family detached housing, and low density rural subdivisions (22,400 SF lots)
R2	Medium Density Single-Family Residential	Single-family detached housing (11,000 SF lots)
MP	Manufactured Home Park	Leased-lot housing development with multiple primary structures per lot
IN	Institutional	Government facilities, schools, community centers, churches
OT	Office and Technology	Office uses, business incubators, and technology parks
CM	Moderate Intensity Commercial	Medium scale commercial services
CH	High Intensity Commercial	High intensity commercial uses
I1	Light Industrial	Low intensity industrial operations
I2	General Industrial	Most typical industrial operations

Table B: Porter County Unified Development Ordinance

OVERLAY DISTRICTS

The Porter County Unified Development Ordinance includes several overlay districts that have more intensive development requirements than the underlying district. The Study Area has five of these zones within its boundaries.

The **Airport Overlay District** was created to address restrictions imposed by the approach zone, conical zone, horizontal zone, noise-sensitive zone, and transitional zone. The land uses surrounding any airport should be *compatible* with airports. The FAA considers compatible land uses to be those similar to commercial, retail, and industrial uses. Non-compatible land uses are considered to be those similar to residential, educational, and outdoor recreational sites. Compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. As discussed in the previous section, the noise threshold line is completely contained within the Airport property line for VPZ according to the latest noise study. Although the threshold does not extend off of Airport property, governing agencies should strive to establish compatible land uses around the Airport to protect these areas from the impacts of future operations. Existing and future zoning and land use will be discussed in Chapter 5.

Aside from the effects of noise on land use compatibility, the responsible governing agencies should also assess the compatibility of land uses in the vicinity of an airport to ensure that those uses do not adversely affect the safe operation of aircraft. Uses such as municipal landfills, water management facilities, wetlands, agricultural areas, or golf courses attract wildlife species hazardous to aviation operations, and therefore should not be located near Airport property. Specific guidance in AC 150/5200-33B *Hazardous Wildlife Attractants On or Near Airports* suggests that hazardous wildlife attractants (such as the ones previously mentioned) should not be located within 10,000 feet of an airport serving turbine-powered aircraft, such as VPZ. Additionally, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's air operations area (areas intended to be used for landing, takeoff, or surface maneuvering of aircraft) and the hazardous wildlife attractants if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

In order to ensure that non-compatible land uses and wildlife attractants are not located within the vicinity of the Airport, the *Airport Overlay District* (APO) has been created by the County, as established in the *Porter County Unified Development Ordinance*. The APO was created to regulate and restrict the height of structures, objects, natural growth, regulate the locations of noise-sensitive uses, and otherwise regulate the use of property in the vicinity of VPZ by creating the appropriate zones and establishing the boundaries thereof. In addition to promoting policies through zoning to encourage noise compatible land uses, the APO also incorporates the necessary provisions of the FAR Part 77 surfaces previously discussed, to protect the navigable airspace within the primary, transitional, approach, horizontal, and conical surfaces out to 14,000 feet around the Airport.

In addition to the guidance in the County Ordinance, the City of Valparaiso has guidance for development around the Airport in the *Valparaiso Unified Development Ordinance*. Guidance within this document states that the 65 DNL limit should be completely within airport property or areas zoned *Heavy Industrial* that has been granted a noise easement. Additionally, no new residential development shall be permitted within the 55 DNL limit. If the 55 DNL limits expand, a zoning and land use plan for all land within this area shall be submitted, indicating the feasibility of restricting such land to nonresidential uses.

With the approval of the latest Airport Master Plan document and the completion of this development study, the Airport District Overlay, seen in Figure 6, may need to be updated to reflect the recommendations presented in both planning documents.

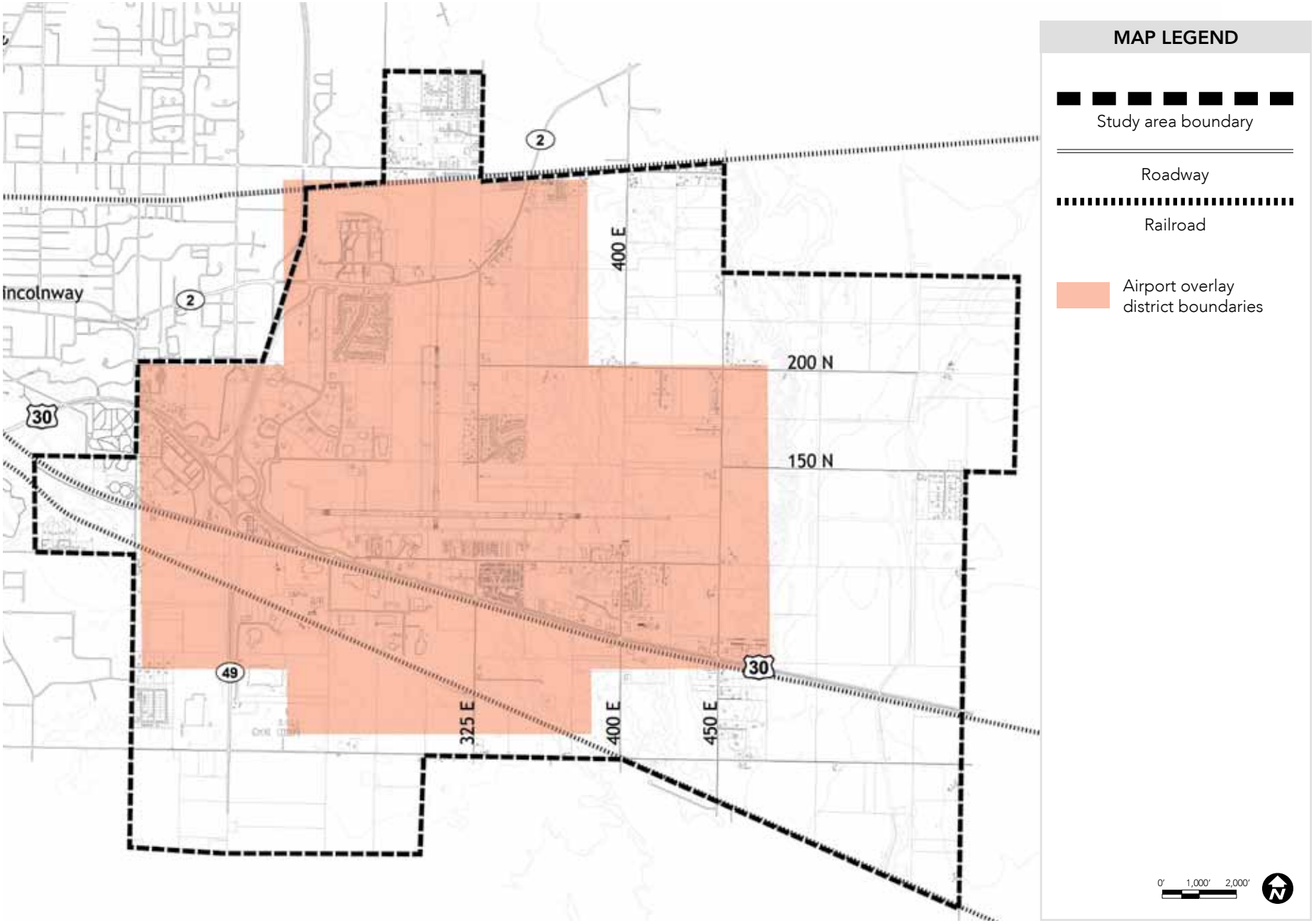

Figure 6: Existing Airport Overlay District (APO) boundaries.

The **Arterial Roadway Overlay District**, approved in 2007, is intended to promote rational, aesthetically pleasing and cohesive development along the major arterial roads of the County and to preclude small, freestanding buildings and uses, unless they are part of a cohesive "Campus" plan. This affects US 30, State Road 49, and State Road 2 in the Study Area. The *Arterial Roadway Overlay District (ARO)* extends four hundred (400) feet from the right of way line on each side of designated primary arterial corridors, and two hundred (200) feet from the right of way line on each side of designated secondary arterial corridors. The development standards related to this overlay district address architectural design standards, density and intensity standards, entrance and driveways, height, landscaping, lighting, parking, signage and site setbacks. Of key interest are the district design standards addressing access roads, pedestrian networks, and perimeter landscaping.

Where access to individual tracts along these highways is either not in existence or not clearly defined in many cases, rear common access roads will need to be built. In order to preserve the aesthetic benefits provided by the greenbelt, access roads shall be provided at the rear of all tracts, wherever possible.

Access roads to contiguous tracts shall be coordinated so as to form one (1) main access road serving adjoining developments. These roads should be designed so as to funnel traffic onto major arterial roads rather than into residential areas and roads that may adjoin or be near the ARO District.

Layouts that allow pedestrian travel within commercial centers and to adjacent commercial centers are required. If an adjoining parcel is in a commercial zoning district but not yet developed, the internal pedestrian network shall be designed to provide pedestrian connectivity to the adjoining parcel.

The public right-of-way shall be buffered from residential development using a soft barrier. Further, the landscaping shall be used to define the road corridors.

The **Scenic Roadway Overlay District** (SRO) was created to preserve the rural and scenic nature of Porter County, increase aesthetics, maintain quality of life, and to encourage agricultural and rural development. The SRO district extends four hundred (400) feet from the right of way line on either side of the road corridors. The SRO addresses development standards related to architectural design standards, density and intensity standards, entrance and driveways, height, landscaping, lighting, parking, signage and site setbacks. Currently there are no roadways within our study area that are classified under the Scenic Roadway Overlay District.

The Arterial Roadway Overlay District and the Scenic Roadway Overlay District boundaries can be seen in Figure 7.

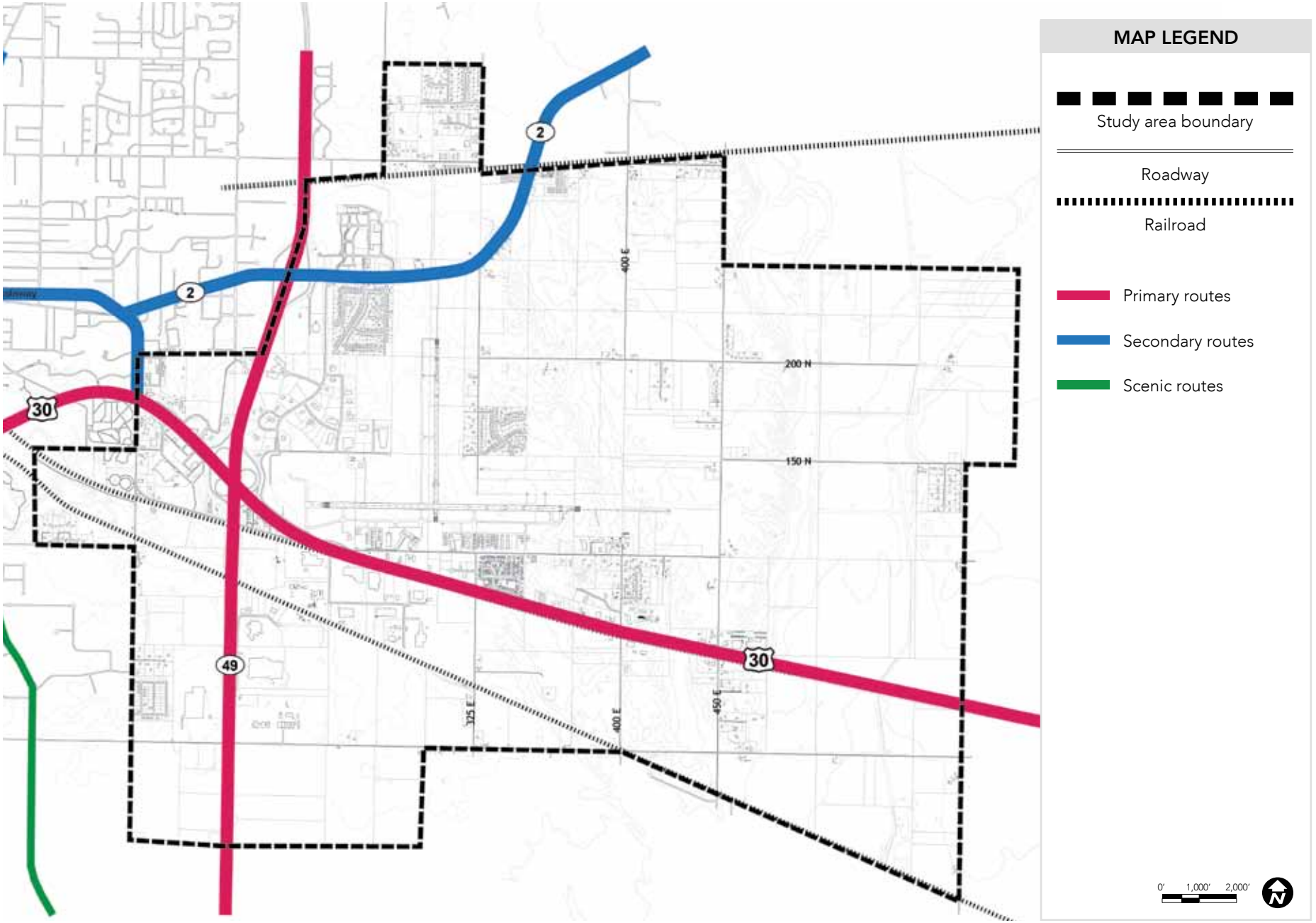

Figure 7: Existing Arterial Roadway Overlay District (ARO) and Scenic Roadway Overlay District (SRO) boundaries.

The **Watershed Overlay District,** seen in Figure 8, is intended to protect local waterways by reducing soil and nutrient loss, maintain water quality, reduce erosion, minimize siltation, reduce nutrient pollution, help moderate floods through use of vegetation, protect wetlands, provide critical wildlife habitat, connect natural areas with wildlife corridors, and shade streams to provide fish spawning locations. The Study Area has one Priority One waterway, Crooked Creek on the Study Area's eastern edge. Hotter Ditch, is classified as a Priority Two waterway on Airport property and a Priority Three waterway within the City of Valparaiso.

Priority 1: Consists of major drainage ways and bodies of water that are to be given highest priority for protection. The WSO District extends five hundred (500) feet on each side of a Priority 1 water body, measured from the top of bank;

Priority 2: Consists of major collectors, continually flowing drainways to Priority 1 water bodies, and may include small lakes, to be given second highest priority for protection. The WSO District extends three hundred (300) feet on each side of a Priority 2 water body, measured from the top of bank;

Priority 3: Consists of minor drainways and may include tertiary waterways with intermittent flow. The WSO District extends one hundred (100) feet on each side of a Priority 3 water body, measured from the top of bank.

Within the limits of the protective area, a series of landscape recommendations are required by the Porter County UDO document. Each waterway requires a riparian buffer for all proposed developments or lots that are contiguous with or contain a water resource. The riparian buffer needs to be designed to incorporate appropriate vegetation so that adjacent sensitive areas are protected. The riparian buffer needs to be composed of three distinct zones:

ZONE 1: Streamside Zone: The function of the Streamside Zone is to protect the physical and ecological integrity of the ecosystem, especially stream bank and riverbank stabilization.

Zone 1 Width: The width shall be measured perpendicular to the adjoining bank. The minimum width of Riparian Buffer Zone 1 shall be:

- Priority 1: One hundred (100) feet;
- Priority 2: Seventy-five (75) feet;
- Priority 3: Forty (40) feet.

ZONE 2: Middle Zone: The function of the Middle Zone is to protect key components of the stream or river, and to allow soil particles to trap nitrogen and phosphorus.

Zone 2 Width: The width shall be measured perpendicular to Riparian Buffer Zone 1. The minimum width of Riparian Buffer Zone 2 shall be:

- Priority 1: Fifty (50) feet;
- Priority 2: Fifty (50) feet;
- Priority 3: Forty (40) feet.

ZONE 3: Outer Zone: The function of the Outer Zone is to prevent development encroachment into Riparian Buffer Zones 1 and 2 of the riparian buffer, and to filter runoff. This grass, sedge, and forbs-covered zone serves to "feather" surface water flow by increasing infiltration and water storage, and absorbing nutrients.

Zone 3 Width: The width shall be established to ensure the restoration or protection of Riparian Buffer Zone 1 and/or Riparian Buffer Zone 2. The minimum width of Riparian Buffer Zone 3 shall be:

- Priority 1: Fifty (50) feet;
- Priority 2: Twenty-five (25) feet;
- Priority 3: Twenty (20) feet.

In addition to the design standards related to the development adjacent to a protected waterway, the UDO also provides information on setbacks and storm water standards. The intent is to keep new development and associated discharge away from the waterway. Development in these areas are also subject to additional approvals and permits regulated by IDEM Office of Water Quality, DNR Division of Water, County Drainage Board and other municipal boards and regulatory offices.

The **Wellhead Protection Overlay District,** shown in Figure 9, is generally intended to be used to protect the community public water supply system; more specifically the water supply from public wells within or outside the County. This district is especially important as the Airport is home to six of the City's water wells. While there is no set of specific design or development guidelines the overlay district does exclude the following uses: dry cleaning service, junk yard, sanitary landfill/ refuse dump. Development in this area can follow the traditional zoning district standards presented in the County's UDO.

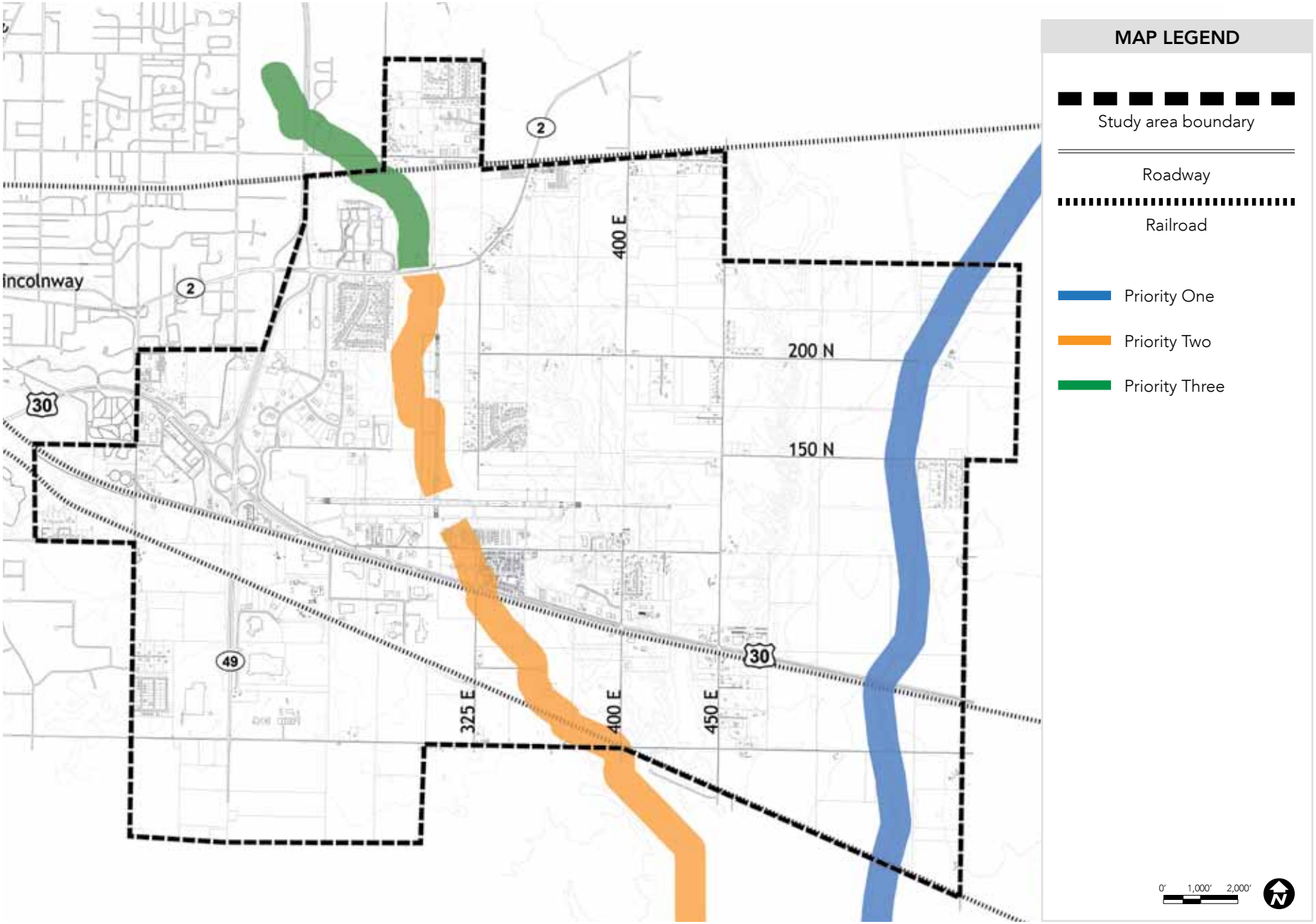

Figure 8: Existing Watershed Overlay District (WSO) boundaries.

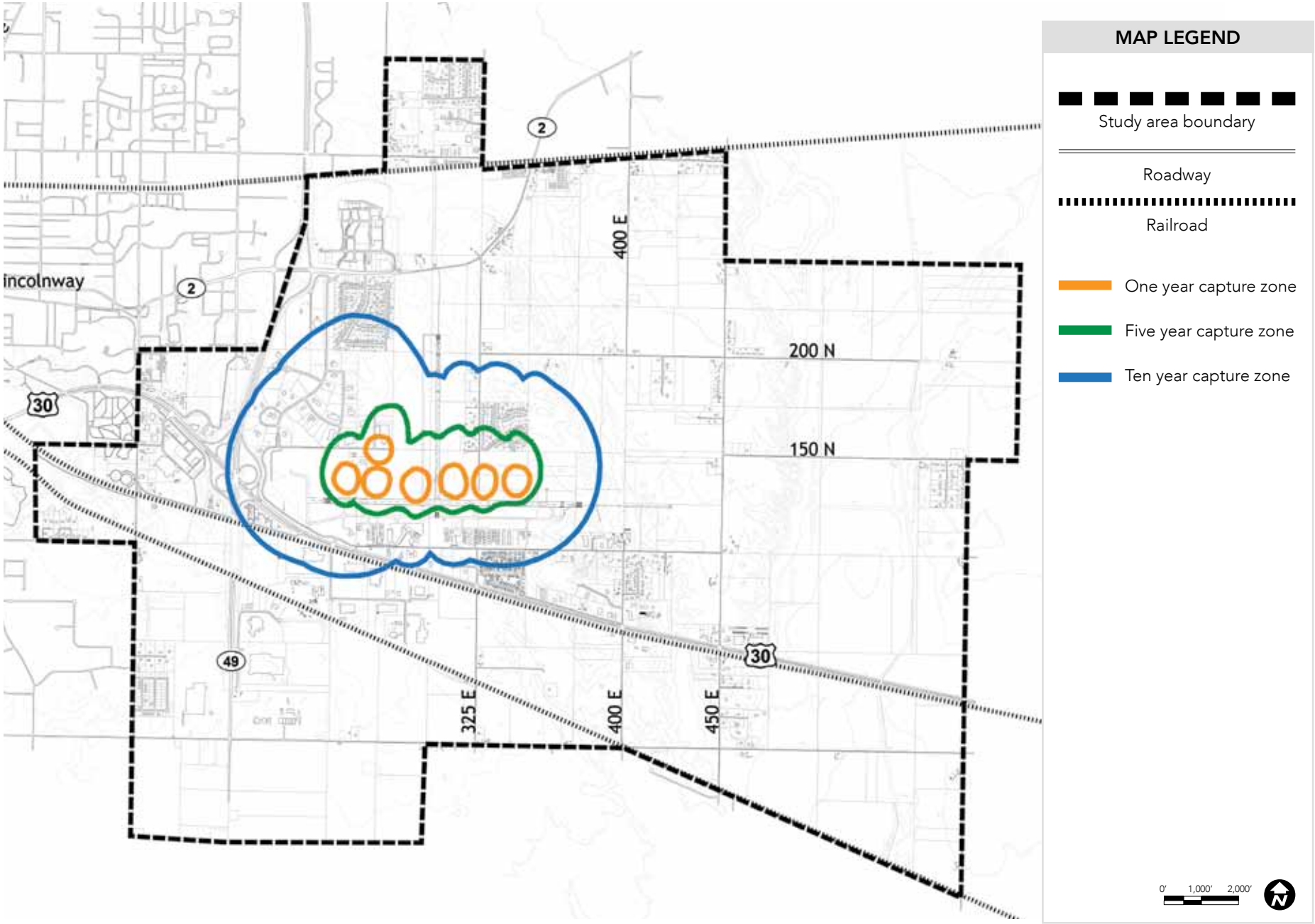

Figure 9: Existing Wellhead Protection Overlay District boundaries.

PLANNING INITIATIVES AND DOCUMENTS

NORTHWESTERN INDIANA REGIONAL PLANNING COMMISSION (NIRPC) PLANS

The 2040 Comprehensive Regional Plan (2011)
The importance of this plan's components and recommendations is great when looking at our study area. Our area falls within the realm of NIRPC and the 2040 CRP. By using the vision, framework and strategies presented in the 2040 CRP, future initiatives and resources could be utilized within the study area. In order to identify potential recommendations presented in the 2040 CRP that could impact our study area, a brief summary of the plan's components are described below.

Serving Lake, Porter and LaPorte counties, the Northwestern Indiana Regional Planning Commission (NIRPC) is a council of local governments that provides a forum for Northwest Indiana elected officials to address regional issues relating to transportation, environment and community economic development. In addition, NIRPC functions as the Metropolitan Planning Organization (MPO) for Northwest Indiana. It works with federal, state and local transportation departments and local transit operators to prioritize and fund regional projects.

The 2040 Comprehensive Regional Plan (CRP) places NIRPC in a new role in the region with respect to planning and implementation. NIRPC is being called upon to assist local governments and regional stakeholders to develop integrated land use and transportation strategies, support economic development efforts, help realize land conservation and a protected green infrastructure, and to do so in a manner that recognizes and supports social equity and environmental justice. The 2040 CRP lays the foundation and establishes the program for how NIRPC will assist Northwest Indiana in realizing its vision. The 2040 CRP is Northwest Indiana's first comprehensive regional plan. The document and planning process was led by NIRPC but the content is based on extensive public involvement and input obtained through numerous public workshops and meetings with local agencies and officials. Integrating land use and transportation planning with economic development, environmental and social equity considerations, the CRP provides a framework for how the region will grow through the year 2040 and is a tool to guide actions and resources.

The 2040 CRP is a vision plan developed as a comprehensive, citizen based, regional vision that will guide the development of land use and transportation programming. As such, it is a policy program with strong coordination and implementation elements. Since NIRPC lacks the typical authorities granted to local governments for land use and development control, they rely on strong relationships with local governments, agencies and stakeholders for CRP implementation.

The 2040 CRP represents NIRPC's official policy guide for directing planning and intergovernmental collaboration in Northwest Indiana. The CRP serves as a general guide to all those programs providing continuity in the agency mission, services and implementation. The key elements of the 2040 CRP are as follows:

- Growth and Conservation Pattern
- Transportation
- Environment and Green Infrastructure
- Human and Economic Resources

- Stewardship and Governance
- Implementation

GROWTH AND CONSERVATION PATTERN

During the planning process a clear message from the stakeholders was to focus new growth and development in existing community areas where infrastructure and urban services would be most readily available. In order to effectively promote this vision, the CRP Growth and Conservation plan element needed to integrate key aspects of all the other elements of the CRP. At the core, the Growth and Conservation Element serves to focus resources in a manner that enables the region to be economically competitive and successful as a whole. The final Growth and Conservation Element includes a set of goals and objectives related to future growth and revitalization, a detailed inventory and analysis of the current condition of the three county region and then details a regional urban framework that includes strategies for future growth.

The 2040 CRP establishes a framework for the future growth of the area by distinguishing different place types within Northwest Indiana: Focused Revitalization areas, Growth and Infill areas, Centers and Green Infrastructure. The plan goes on to further delineate two place types as "high priority" which are Growth and Infill and Focused Revitalization Areas. By concentrating growth around these two place types, the idea is to preserve environmental assets and use funds more efficiently to create livable, pedestrian-friendly communities that offer a high quality of life for all residents. Several strategies were identified in the plan to help guide policy related to Growth and Conservation, and those that could be applied to our study area are listed below.

Reinvest: Adaptive reuse and infill development are key strategies because it uses the infrastructure and community capacity for growth within the existing urbanized areas and reduces development pressure on natural and agricultural lands. Distressed properties also have the potential to be reused but might require flexible regulatory standards to minimize the cost and streamline the development process. Finally, many conventional, automobile-oriented areas can be retrofitted into a more walkable, mixed-use and transit ready development. By retrofitting these areas, a prominent street pattern can be created that emphasizes public space for shared activity.

Link Transportation and Land Use: NIRPC, in coordination with local governments, identified lands along freight rail lines and truck routes to prioritize them according to their potential for freight-related development. While many of these sites are brownfields or underutilized land, bringing these areas back into more productive use would benefit the community and region. Local communities are encouraged to create development regulations that establish practices such as buffers, open space requirements, low-impact design, context sensitive lighting and green building techniques to encourage redevelopment in these areas.

Smarter Land Use Decisions through Land Suitability: By utilizing a screening technique for development, the local agency will be able to determine where future development is most appropriate. NIRPC has developed a systematic approach to evaluate the region land development suitability based on both natural and built environments. This was achieved by combining all environmental assets into one single composite map. The map classifies land

into three tiers which are: Tier 1, Water resources and managed lands, Tier 2, Ecological areas and hydric soils and Tier 3, Limited Productive soils. This represents an inverse relationship where lands of poorest quality (Tier 3) represent the areas of greatest development opportunity. Likewise, those tiers of significant natural importance rank lowest for development desirability. The three classes of land suitability include: Suitable land, Less suitable land and Unsuitable land.

These classifications and rankings have helped identify a series of development priorities for the area. The composite map prepared as part of the 2040 CRP identifies our study area as Developable Land with the least priority. NIRPC's goal for this tool is to be used in the preparation of local land use and development planning programs.

Green Cities: By utilizing strategies of green infrastructure and low impact development all transportation systems and development centers can reduce the storm water runoff and its associated costs while enhancing community and property values. In addition the urban areas can be enhanced aesthetically and the bicycle and pedestrian system can be upgraded. The CRP also encourages linking the remaining fragments of open space that exist within the urbanized areas.

Create Livable Centers: One of the key strategies in the CRP is the development of "Livable Centers". These centers are identified as being fundamental to achieving the preferred strategy for land use, transportation and environmental stewardship in Northwest Indiana. That strategy is to strongly endorse a future pattern of focused growth around Livable Centers. Livable centers can be defined as places that are mixed in character, compact in arrangement, walkable and well-connected to their surroundings. These places can vary in purpose based on their overall scale and location and on the role they play within the local and broader regional planning context.

As a major defining element of the CRP, livable centers have been defined in each of the 41 established communities in Northwest Indiana. These centers vary widely in scale, use, mix and purpose within each community, but all represent areas of regional significance. While our study area is not designated as a livable center, three areas within the City of Valparaiso are, and are within close proximity to our study area boundary.

Preserving the Region's Rural Character and Resources: The 2040 CRP focuses on the protection of natural resources while supporting the agricultural and rural economy, and allowing for limited compatible nonfarm development. For the benefit and advancement of agricultural activities, the plan encourages the use of agricultural districts, agricultural buffers and the encouragement of conservation development or design.

TRANSPORTATION

NIRPC supports two major transportation roles in the region. The first is its responsibility as a lead agency for the preparation of the federally approved regional transportation plan and its related transportation improvement program (TIP). The second major transportation planning function is established through the CRP. Because the CRP is a vision plan, it is not constrained by

current funding cycles and allows the region to plan further ahead of current programs. While keeping those roles in mind, the CRP vision is to think regionally about transportation infrastructure and its relationship to land use planning. The plan component sets forth conditions and recommendations for different modes of travel for Highways, Public Transportation, Aviation, Freight Movement and Non-motorized Transportation. The plan also encouraged the coordination and integration of each mode to form a unified, efficient transportation system.

NIRPC serves as the MPO for the three county region and is responsible for the federally managed regional transportation planning efforts. In this role, NIRPC carries out a continuing, cooperative and comprehensive regional transportation planning process and recently, completed the 2030 Regional Transportation Plan (RTP). The RTP established the region's transportation planning priorities for the next twenty years and then uses a Transportation Improvement Plan (TIP) to implement those priorities at a project level in five year increments.

Included in the 2040 CRP is a list of submitted projects from the three county area that address the Congestion Management Process. These projects were submitted in December 2010, and evaluated using criteria identified in the Safe, Accountable, Flexible and Efficient Transportation Equity Act- A legacy for Users (SAFETEA-LU) and additional considerations that were guided by the 2040 CRP Vision. Eighteen projects passed the review process outright, and an additional five projects passed pending a reduction in the scope of the project. Four projects were not selected. Included in the eighteen projects that were selected was the Division Road widening project from SR 2 to US 30. The project partially included in the study area, ranked 10th in the NIRPC screening process and would include design and construction of two additional traffic lanes.

The selected projects were then scored based on two prerequisites: the project must be compatible with the adopted NIRPC Complete Streets policy and must be recommended by the Congestion Management Process, mentioned above. The scoring system included potential points in the categories of mobility, transportation and land use, safety, environment, and quality of life. A multiplier was also applied to these scores based on the area served and proximity to livable centers. Using these assemble scores the accepted projects were sorted into projected years of completion. The Division Road expansion is currently listed in the 2040 CRP as being completed by 2040.

Included in the transportation component of the plan are recommendations related to public transportation. The major recommendation in the plan is to create a regional transit framework that provides for transit investment. The information included in the plan is an integration of planning efforts from across the three county region, the locations of livable centers identified in the CRP, the alignments of existing and proposed transit services, multimodal connection opportunities and the major corridors and focal points identified throughout the CRP planning process.

Rail and Freight Policy Recommendations are included in the transportation component of the CRP. The plan identifies the opportunity to develop along freight rail lines and truck routes. Specifically the CRP encourages the development of intermodal and multimodal freight facilities and the logistics industry within the three county region. The facilities identified for further development

include the Gary/Chicago International Airport Zone and the Porter County Regional Airport Zone, the development of Kingsbury Industrial Park as a multimodal center, improvements to the Gibson Yard in Hammond and improvements to the Port of Indiana-Burns Harbor.

Non-motorized transportation is also encouraged within the transportation component. In order to accomplish this, the CRP reinforces the recommendations made in a variety of previous studies and recommendations related to the use of abandoned rail corridors, utility corridors, natural features and waterways to create a regional trail network. By using these available corridors a regional pedestrian and bikeway network can be created that links major population and major scenic areas.

ENVIRONMENT AND GREEN INFRASTRUCTURE

The environment is one of the three pillars often recognized at the foundation to building a sustainable and vibrant future. Its importance was recognized by NIRPC throughout the public input process for the 2040 CRP. The environmental pillar of the 2040 CRP can be best described as an overarching Green Infrastructure Network for the region. The plan component includes recommendations that address many aspects of creating and maintaining a green infrastructure network and are intended to support, and be undertaken in conjunction with recommendations relating to growth, conservation and transportation. The green infrastructure recommendations dovetail with those related to supporting Livable Centers and supporting transportation choices across the region.

HUMAN AND ECONOMIC RESOURCES

Through the regional planning process, NIRPC has identified the opportunity for an additional 80,000 jobs by the year 2040. In order to capture this level of job formation, the region must continue to organize and align itself with the demands of the regional and national economy for service, technology, manufacturing and related industries.

The 2040 CRP plan puts great emphasis on reinvestment and redevelopment in the region's core communities particularly focusing on Gary, Hammond, East Chicago and Michigan City.

STEWARDSHIP AND GOVERNANCE

As stated before, the 2040 CRP is a wide-ranging plan that includes a variety of topics and recommendations. Land use planning and development decisions clearly remain the responsibility of local government. The CRP serves as advice for local plans and a means to accomplish regionally beneficial planning decisions.

NIRPC will continue to assist local governments to update their local plans and ordinances to include goals and objectives from the 2040 CRP. In addition NIRPC will continue in the following roles related to stewardship and governance:

- Planning Review and coordination
- Funding and financial support
- Advocacy and environmental justice
- Education and communication

For each initiative described in the 2040 CRP, NIRPC will determine the most appropriate role to serve and work with its partners to move forward

effectively. To do so, NIRPC will use the vision, goals and objectives of the CRP as a guide.

IMPLEMENTATION

In order to effectively use and implement the 2040 CRP, NIRPC will continue to focus their efforts in ways that best leverages the CRP's goals and objectives. Additionally, NIRPC must continue to build regional support and partnerships with its constituency and stakeholders. To accomplish this NIRPC will be focusing on four program areas:

- Policy stewardship: NIRPC will continue to monitor, develop and support actions that advance interests of the CRP.
- Funding and finance: NIRPC will continue to secure resources for transportation, community facilities and environmental management.
- Education and awareness: NIRPC will be developing new training and education programming to inform its constituency of regional issues and initiatives.
- Local Assistance Program: NIRPC will begin supporting and facilitating local community planning, identifying best practices and relating CRP policies to local development decisions.

In addition, NIRPC has created an implementation plan that identifies NIRPC actions and regional partnership strategies related to livable centers, development and redevelopment, green infrastructure, environmental preservation/ protection, economic and workforce development, integrates transportation initiatives, regional participation and environmental justice and intergovernmental collaboration.

Regional Comprehensive Economic Development Plan (2007)

The *Regional Comprehensive Economic Development Plan* presents a comprehensive approach to growth and development for the overall region. The plan highlights four specific goals including the improvement of the Gary/ Chicago International Airport, improvement in the NICTD, upgraded service and investment in the Regional Bus Authority, and promoting Shoreline Development through the Marquette Greenway Plan. Though these initiatives do not directly impact the Study Area, the emphasis on rail transportation could become a critical factor if a rail line to Chicago is extended to Valparaiso.

Connections 2030 Regional Transportation Plan (2007)

The Connections 2030 Regional Transportation Plan was created to serve two primary functions; including creating a consensus for a vision for transportation investments, and meeting administrative requirements to maintain certification and continuing to receive federal and state transportation funding. This document identifies the U.S. 30 corridor as a regional priority corridor. The corridor is defined as stretching two miles north and south of the U.S. 30 roadway, from the Illinois state line to Colorado Street, and then one mile north and south of the roadway. Regional priority corridors generally accommodate high traffic volumes; provide access to major commercial, industrial, institutional, recreation and tourism activity centers; and involve multiple jurisdictions within northwest Indiana. State Road 49 from U.S. 12 to U.S. 30 and State Road 2 from U.S. 41 to U.S.6 are identified as secondary regional highways.

Improvements identified in this plan in the area surrounding the Porter County Regional Airport are: added travel lanes to County Road 450 E between U.S. 30 and County Road 150 N; a new interchange to replace the at-grade intersection of State Road 49 and County Road 400 N; and addition of a center turn lane to Silhavy Road between Burlington Beach Road and U.S. 30. The completion date for the added lanes to County Road 450 E is listed as 2010; however, this work had yet to begin during the planning process of this report. The other two projects were listed with completion dates of 2020.

CITY OF VALPARAISO PLANS

Envision Valparaiso 2030 (2011 Draft)

At the publication of this report, the City of Valparaiso was in the process of updating their Comprehensive Plan in an effort called *Envision Valparaiso 2030*. Details of the updated plan have not been published so it is unclear how this document will be impacted. However, guidance can be found in the City's previous 2004 Comprehensive Plan, which is currently in effect. Valparaiso's current Growth Management Plan, suggests developing the Study Area with light industrial as well as cluster residential and low density residential. Additionally, a small area for office/business parks is called for at the intersection of State Road 49 and State Road 2. Some of the area studied in the 2004 Plan is suggested to be annexed into the City of Valparaiso by this plan, which would affect taxes as well as zoning control.

The goals of the Valparaiso *2004 Comprehensive Plan* are:

- Preserve the community's heritage and city character.
- Continue to improve the living environment for residents.
- Ensure the community's resources are beneficially used to satisfy the current and future needs of residents.
- Strengthen the economic role of Valparaiso through the use of growth management strategies aimed at establishing a favorable base of business and industry.
- Promote guidelines for development directly outside the city limits.
- Develop the financial resources necessary to improve the quality of life.

U.S. 30 Corridor Plan (2011)

This plan establishes a strategy to improve the function, appearance, and economic potential of the U.S. 30 corridor in Valparaiso. Consequently, most of the planning area lies within the City's limits and outside of the study area for the Porter County Airport Zone Development Study; however the U.S. 30 and State Road 49 interchange and surrounding environs are included. The Plan labels this interchange as the "front door" to Valparaiso and identifies to announce a sense of arrival into the community. Recommendations include significant landscaping, lighting, and architectural design. Trees and decorative lights should be used to define the street edge and reduce the expansiveness of the interchange. Additionally, decorative structural elements and surface ornamentation could be added to the overpass to transform it into a welcoming feature.

Further recommendations for this section of the corridor involve infill and redevelopment along frontage roads west of the interchange and realignment of Silhavy Road. This roadway is a combination north-south through-street and truncated service road. Subsequently, all through traffic is forced onto U.S. 30, causing backups at signals along the Highway. The intersection of U.S. 30 and Sturdy Road should be framed with new development to create a formal entry to both the Valparaiso University Campus and the City as a whole.

City of Valparaiso Parks and Recreation Master Plan (2010)

This Master Plan's purpose is to guide improvements to the City of Valparaiso's Parks and Recreation Department for the next five years. This plan documents the activities initiated and completed by the Parks and Recreation Department since the last master plan, states goals for the next five years, inventories the City's existing parks, facilities, amenities, and programs, analyize recreation and staffing needs, and outlines a five year action plan.

Currently, the department maintains 18 developed parks. *The Master Plan* provides a detailed summary of a public needs assessment survey which was administered to various residents within the City along with a demographic and trends analysis that will be used to guide park development and expansion.

In addition, *The Master Plan* includes an analysis for each park, along with maps illustrating the approximate service area for each amenity. Currently there are no dedicated park lands located in the study area. The closest park property is Kirchhoff Park, a 15 acre property that provides basketball courts, tennis courts, shelters and one playground facility. The images illustrating the service area associated with each park amenity clearly show that the study area for this project is not served by any existing City park property.

City of Valparaiso- Pathways and Greenways Master Plan (2007)

This document was completed in 2005 for the Valparaiso Department of Parks and Recreation. The plan is divided into three sections: Planning Approach and Plan Development, Design Guidelines, and Implementation Strategies. The Planning Approach and Plan Development section focuses on the benefits of car-free transportation alternatives made possible by trails and greenways and also establishes the vision, goals, and objectives for the overall plan. The Design Guidelines section establishes the design standards for the bicycle and pedestrian facilities throughout Valparaiso. Finally, the Implementation Strategies chapter maps the recommended pathways and trails system and addresses funding strategies.

Specific to the Porter County Airport Zone Development Study, the *Pathways and Greenways Master Plan* proposes street bike lanes along State Road 49 and Silhavy Road, north of U.S. 30. Road pathways are proposed along the following roads surrounding the airport: County Road 325 E/Montdale Drive, County Road 100 N, Comford Road, Frontage Road, Eastport Center Drive, and State Road 2. Road pathways are generally described as multi-use paths within the right-of-way of county and other non-urban roadways. Additionally, the plan identifies a connectivity node immediately northwest of the intersection of the primary and crosswind runways and another at east end of the primary runway for connections to future trails.

While the proposed pathways do not seem to pose safety risks to pedestrians, the location of the connectivity node on the airport's property needs to be placed in an area that is accessible to the general public and that follows all rules and regulations of the FAA.

PORTER COUNTY PLANS

Porter County Regional Airport Master Plan (2009)

The 2009 *Porter County Airport Master Plan* outlines the future needs and proposed evolution of the Airport over a 20-year period. Key elements of the Airport Master Plan include airfield improvements, property acquisition, and approach capability improvements. Since an airport's regulatory influence (imaginary surfaces, overlay zones, wildlife hazard management areas, etc.) extend well beyond the boundaries of an airport, a significant area of surrounding land is affected by the airport's development strategy. Additionally, airport sponsors are responsible for the proper use of public funds for airport improvements.

The purpose and importance of the airport master planning process are described by FAA AC 150/5070-6B *Airport Master Plans*, dated May 1, 2007. Excerpts from this Advisory Circular (AC) include the following descriptions:

"An airport master plan is a comprehensive study of an airport and usually describes the short-, medium-, and long-term development plans to meet future aviation demand. The category of study that includes master plans and master plan updates can therefore be thought of as a continuum that varies by level of detail and associated effort."

"Airport master plans are prepared to support the modernization and expansion of existing airports or the creation of a new airport. The master plan is the sponsor's strategy for the development of the airport."

"The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts. The FAA strongly encourages that planners consider the possible environmental and socioeconomic costs associated with alternative development concepts, and the possible means of avoiding, minimizing, or mitigating impacts to sensitive resources at the appropriate level of detail for facilities planning."

As defined in the AC, the airport master planning process includes the following:

- Pre-Planning
- Public Involvement
- Environmental Considerations
- Existing Conditions
- Aviation Forecasts
- Facility Requirements
- Alternatives Development and Evaluation
- Airport Layout Plans
- Facilities Implementation Plan
- Financial Feasibility Analysis

As part of the airport master planning process, the airport sponsor and its consultant establish a Technical Advisory Committee that consists of individuals who are understood to be stakeholders in the process and the final product. Throughout the process the Technical Advisory Committee generates working papers for the various items and tasks listed above. The working papers are combined into the draft Airport Master Plan document for submittal to the FAA. The FAA reviews and comments on the Airport Master Plan document, and the Technical Advisory Committee then incorporates the comments and generates the final product.

Porter County Regional Airport (VPZ) is reviewing the final draft of its Airport Master Plan at this time, and is awaiting the FAA's response to VPZ's wildlife hazard assessment. Since the *In Plane View: A Clear Vision for the Future* planning document is proceeding concurrently, the final Airport Master Plan has been delayed pending finalization of the study, to make sure there are no inconsistencies between the two. Although the FAA issues review comments for the VPZ Airport Master Plan document, it only issues approvals for the Airport Layout Plan (ALP). VPZ's ALP has been approved by the FAA.

The major airfield improvements in the Master Plan document that could have an impact on the surrounding land use include runway extensions planned for the Runway 27 and Runway 18, as well as improvements to the approach capabilities for the Runway 9 and Runway 18 ends (which will adversely affect the dimensions of the runway protection zones). The 500 foot runway extension planned for Runway 27 will shift the runway protection zone to the east off of airport property. This area is noted for future property acquisition. The 1,000 foot runway extension planned for the Runway 18 will also shift the runway protection zone to the north, but it will still remain on Airport property. In the long-term, improving the approach capabilities of Runway 18 will require a larger runway protection zone, which would then extend slightly off of Airport property to the north of Laporte Avenue. Property acquisition is denoted for this area along with land to the east of the runway. Although no changes are planned to Runway 36 or its runway protection zone, the protection zone extends off of airport property and property acquisition is denoted in this area along with some additional property in the nearby terminal area. Approach capabilities are to be improved for Runway 9, thus making the protection zone larger. Property acquisition is denoted in this area.

Other proposed airport improvements should be considered for the long-term development of the study area, including the Air Traffic Control Tower (ATCT) or other ultimate facilities. Areas in the northwest quadrant of the airfield have been reserved for potential long-term development of a multi-modal terminal and additional aircraft storage. While these reserved areas are located within the airport property line, future access to these areas should be considered in land use planning efforts. Likewise, access to the proposed ATCT should be considered. There are three proposed locations for the ATCT. While all three locations are located within Airport property, proper access to the ATCT should be provided. Additionally, efforts should be taken to prevent surrounding land uses from impeding safe and efficient air traffic control operations. One potential constraint of the ATCT is the visibility requirements. Air traffic controllers must be able to maintain maximum visibility of local air traffic patterns, approaches to all runways, and all runway and taxiway surfaces. Given the potential

location of the ATCT, the visibility is not expected to be a concern. However, activities that might impede visibility for the ATCT (e.g. agricultural activities that would produce dust) should not be located near the Airport.

Additional areas of concern include airspace height restrictions and ultimate noise impacts. One of the major improvements to the Part 77 airspace surfaces includes an upgrade to the approach capabilities of Runway 18/36. The proposed improvements will change the dimensions of the primary surface and the approach surfaces to this runway. Future noise impacts should also be considered. In accordance with the guidance in the *Valparaiso Unified Development Ordinance*, a noise study will be required for airport development projects, such as the proposed runway extensions. While drastic changes to the 65 DNL area are not anticipated, this increase in aviation noise should be analyzed.

Porter County Comprehensive Plan (2001)

The Comprehensive Plan for Porter County was completed in 2001 and was designed to be a tool to guide the county's future development. The document outlines the vision of the community, the goals and objectives and policies. The planning document utilized existing conditions, public input, demographic and economic information to guide the development of a future land use map. In addition to land use, the plan focuses on housing, transportation, economic development and agricultural preservation.

The comprehensive plan outlines several guiding principles and associated objectives in the following topic areas:

- Government
- Land Use
- Parks and Recreation
- Community Services
- Economic Development
- Natural Resources
- Transportation and Infrastructure

In order to address each of the topic areas, the County underwent the process of preparing a land use and transportation plan that would accommodate the projected increase in population without completely changing the character of the County. Three land use scenarios were developed and presented utilizing computer simulations: Status Quo Development, Modified Status Quo scenario and the Urban /Rural character scenario.

The Urban/Rural Character Scenario was chosen as the best fit for the County because it provided the best solution for managing future population growth, maintaining personal property rights, meeting the expressed concerns of residents of maintaining the unique character of the County. According to the future land use plan contained in the plan the following land uses were identified for our study area:

Urban Fringe Development: Bordering SR 49 to the east and US 30 to the north, the Urban Fringe Development land use is proposed to encompass future urban expansion. These areas

are proposed for primarily residential growth of a density comparable to that of the adjoining urban areas.

Suburban Development: Centrally located within the study area the Suburban Development classification is proposed to contain low density residential and some neighborhood or community type commercial development.

Rural/Agricultural Development: The remaining area within the study area is proposed as a Rural/ Agricultural Development land use which allows the area to be better regulated in terms of future development. The plan recognizes that some of this area will be needed to accommodate the County's growing population, but it is recommended that regulations be put in place to discourage single lot strip development and encourage most residential development in this area to locate in larger subdivisions.

In addition to the proposed land uses a large portion of the study area located near the intersection of US 30 and SR 49 is dedicated to industrial development expansion as noted on the land use map. While it is recommended that industrial development is to be located in this area no additional information on densities or design regulations is presented. Instead, the plan recommends the use of design and performance standards to dictate how these locations will develop.

The second main component of the comprehensive plan was the thoroughfare plan. The transportation component of the comprehensive plan documented the existing transportation network within the County. After analyzing the existing information a series of initiatives and improvements were proposed including:

- Reducing the number of curb cuts along major thoroughfares (US 30, State Road 49 and State Road 2)
- Encouraging cross easement between parking lots (US 30, State Road 49, and State Road 2)
- Implementing a capital improvement fund
- Improving connections and access
- Limiting use of cul-de-sacs

Another major recommendation was the creation of county-wide road aesthetics design guidelines. The design guidelines would help to protect the general character of the area while providing information on access points, traffic calming and visual screening. The guidelines could cover a wide array of topics including signage, access limitations and landscaping.

Bicycle and pedestrian pathways and recreation needs for the County were also discussed although the County recommendations are being discussed in additional planning documents included in this Chapter.

The final section of the plan discusses implementation recommendations which include the following:

- Identify follow up studies and action programs that need to be undertaken to implement the Comprehensive Plan;
- Maintain open lines of communication

with outside agencies and members of the community;

- Identify a process to integrate the Comprehensive Plan with the ongoing operations and budget and capital improvements of the County and its municipalities;
- Further review and update of the County's guiding principles and objectives related to land use development and transportation planning.

Porter County Parks and Recreation Master Plan (2007)

This Master Plan's purpose is to provide an understanding of the history of the Porter County Parks and Recreation Department and the community that it serves, while looking for innovative ideas and recommendations that provide both a global perspective and a local focus for the future. This plan documents the benefits and trends of parks, trails and amenities on a regional scale and how each trend may impact Porter County.

The plan covers all of Porter County's approximately 272,000 acres and projects that Porter County will continue to grow in population by 2013. Because of population growth, demographic trends and the natural features of the county, the plan identifies that the Porter County Parks and Recreation Department is primed for significant growth.

The master plan study completed a set of visioning sessions with the general public, focus groups and stakeholder meetings, the parks and recreation board and staff. The format of these sessions was such that individuals and groups were able to provide quality feedback regarding the parks and recreation department. Upon conclusion of the visioning session it was apparent that all groups identified similar interests, strengths and weaknesses.

In addition to the visioning sessions, public meetings were held to present the history, demographics, park inventories and capital improvement recommendations. Many comments received were similar in nature to those gained during the visioning process. Some of the primary issues discussed throughout the process included land criteria, natural resource protection and collaboration with other agencies.

A primary component of *The Master Plan* is dedicated to trails and greenways. In planning for the future recreation needs of the County, the Porter County Parks and Recreation Department acknowledges that bikeways, trails, blueways and other linear park amenities are significant community recreational resources. The plan identifies key benefits to providing this alternative transportation system, including preventing obesity and air quality control. The plan provides an inventory of the County's existing trail systems including multi-use trail systems, on-street loop trails and additional regional planning studies incorporating trail systems. While there are no direct trail systems in or adjacent to our study area, T*he Master Plan* does identify corridors of opportunity that could be applicable to this project's study area. Abandoned railroad corridors and utility corridors offer opportunities for regional and local trail development and could aid in connecting existing and proposed trail systems in the County.

In addition to abandoned rail and utility corridors, *The Master Plan* suggests that bicycle and pedestrian facilities could be incorporated into proposed roadway design and construction projects.

The Master Plan goes on to present a series of recommendations primarily related to trails and greenways and land acquisition. Recommended trail priorities that involve the study area by way of the Valparaiso Loop Trail Connector located along Division Road and the IN 49 North-South Trail Corridor. These two recommendations would serve to fill the gaps of local/regional trails while enables the development of a regional trail network by accommodating longer rides and connecting adjacent communities. The IN 49 North-South Trail Corridor would be one of the few north-south corridors in the county.

In addition to trail and greenway recommendations, the plan discussed and identified the potential for acquiring land in the future. Within the study the Porter County Parks and Recreation department has identified four sites that were listed as having "current acquisition potential" and five sites as being "future key acquisition areas". Based on the map in the study there are currently no properties or areas identified in our study area for future park amenities.

Finally, an implementation and funding chapter is included in the plan that approximates when upgrades will take place within the scope of the five year Master Plan. Included in the document are upgrades to several park facilities with additional focus being placed on new park development and trail development between 2008 and 2011. While the majority of the funding comes from tax revenues, grants and program fees, *The Master Plan* identifies several state and federal programs that could be used to offset the cost of the future improvement projects.

Porter County Corridor Plan (2009)

The Porter County Corridor Plan is the result of growing concern regarding the potential undesirable development patterns along prominent vehicular travel ways. While there was a transportation component to the Porter County Comprehensive Plan, over the years development pressure along certain highways and arterials has intensified resulting in the need for specific corridor policies. Generally speaking, the Corridor Plan encourages suitable development patterns that limit uncoordinated expansion and preserve natural, historic and cultural resources. The plan also encourages coordination and cooperation between Porter County and the incorporated cities and towns to implement the vision.

The *Porter County Corridor Plan* provides design recommendations for several road corridors, three of which run through our study area:

- US Highway 30
- Indiana Route 2
- Indiana Route 49

Each set of recommendations is summarized below and includes information on land use, wayfinding, beneficial natural resources, connectivity, and safety. These recommendations were derived from public input, sustainable land use trends and corridor analysis and reflect the goals and objectives of the plan itself.

US Highway 30: While the majority of the US Highway 30 recommendations happen

to the west and east of the study area there are recommendations that can be applied to the corridor within the scope of this planning document. The *Porter County Corridor Plan* recommends that the goals of the current Land Use & Thoroughfare Plan be applied to the entire corridor and that the current UDO *Arterial Roadway Overlay District* for Valparaiso be enforced.

In addition the corridor plan recognizes the need to appropriately zone land for future airport growth and to support efforts for shovel ready sites for industrial growth near the airport. At the time the Corridor Study was completed, the Airport Zone Development Study had not started, so additional land use, infrastructure and design recommendations should be coordinated with the Airport Zone Development Committee.

While segments of Indiana Route 2 and 49 are included in our planning study area the recommendations listed in the *Porter County Corridor Plan* are based on a more regional scale.

While no specific recommendations can be taken from the Corridor Plan general recommendations that can be applied include the following:

- Requiring buffers and development setbacks to protect wetlands and wildlife habitats
- Implementing farmland preservation techniques
- Providing incentives to encourage conservation subdivisions to create networks of open space
- Working to employ access management standards for new development while maintaining levels of service.
- Encouraging developers of large parcels to be models for sustainable development
- Encouraging business campus master planning and design standards for the development adjacent to the airport.

LOCAL POINTS OF INTEREST

Porter County Regional Airport: Airports act as economic engines for their local markets. According to January 2011 FAA statistics, the Porter County Airport houses 123 single engine aircraft, 12 multi-engine aircraft, nine jet aircraft, three helicopters, and one ultralight. This large fleet of based aircraft gives the Airport the highest number of personal aircraft in the State of Indiana. Currently, the airport provides services to many existing industrial businesses in the area and has the capabilities to expand.

Indiana Dunes National Lakeshore: The Indiana Dunes National Lakeshore is a U.S. National Lakeshore located in northwest Indiana, approximately 10 miles from the study area. The lakeshore runs for nearly 25 miles along the southern shore of Lake Michigan from Gary, Indiana on the west to Michigan City, Indiana on the east. The park contains approximately 15,000 acres, 15 miles of beaches as well as sand dunes, bogs, marshes, swamps, fens, prairies, rivers, oak savannas and woodland forests.

The Port of Indiana- Burns Harbor: The Port of Indiana-Burns Harbor is an industrial area, founded in 1965 and located on the Lake Michigan shore of Indiana. The primary work done in the area is the manufacturing of steel, and the port area is dominated by steel mills. As of 2009 data, three extensive industrial plants were located at the harbor: Midwest Steel (a unit of US Steel Corporation), ArcelorMittal (Bethlehem Steel Corporation) and The Northern Indiana Public Service coal-fired power plant owned by NiSource. The Port is also home to Burns Waterway Small Boat Harbor, a 5,500 ft long canal, that extends inland from Lake Michigan to south of US Highway 12.

Medical Campuses and Facilities: Within a 30 miles radius are numerous hospital and medical complexes. These facilities not only serve the general population, but also have the ability to attract specific businesses and industries that offer medical research, supplies and technology. While there are several optimal sites within the larger context, a prime development is underway less than 5 miles from the study area. Porter Health System is currently constructing a new 445,000 square foot hospital facility which will include medical and surgical units, a woman's and children pavilion, orthopedic and cardiovascular services, oncology, emergency department and onsite pharmacy facilities. The hospital facility is scheduled to be open in 2012 and is expected to generate additional medical development near the location.

Higher Education Facilities: Located within 30 miles of the study area are four higher education facilities Purdue University Calumet, Indiana University Northwest, Valparaiso University, and Ivy Tech Community College. While these programs and campuses vary in expertise and scale all offer possibilities to existing and new development in the study area.

Purdue University Campuses- Located in Hammond and Westville , Indiana Purdue University has two satellite campuses that offer baccalaureate, master degrees and professional certificates in nearly 100 fields of study including such traditional Purdue strengths as engineering, technologies, professional programs of nursing, management/business and education, natural, behavioral and social sciences, communications and the liberal arts. The program is distinctive by the inclusion of structured experiential learning which includes traditional classroom teachings and hands on, applied learning situations. These hands on opportunities include internships, cooperative educations, and research or service learning situations.

Indiana University Northwest- Located in Gary, Indiana; IU Northwest is located on a 36 acre campus and offers undergraduate, graduate and associate degrees, as well as a series of certificate and pre-professional programs within the College of Arts and Sciences.

Valparaiso University- Located a few miles from the study area, Valparaiso University has a student body that represents most states and over 50 countries. The university offers five colleges for

undergraduates: The College of Fine Arts and Sciences, College of Engineering, College of Business Administration, College of Nursing and an honors college, as well as graduate studies and a law school. While the university offers traditional classroom experience, they have also realized that graduating students are expected to have practical experience in their field. In order to respond to that need the university has established the Community Research and Service Center, which provides research assistance and other services to government, not for profit organizations and businesses in Northwest Indiana. This program also offers students with applied research experience.

Ivy Tech Community College- The northwest campus of Ivy Tech Community College serves students in Lake, LaPorte, Porter, Pulaski, Jasper, Newton and Starke counties. It is part of the 14-region statewide Ivy Tech Community College system - the second largest and fastest growing public higher education system in Indiana. Ivy Tech Community College Northwest is the second largest college/university in northwest Indiana. Six schools compose the College's offerings: Applied Science and Engineering, Business, Education, Health Sciences, Liberal Arts and Sciences, Public and Social Services, and Technology. For students unable to attend classes on campus, the distance learning program provides options for continuing or completing degrees and certificates online. The program also offers experiential learning which includes traditional classroom teachings and hands on, applied learning situations.

Additional information on the variety of competitive advantages and existing industrial development within the study area can be found in Chapter Three: The Market for Industrial and Commercial Uses.

ECONOMIC INITIATIVES AND STRATEGIES

Within the study area and its adjacent municipalities, a concerted effort to increase the standard of living and economic health of the area has been taking place. Overseeing this effort is a variety of economic development and redevelopment commissions and corporations. These entities are being charged with developing a toolkit for enticing businesses, development and community initiatives to enhance the well-being of the community. These groups, discussed below, assist in multiple areas and initiatives including development of human capital, critical infrastructure, regional competitiveness, and environmental sustainability.

BOARDS AND COMMISSIONS

City of Valparaiso Redevelopment Commission: The commission was originally established to redevelop blighted areas, develop economic areas for the benefit of public health, safety, morals and welfare, increase the economic well-being of the Valparaiso community, and to protect and increase property values. This department utilizes the City Redevelopment Plans to develop various projects aimed at redevelopment in the City. A six member commission has authority to expend tax increment funds (TIF) for approved projects. The Executive Director coordinates the planning process between the Commission and various City Staff and is responsible for developing a budget for approved projects. The Executive Director works with the Mayor to seek grant funding for a project when appropriate.

While there are several projects being undertaken by the Redevelopment Commission outside of this project's study area, at this time it does not

appear that there are any initiatives within this project's boundaries.

City of Valparaiso Economic Development Commission: The Economic Development Commission authorizes the issuance of tax exempt bonds to local businesses and industries and new businesses coming to the community in an attempt to expand the tax base and to create new and better jobs for the residents.

Valparaiso Economic Development Corporation: The Valparaiso Economic Development Corporation (VEDC) was formed in 1984 as a partnership between the local business community and the government. Since its inception, the VEDC has been a catalyst and facilitator for economic planning and growth and has played a significant role in structuring and enhancing Valparaiso's quality of life.

Valparaiso Chamber of Commerce: The Valparaiso Chamber of Commerce oversees the private sector and the City of Valparaiso through the mayor's office represents the municipal part of the partnership. The active partnership between the public and private sector has facilitated the communication and common strategic directions necessary for the successful implementation of the economic development program, which includes the following:

Advocating business infrastructure such as sewers, fiber optics, water lines, sufficient zoning and land availability for business development.

- Encouraging entrepreneurs and innovators by offering them assistance in finding necessary capital and fostering their growth.
- Providing a technologically friendly and advanced infrastructure, including a wireless "cloud" for downtown businesses and the construction of a business incubator.
- Championing many tax abatement applications, identifying training assistance grant programs, and partnering with education and training organizations to retain, create and attract quality jobs.
- Building local, regional and state partnerships to support the needs of existing businesses and industries and help them prosper.
- Organizing the Porter County Economic Development Alliance to enhance economic development, job retention and creation throughout Porter County. The Porter County Commissioners support the Alliance and have agreed to allocate a portion of the County's EDIT monies to the Alliance to be used on specific county-wide economic development initiatives.

Porter County Redevelopment Commission: Currently there is a county-wide redevelopment commission that advises the county commissioners on how to revitalize sites in the unincorporated areas of the county. Unlike other local redevelopment commissions, this agency does not have the power to tax or create new TIF districts. The commission serves in an advisory role in planning and would work to seek grants to carry out identified projects.

The area redevelopment and development commissions along with the local municipality have currently been utilizing three primary forms of development incentives: initial capital improvement investment; Tax increment financing, and tax abatements. By utilizing these three incentive strategies that area has marketed additional development within the City, County and the study area itself.

INCENTIVES AND STRATEGIES

Capital Improvement Investments: When locating a new development there are often costs associated with property access, and utility and roadway extensions. These costs are traditionally cumbersome and at times can inhibit interest in properties. Within the City of Valparaiso, there have been instances where utility extensions and roadway design and construction have been provided by the municipality in order to make the development area more appealing to incoming businesses.

Tax Increment Financing (TIF): Tax Increment financing is a public financing method which can be used as a subsidy for redevelopment and community projects. TIF is a method to use future gains in taxes to finance current improvements, because often there is an increase in the value of surrounding real estate, and perhaps new investment. Currently, the City utilizes TIF's in areas of new development to help recapture the capital improvement costs associated with new development. Within the study area there are two existing TIF areas: Southeast Washington Township Economic Development Area and South 49 Economic Development Area.

Tax Abatements: Tax abatements are a temporary reduction or elimination of a tax. Typically tax abatements are used as an incentive for business investment in an area. There is precedent within the City of Valparaiso regarding the use of tax abatements.

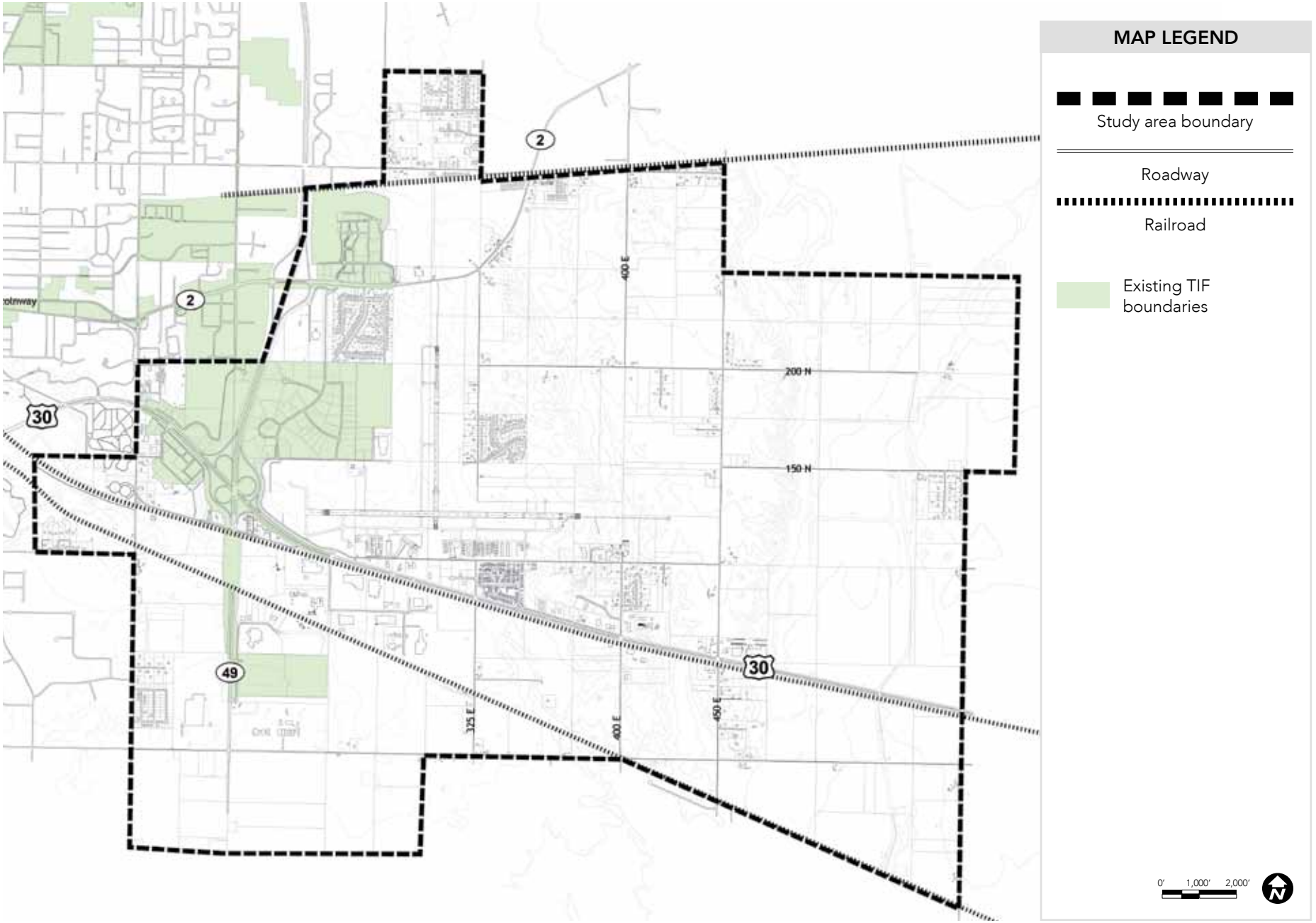

Figure 10: Existing TIF boundaries.

Because of the proven success with the aforementioned strategies it is anticipated that the City of Valparaiso and Porter County will continue utilizing these strategies as development progresses.

TRANSPORTATION SYSTEM

Transportation infrastructure is critical to the growth and success of a development site. By understanding the existing transportation network and functionality of existing road corridors assumptions can be made about construction needs and planning can occur regarding the alignment of new road corridors for the future. In addition to physical road corridors, understanding the existing transportation network provides valuable insights for the future that can preserve the efficiency of roadways, reduce congestion, minimize crashes (accident prevention), and provide general aesthetics to the area.

ROAD NETWORK AND CHARACTER

The study area transportation framework includes three major thoroughfares and several rural internal roads. Understanding the existing framework and the associated congested and conflicting patterns will allow future development plans to create an efficient and well-thought-out system of roads, pedestrian paths, and multi-modal connections.

US 30: Bisecting the study area is US 30 which is a main East-West thoroughfare throughout Porter County. This divided highway is two lanes in each direction with appropriate turn lanes where required along with wide shoulders on either side. Throughout the study area property owners have direct access to US 30 via direct curb cuts/ driveways which impact vehicular travel and turning movements during peak times.

State Road 49: Bordering the study area on the west is State Road 49, a main North-South thoroughfare. The majority of State Road 49 is a limited access road corridor, meaning that there are no direct curb cuts to properties. Instead, there are interchanges that provide access to connecting roadways. Within our study area, State Road 49 is connected to US 30 and State Road 2 by an interchange which streamlines the turning movements for traffic in the area. State Road 49 is currently 3 lanes wide in each direction and tapers to two lanes in each direction south of US 30. South of US 30 the road has a rural scale and character and allows for driveway and development access along the corridor

State Road 2: Creating the northwestern boundary is State Road 2 which connects areas northeast of the study area to Valparaiso. The corridor is primarily one lane in each direction and widens near the interchange of State Road 49. Throughout much of the study area, the road has a rural scale and character and allows for driveway access along the majority of the corridor. Where larger development abuts the right of way, efforts have been made to consolidate access points to control traffic patterns.

Division Road: Running along the southern edge of the study area is Division Road which connects State Road 2 to State Road 49. The roadway is one lane in each direction and is rural in character. Immediately adjacent to the roadway are residential homes and farmland so multiple drive cuts are along the corridor.

East Porte Centre Drive/Frontage Road/ Murvihill Road: Bordering the airport to the south, is Frontage Road, which transitions to Eastport Centre Drive as it extends northward to State Road 2 and transitions to Murvihill Road as you travel to the east. This roadway provides direct access to the Porter County Regional Airport, its accompanying facilities, and the Eastport Centre business park. This roadway is two lanes wide.

County Roads: The remaining roadways within the study area are rural, county roads with minimal upgrades. These roads are one lane in each direction typically with a gravel shoulder or none at all. Minimal corridors exist in an East-West direction and not all corridors extend through the entire study area.

TRANSPORTATION FACILITIES ANALYSIS

In order to determine baseline existing traffic operations within the vicinity of the Porter County Regional Airport, a detailed traffic analysis was performed. The analysis was conducted for both the AM (7-8 am) and PM (3-4 pm) peak hours at nine significant intersections (listed below) within a study area bounded by State Road 2 on the north, US 30 on the south, County Road 450 E on the east, and State Road 49 on the west.

The intersections, shown in Figure 11, were analyzed in their current geometric configurations with existing 2011 traffic volumes. Turn movement counts at the three signalized intersections (taken in 2005 and 2009) were provided by the Indiana Department of Transportation (INDOT). The six remaining intersection turn counts were manually counted in March 2011. To project the pre-2011 counts up to 2011 volumes, the volumes of each pre-2011 intersection were compared to those of the adjacent intersection that was counted in 2011. A growth factor was established based on the volume comparison, and that factor was applied to all turn movements at the intersection. This procedure was completed for each individual

US 30 near Industrial Drive looking East

US 30 looking West

State Road 49 near Division Road looking North

East Porte Centre Drive near Ivy Tech Community College

Murvihill Road near Porter County Regional Airport

Typical County Road character

intersection which was not counted in 2011 in order to obtain a balanced 2011 traffic volume network for the entire study area.

The existing geometry at each of the study intersections is as follows:

State Road 2 & State Road 49 Northbound Ramps (signalized)

- SR2 eastbound – 2 through lanes, 1 left turn lane
- SR2 westbound – 2 through lanes, 1 channelized right turn lane (yield)
- SR49 northbound offramp – 1 left turn lane with channelized right turn (yield)

State Road 2 & State Road 49 Southbound Ramps (unsignalized)

- SR2 eastbound – 2 through lanes, 1 channelized right turn lane (yield)
- SR2 westbound – 2 through lanes, 1 left turn lane
- SR49 northbound offramp – 1 left turn lane with channelized right turn (free flow)

State Road 2 & Porters Vale Boulevard (signalized)

- State Road 2 eastbound – 2 left turn lanes, 2 through lanes, 1 right turn lane
- State Road 2 westbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- Mariposa Drive northbound – 1 left turn lane, 1 shared through/right lane

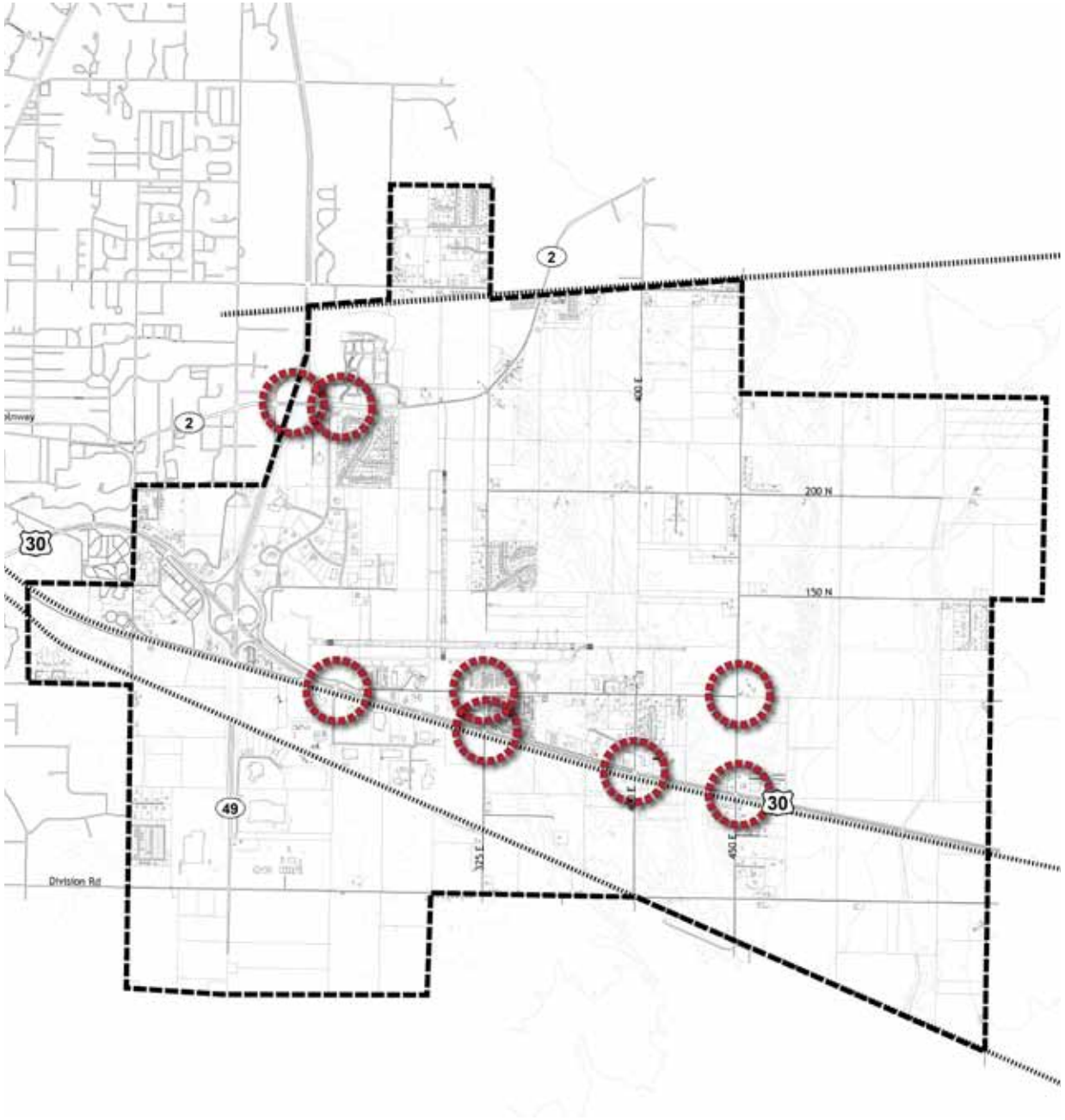

Figure 11: Existing transportation system and intersections studied as a part of this planning document.

- Porters Vale Boulevard southbound – 1 left turn lane, 1 through lane, 1 right lane

US 30 & Industrial Drive (signalized)

- US 30 eastbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- US 30 westbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- Industrial Drive northbound – 1 left turn lane, 1 shared through/right lane
- Industrial Drive southbound – 1 left turn lane, 1 shared through/right lane

US 30 & Montdale Drive /County Road 325 E (unsignalized)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- Montdale Drive northbound – 1 shared left/through/right lane
- Montdale Drive southbound – 1 shared left/through/right lane

US 30 & County Road 400 E (unsignalized)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- County Road 400 E northbound – 1 shared left/through/right lane
- County Road 400 E southbound – 1 shared left/through/right lane

US 30 & County Road 450 E (unsignalized)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- County Road 450 E northbound – 1 shared left/through/right lane
- County Road 450 E southbound – 1 shared left/through/right lane

County Road 100 N & County Road 450 E (unsignalized)

- County Road 100 N eastbound – 1 shared left/right turn lane
- County Road 450 E northbound – 1 shared left/through lane
- County Road 450 E southbound – 1 shared through/right turn lane

County Road 100 N & Montdale Drive/County Road 325 E (unsignalized)

- County Road 100 N eastbound – 1 shared through/right turn lane
- County Road 100 N westbound – 1 shared left/through lane
- Montdale Drive northbound – 1 shared left/right turn lane

The intersections were analyzed to determine operational efficiency (level of service) using Highway Capacity Software (HCS) based on the existing configuration and 2011 volumes at each location.

Level of Service (LOS) is defined by the amount of delay incurred by a vehicle at a given intersection. LOS is defined via assignment of a letter grade quantifying the amount of delay incurred (seconds/vehicle). The LOS grades are defined as follows per the Highway Capacity Manual.

LOS	DELAY (SECONDS/VEHICLE)	
	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Typically, LOS for an intersection should be C or better for suburban/rural intersections to operate acceptably, with all individual turn movements operating at a LOS D or better. The level of service (LOS) results are listed in Table C. All intersections operate at a LOS B or better, with all approaches achieving LOS D or better, which means all intersections within the study area are currently operating acceptably during the AM and PM peak hour.

Since all nine intersections operate acceptably in their existing configuration, no improvements are required in order to accommodate existing 2011 traffic volumes on the roadway network within the study area.

INTERSECTION	APPROACH	EXISTING 2011 LOS	
		AM	PM
State Road 2 & State Road 49 NB Ramps	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	B	C
State Road 2 & State Road 49 SB Ramps	EB	A	A
	WB LT	A	A
	SB	B	C
State Road 2 & Porter Vale Boulevard	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	C	C
	SB	C	D
US 30 & Industrial Drive	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	B	C
	SB	B	B
US 30 & Montdale Drive (County Road 325 E)	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
US 30 & County Road 400 E	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
US 30 & County Road 450 E	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
County Road 100 N & County Road 450 E	EB	A	A
	NB LT	A	A
County Road 100 N & Montdale Drive	WB LT	A	A
	NB	A	A

Table C: Existing intersection analysis.

PEDESTRIAN AND BICYCLE FACILITIES

Currently there are no dedicated pedestrian facilities along any road corridor within the study area. Eastporte Centre does have sidewalks around their buildings extending to the adjacent parking lots, but nothing extending to the public road corridor.

Bicycle routes can be found within the study area along County Road 450 E, parts of Murvihill Road, County Road 325 E and Division Road. These routes are on-street facilities with medium outside lane and shoulder widths and medium traffic speed and volume. No additional bicycle lanes, shared use paths or on-street lanes exist currently in the study area.

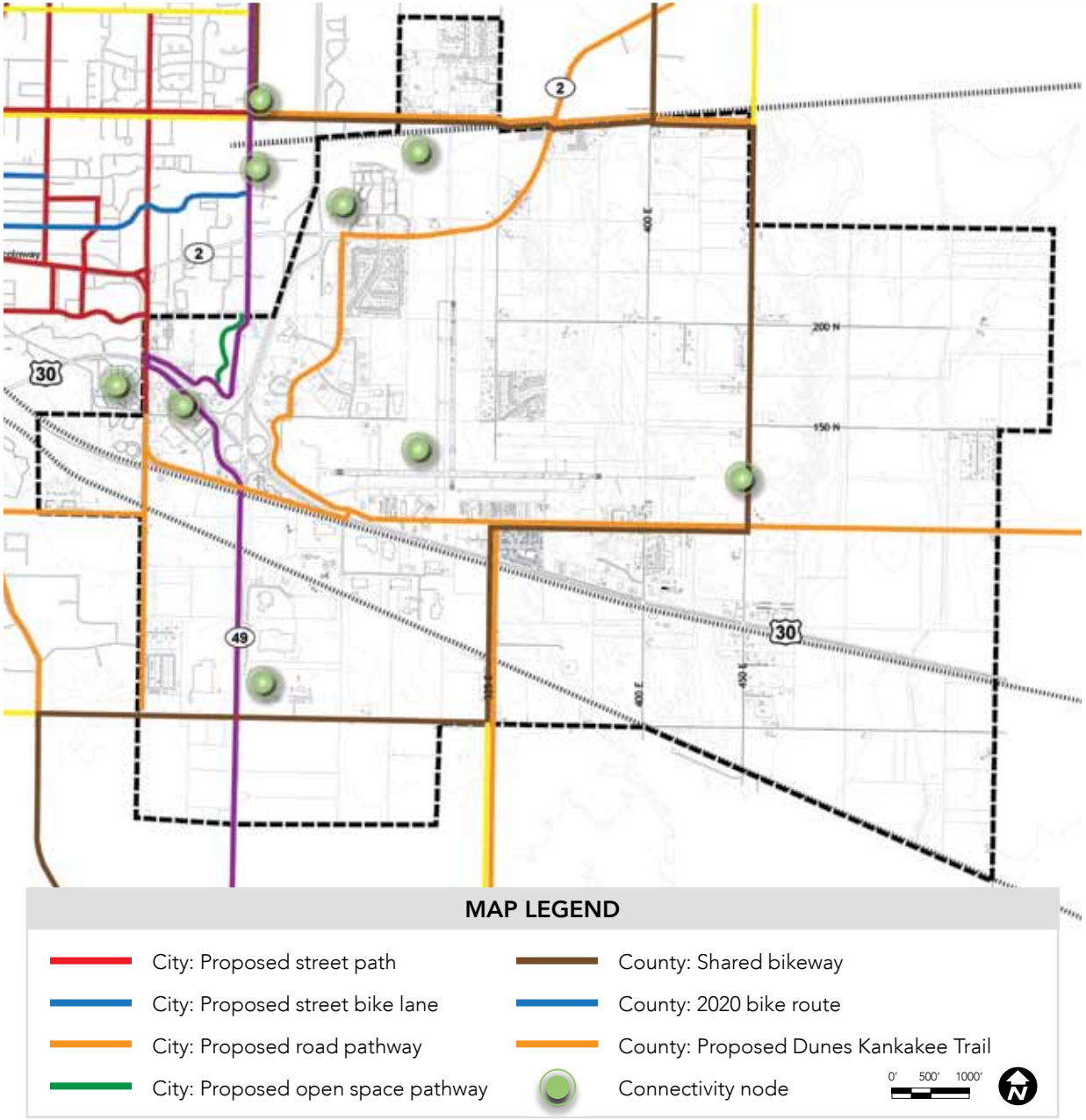

Figure 12: Proposed City and County bicycle and pedestrian facilities.

PUBLIC TRANSPORTATION

Public transportation in the Study Area is provided by the City of Valparaiso's V-Line. The system has five routes, four of which connect to the Study Area with stops at Ivy Tech, JC Penney, and Wal-Mart.

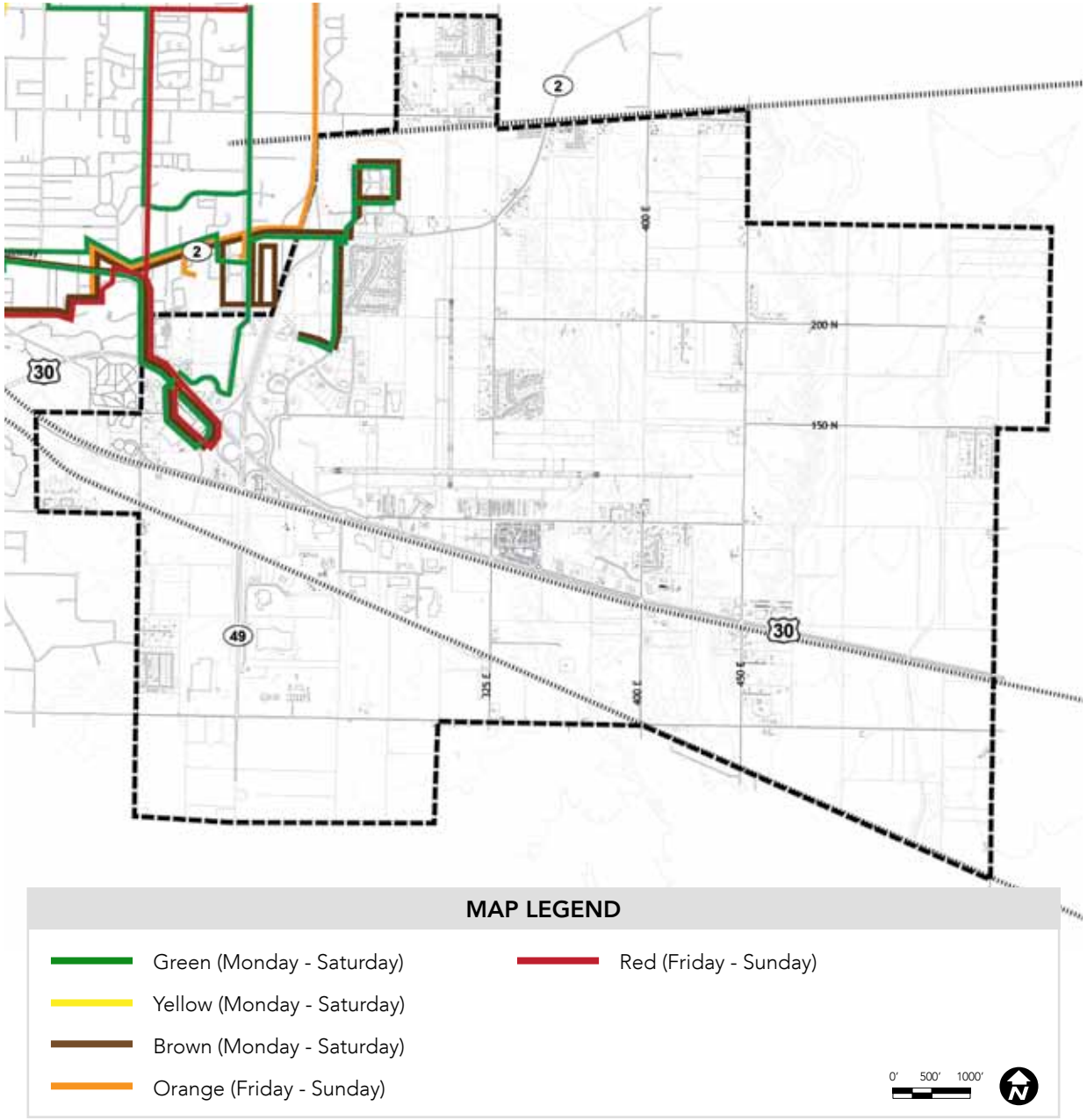

Figure 13: Existing public transportation routes.

RAIL ACTIVITY

The Study Area has three rail lines. Each line creates several at grade rail crossings that vary in design and safety mechanisms and also provides a specific set of opportunities and constraints depending on how the adjacent parcels are bisected. Each rail corridor is summarized below.

Canadian National Railroad/ Grand Trunk Railroad: Extending east-west the Canadian National Railroad corridor creates only one at grade crossing. The intersection of the rail line and US 2 contains a set of crossing signals but no additional safety mechanisms.

Chicago, Ft. Wayne & Eastern Rail Road (Rail America): Extending east-west the Rail America corridor runs parallel to US 30 and is approximately 100 feet to the south of the roadway. This rail corridor creates at grade crossings at Industrial Drive, Montdale Drive/County Road 325 E, County Road 400 E, County Road 450 E and County Road 575 E.

The intersection at Industrial Drive contains a set of crossing signals and vehicular arms which stop traffic while a train is crossing. The other intersections rely on only the crossing signal to control traffic. The rail line currently does not offer direct access to adjacent parcels.

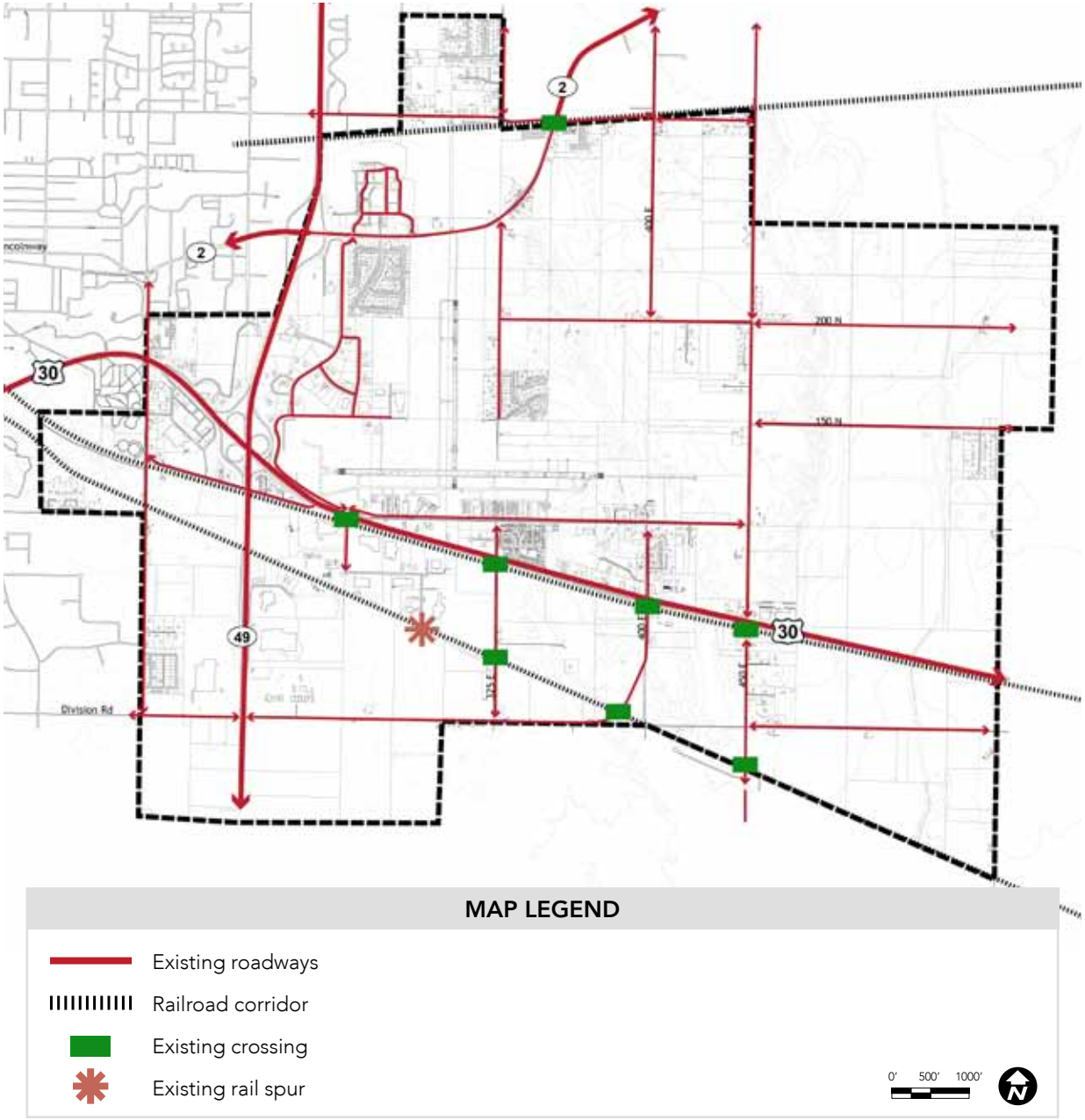

Figure 14: Existing transportation system with existing rail crossings and potential rail access points.

Norfolk Southern Railroad: Extending east-west the Norfolk Southern rail corridor runs parallel to US 30 and is approximately 1700 feet to the south of the Rail America corridor. This rail corridor creates at grade crossings at Montdale Drive/ County Road 325 E, County Road 400 E, County Road 450 E and County Road 575 E.

The intersections all contain a set of crossing signals but no additional safety mechanisms. Currently this rail corridor does appear to provide spurs to adjacent parcels to the north of the corridor although at this time it is unclear if they are all used by adjacent businesses.

The Rail America and Norfolk Southern corridors pose the most constraints to the study area. These two parallel tracks create a block for vehicular traffic when both rails are active at the same time. Because of the current configuration of the roadway system in the Montdale Industrial Park there is no egress for traffic when trains are present on both tracks. Which causes long wait times and potential safety risks for businesses in need of police, fire or medical attention.

UTILITY INFRASTRUCTURE

A prime consideration for new or expanding development is the location and capacity of utility systems. Modification, expansion and relocation of these utility systems are costly and at times can be a deterrent to development. By understanding the existing utility network and functionality of existing systems, assumptions can be made about construction needs and upgrades needed for the future. In addition the understanding the existing systems provides valuable insights for the future that can preserve the efficiency and minimize the costs of the existing and proposed systems.

In January 2004, Mayor Jon Costas put into place a new organizational structure for the City of Valparaiso in order to streamline City government. This new structure included integrating the Department of Water Works and the Water Reclamation Department into one City wide utility. This governing body now provides municipal water, wastewater and stormwater collection systems.

Water and Wastewater Utilities

Water is provided to this area from the treatment plant on Redbow Drive immediately northwest of the airport. The capacity of this treatment plant is 5.5 MGD and currently has a peak demand of 5.0 MGD. The average demand for this plant is currently 2.0 MGD and the facility has a 2.0 MG storage tank on site. The production wells supplying this facility are nearing the end of their useful life and will need to be replaced. The water utility is currently included in the incorporated parcels of the study area. Outside of the City limits, onsite wells are used to fulfill water requirements.

Wastewater treatment with the City of Valparaiso is currently provided by the Elden Kuehl Pollution Control Facility on Joliet Road. This facility is located on the west side of Valparaiso so the conveyance system from the study area includes both gravity sewers and pump stations. This includes the Sturdy Road Lift Station which pumps west through a 14" forcemain and has a capacity of approximately 3.5 MGD. The peak wet weather flow through this lift station in an April 2000 study was 2.26 MGD. Within our study area, there are existing sanitary sewer facilities servicing the incorporated area. There are two lines that extend to unincorporated areas to the east, one following Murvihill Road the other following US 30. Outside of the city limits, septic systems are used.

Stormwater Facilities

This area is located along the continental divide between the Great Lakes and the Mississippi River watersheds. The majority of the drainage from the study area enters the Kankakee River watershed which is a tributary to the Mississippi River Watershed. The Stimson Drain, located south of U.S. 30, is a restriction in this area. Currently, the storm water drainage system for much of the City is a combined system. This combined system collects both sanitary sewage and storm water runoff in a single pipe to deliver it to the treatment plant to be treated. Combined sewers can cause serious water pollution problems and are no longer used in new development. While requiring new construction to separate the two utilities, the City of Valparaiso is also utilizing an MS4 program to maintain and benefit the community's water quality. A Municipal Separate Storm Sewer System (MS4) is an entity that owns or operates a system for collecting and conveying storm water.

The program is an unfunded federal mandate that is the direct result of the 1987 amendments to the Clean Water Act. MS4 entities are required to develop a storm water quality management plan and to implement six minimum control measures to reduced storm water runoff including:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction storm water management
- Pollution prevention and good housekeeping at municipal operations

For purposes of new development, developers will need to provide storm water runoff controls as provided by the City of Valparaiso, or Porter County Unified Development Ordinance.

Additional Utilities

In discussions with representatives from Frontier Communications, NIPSCO and Kankakee Valley REMC it appears that gas, electric and fiber utilities are all available within the study area and do have additional capacity availability for future needs. As development occurs and progresses throughout the study area additional discussions will be needed with representatives from each distribution/supply company on what the most effective and efficient means of connection will be.

ENVIRONMENTAL FEATURES

As a part of the study, a preliminary inventory and analysis of the environmental systems and features was completed to identify possible positive or negative impacts that any proposed project(s) may have on the environment. The purpose of the assessment is to ensure that decision-makers consider the ensuing environmental impacts when deciding whether to proceed with a project. No coordination with any state or federal agencies having jurisdiction over the environmental features and sites described in this document was performed. Should any proposed improvements occur, coordination with the appropriate agencies and the preparation of the appropriate National Environmental Policy Act (NEPA) environmental documentation would be required prior to any construction activities to determine impacts on environmental resources.

Wells and Wellhead Protection: In the study area, located at the Porter County Regional Airport are seven existing wellheads. These wellheads and the adjacent areas are included in the Porter County Wellhead Overlay Protection Zone. This protection zone, which is included in the County's UDO document, is intended to be used to protect the public water supply system and more specifically the public wells within or outside the County. Because of the presence of wells and the protected distinction, some businesses are excluded from development and there could also be additional regulations applied to new development.

Floodplains and Waterways: While there are no dedicated floodplains within the study area there are notable waterways that are included within the County's Watershed Overlay District (WSO).

The purpose of this district is to:

- Reduce soil and nutrient loss by slowing the surface runoff;
- Maintain the quality of water by reducing erosion and minimizing siltation;
- Provide a buffer to reduce sedimentation and nutrient pollution of streams and rivers from non-point sources;
- Help moderate floods by establishing vegetation that will absorb some of the water's energy, thereby slowing the flow of floodwaters;
- Protect wetlands;
- Provide critical habitat for wildlife;
- Provide wildlife corridors to connect natural areas that would otherwise be isolated; and
- Shade streams in order to help provide good spawning sites for fish and other aquatic animals.

The overlay district identifies three levels of priorities and each level requires a specific set of development guidelines. Within the study area there are two impacted waterways: Crooked Creek and Koselke Ditch/Hotter Ditch.

Crooked Creek, which flows north to south, is located near the eastern boundary of the study area. This creek has been identified as Priority One waterway. This designation consists of major drainage ways and bodies of water that are to be given highest priority for protection. The WSO District extends five hundred (500) feet on each side of a Priority 1 water body and is measured from the top of bank.

Koselke Ditch/Hotter Ditch is located near the middle of the study area and extends north through the airport property and towards US 2. This waterway is designated a Priority Two. This designation consists of major collectors, continually flowing drain ways to Priority 1 water bodies, and may include small lakes, to be given second highest priority for protection. The WSO District extends three hundred (300) feet on each side of a Priority 2 water body, measured from the top of bank.

The WSO ordinance sets forth a series of design guidelines that require specific landscaping standards, buffer zones, and setbacks which are dependent on the designation of the waterway. In addition when development occurs in or adjacent to an area with a designated waterway, special design guidelines need to be applied to the waterway itself to create an enhanced riparian buffer.

Wetlands: Based on information available there are no discernable wetlands within the study area. As development progresses, additional field investigations, plant identification and soil studies can be done to identify any existing areas of concern.

Agricultural Lands: The USDA Natural Resources Conservation Service classifies prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods.

According to the National Resources Conservation Service's (NRCS) online database, the study area is dominated by two types of prime farmland:

Prime Farmland of National Importance: Prime farmland of national importance is of major importance in meeting the Nation's short and long range needs for food and fiber. This land has been defined as having the best combination of physical and chemical characteristics for producing food, feed, fiber and oilseed crops and is available for these uses. The US Department of Agriculture recognizes that responsible levels of government, as well as individuals should encourage and facilitate the wise use of our Nation's prime farmland.

Prime Farmland of Statewide Importance: In some areas, land that does not meet the requirements for national importance is often categorized as farmland of statewide importance. This land category typically produces high yield crops when treated and managed according to acceptable farming methods.

In addition to the National Resources Conservation Service documentation, the Porter County Comprehensive Plan has identified that farmland is a major natural resource for the County. During that planning process the need for balancing the existing character and agricultural land uses with the needs of future development was raised. In response, the final plan includes a rural/ agricultural development focus that allows for the existing rural character of the county to be preserved. As a compliment to the comprehensive plan, the current County Unified Development Ordinance has two agricultural zoning classifications that allows for a general

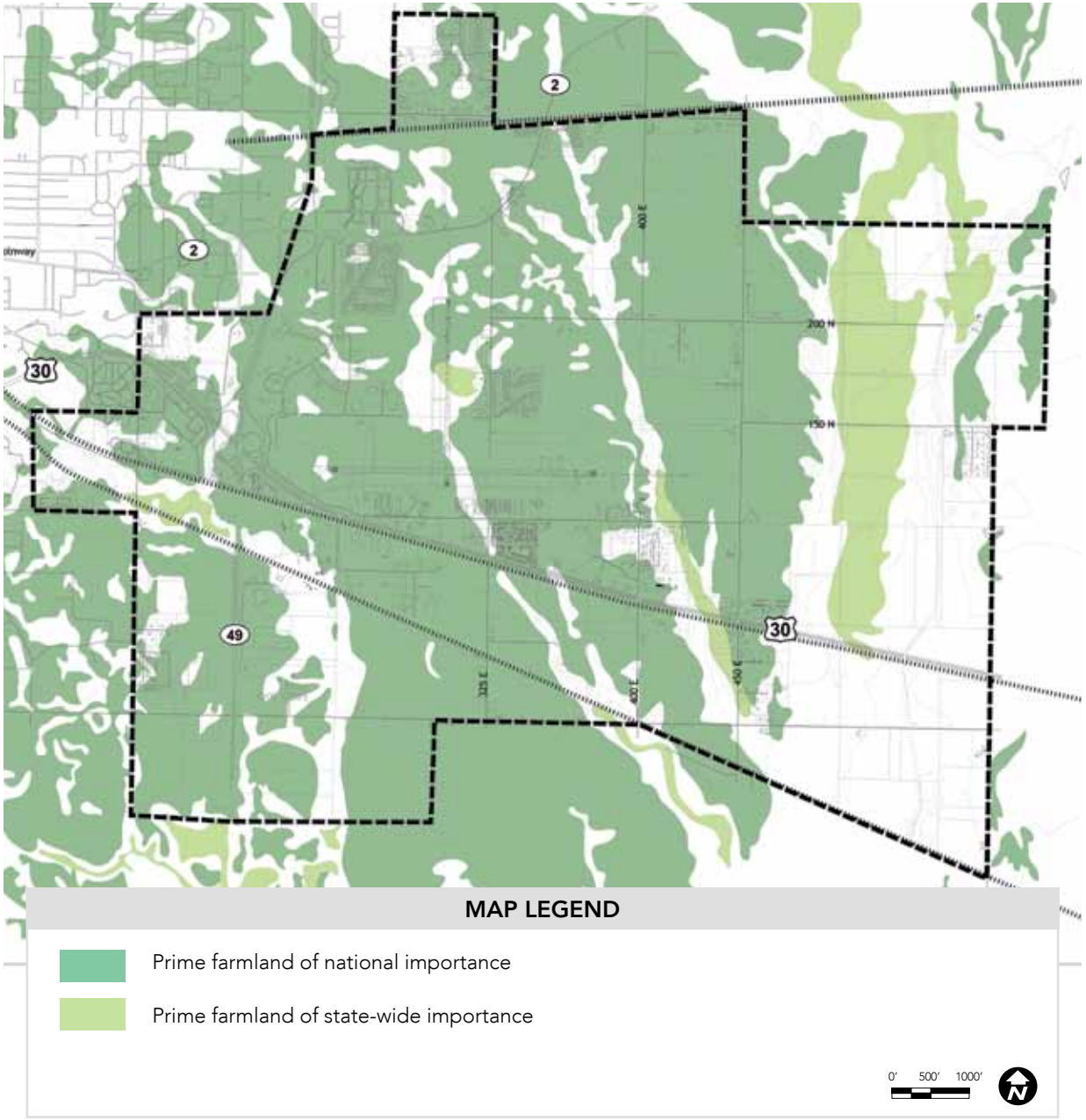

Figure 15: Areas denoted as agricultural lands per the National Resources Conservation Service.

agriculture and a prime agriculture classification that is intended to preserve existing farmland.

Existing Woodlands and Vegetation: The majority of the study area is void of existing tree rows or woodland species. Much of the area has been turned over for commercial, industrial or residential development or is currently being farmed. There are two areas within the study area limits that do provide vegetation that should be treated with caution as future development emerges. Southwest of the intersection of US 30 and SR 49 is a tract of land that contains deciduous and evergreen trees. To the north of this area, the land is developed with commercial uses and to the south the land is farmed. While this area is not included on any wetland or floodplain map, it is clear from aerial interpretation and site visits that there is standing water on the parcels and limited access to the area. Due to the constraints placed on the site, it is not anticipated that development would locate in this area of the study limits.

South of US 30 between 400 E and 450 E is a set of parcels that once were operated as a pine tree farm. While many of the existing pine trees still exist today, there are also additional woodland species in the area. This area is heavily vegetated and creates a distinct buffer in the area between the adjacent parcels to the west and the residential and agricultural parcels to the east. While this area is directly adjacent to US 30 and has the possibility of future development, care should be taken to minimize the impact to the existing landscape in order to protect the unique character of these parcels.

SITE OPPORTUNITIES AND CONSTRAINTS

For the purpose of this analysis, the land use, zoning, transportation, utility and environmental data were overlaid onto a series of maps that illustrates the future development opportunities and constraints to be considered in the development proposed in this document. The maps are organized by regional and site specific opportunities and constraints. The series of regional maps shows varying distances from the study area which helps identify potential impacts outside of the study area limits. The site specific series identifies immediate impacts and is limited to the study area itself.

Summarized below are the opportunities and constraints organized by topic and as shown on the Opportunities and Constraints Maps (Figures 16 to 19).

MAP LEGEND

Study area boundary

Railroad

REGIONAL OPPORTUNITIES

1. Potential as a multi-modal hub
   - Indiana Burns Harbor
   - Airport facilities
   - Major transportation corridors
2. Adjacent support services
   - Medical facilities and businesses
   - Retail and commercial centers
3. Adjacent to multiple higher education facilities
   - Higher education facilities
4. Close proximity to regional recreation areas.
   - Indiana Dunes National Lakefront and ???
5. Multiple active rail lines and connections.
6. Close proximity to Chicago, Illinois.
7. Gas, fiber and electric utility capacity.
8. Generally viewed as a desirable community.

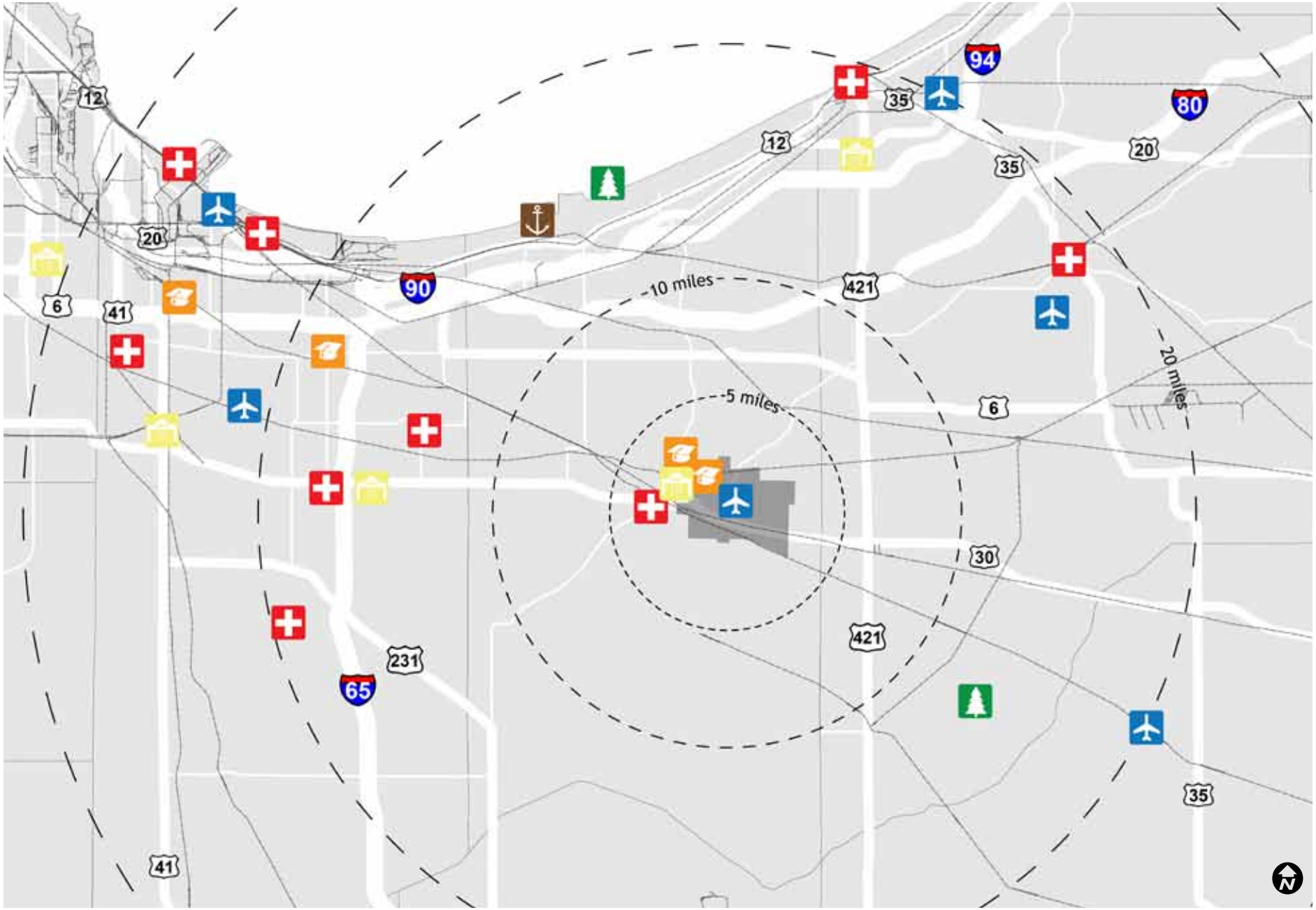

Figure 15: Regional opportunities map.

MAP LEGEND

Study area boundary

Railroad

REGIONAL CONSTRAINTS

1. Competing business/Industrial parks with land available

Indiana Burns Harbor

2. No adjacent interstate highways

Regional interstate corridors

3. No major commercial service airport

4. Lack of critical mass of business agglomeration

5. Multiple planning jurisdictions

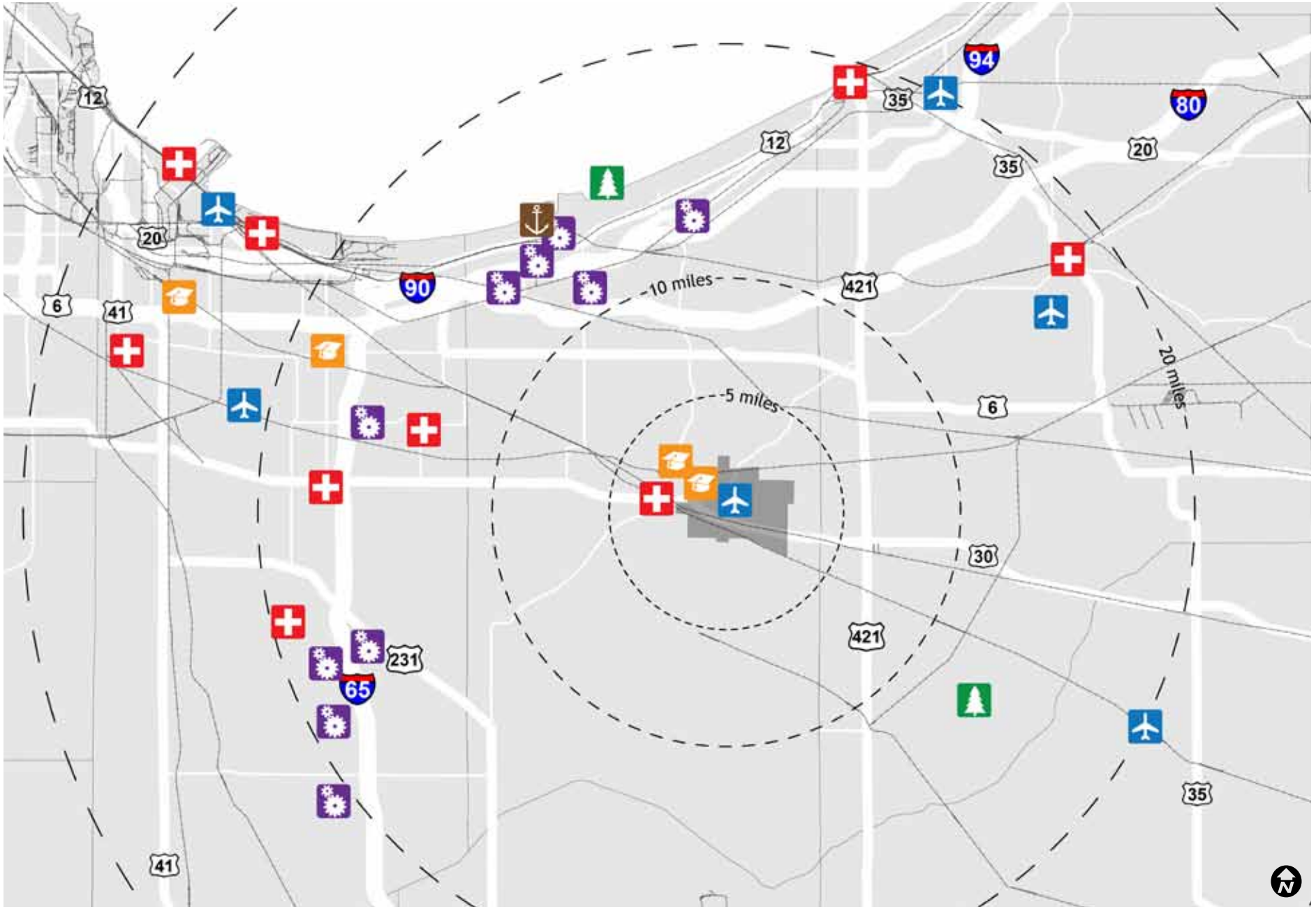

Figure 17: Regional constraints map.

MAP LEGEND

Study area boundary

Roadway

Railroad

SITE SPECIFIC OPPORTUNITIES


Existing industrial zoning


Large blocks of developable land


Existing telecommunications hub


Capacity to extend airport runways


Potential gateway

Proposed multi-modal facilities

Established areas of commercial/office development

Established areas of industrial development

Areas of with environmental features (waterways, vegetation or tree cover)

Figure 18: Site specific opportunities.

MAP LEGEND

Study area boundary

Roadway

Railroad

SITE SPECIFIC CONSTRAINTS

Major electrical and gas transmission lines

Perceived traffic issues

Traffic issue as identified by traffic engineer

Lack of Infrastructure

Limits of sewer utilities

Limits of water utilities

Dense woodland

Prime farmland

Protected waterways and wellheads

Limited development potential of airport owned lands

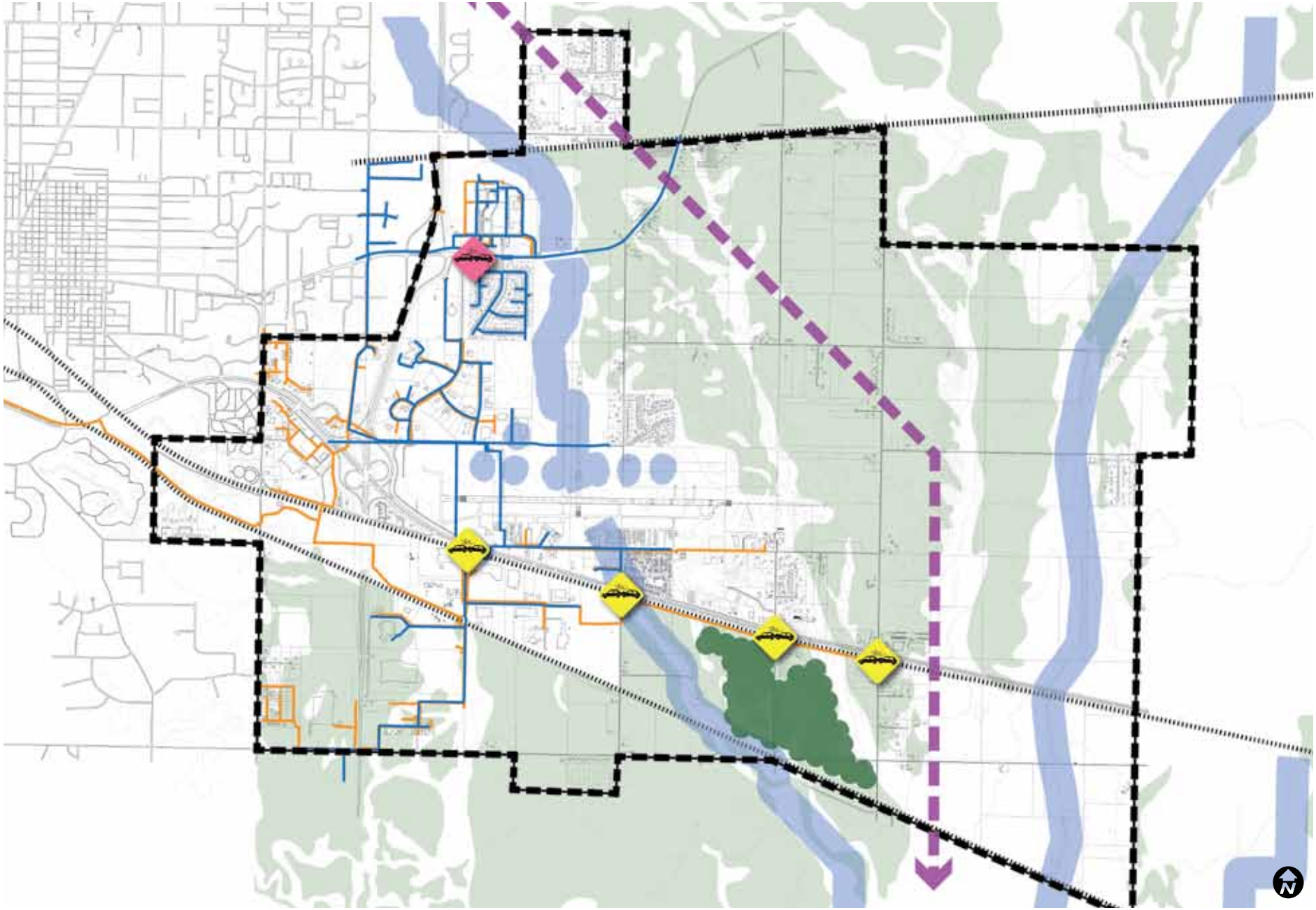

Figure 19: Site specific constraints.

SHOVEL READY SITE ANALYSIS

Beginning in 2005, the Indiana Economic Development Corporation (IEDC) began streamlining the detailed process of preparing any site for development and started the Indiana Shovel Ready Program. The purpose of this program is to reduce the potential costs of site development for businesses and enhance the marketability of certified sites. Along with IEDC, many state agencies are involved including: The Governor's Office, Indiana Department of Natural Resources, Indiana Department of Environmental Management, Indiana Department of Transportation, Indiana State Department of Health, Indiana State Department of Agriculture and the Indiana State Department of Homeland Security.

These agencies assist the local jurisdictions in ascertaining the necessary requirements for a speedy and effective development of a piece of property. Among the requirements for the "Shovel Ready" designation are ownership established by a community development board, local government, utility company, qualified developer, or in some cases the company that will be the end user. There must be sufficient infrastructure (utilities, etc.) already established at the site. IDNR and IDEM must have surveys of the bodies of water and receiving streams on the site, and a Waters of the State determination, which means water conservation use in the future. In addition, local government must approve the site, and all Environmental surveys must be completed to insure no hazards exist.

This program has been designed to lower the development costs and attract business to the state. Certification will also provide a welcome mat already in place by the local community, thus the new business will not need a public relations campaign to convince community that their business will be good for the locale. At the time of this report, there are currently 72 sites within Indiana certified as "shovel ready". Closest to the study area is a 124 acre property near the intersection of Interstate 65 and Interstate 80. The property is located in Lake County and is primed for light industrial and manufacturing development.

"Shovel Ready" sites are very appealing to potential builders, developers, industry leaders and entrepreneurs. Indiana has shown great leadership in bringing new companies to the state, in an economic climate that is weak, at best. In order to use the momentum of the state's shovel ready site program, this study will identify parcels that potentially hold a competitive advantage over others in the area. This study undertook a suitability analysis similar to the one used by NIRPC in the 2040 Comprehensive Regional Plan. The analysis done as part of this study assessed the following elements:

- Transportation Infrastructure
- Pedestrian and bicycle facilities
- Utility Infrastructure
- Existing development patterns
- Natural features
- Prime farmland
- Rail corridor adjacency

The elements listed above were chosen because they are known to be key factors in marketing development sites. In addition many of these components are either requirements or minimum standards associated with the shovel ready site program. The assessed elements were mapped using GIS so that we could easily identify parcels that contained the criteria. Individual criteria for each of these parcels can be seen in Figures 20 through 30. In order to determine the positive and negative impacts related to these criteria, we applied a weighting system to each element studied. Some development criteria received higher values because of the development importance. Items such as adjacency to water and wastewater utilities and major thoroughfare frontage all provided a site with a high ranking. However, parcels that contained or were adjacent to floodplains, wetlands, designated prime farmland and protected waterways all received a negative weighting due to the development regulations applied to those conditions.

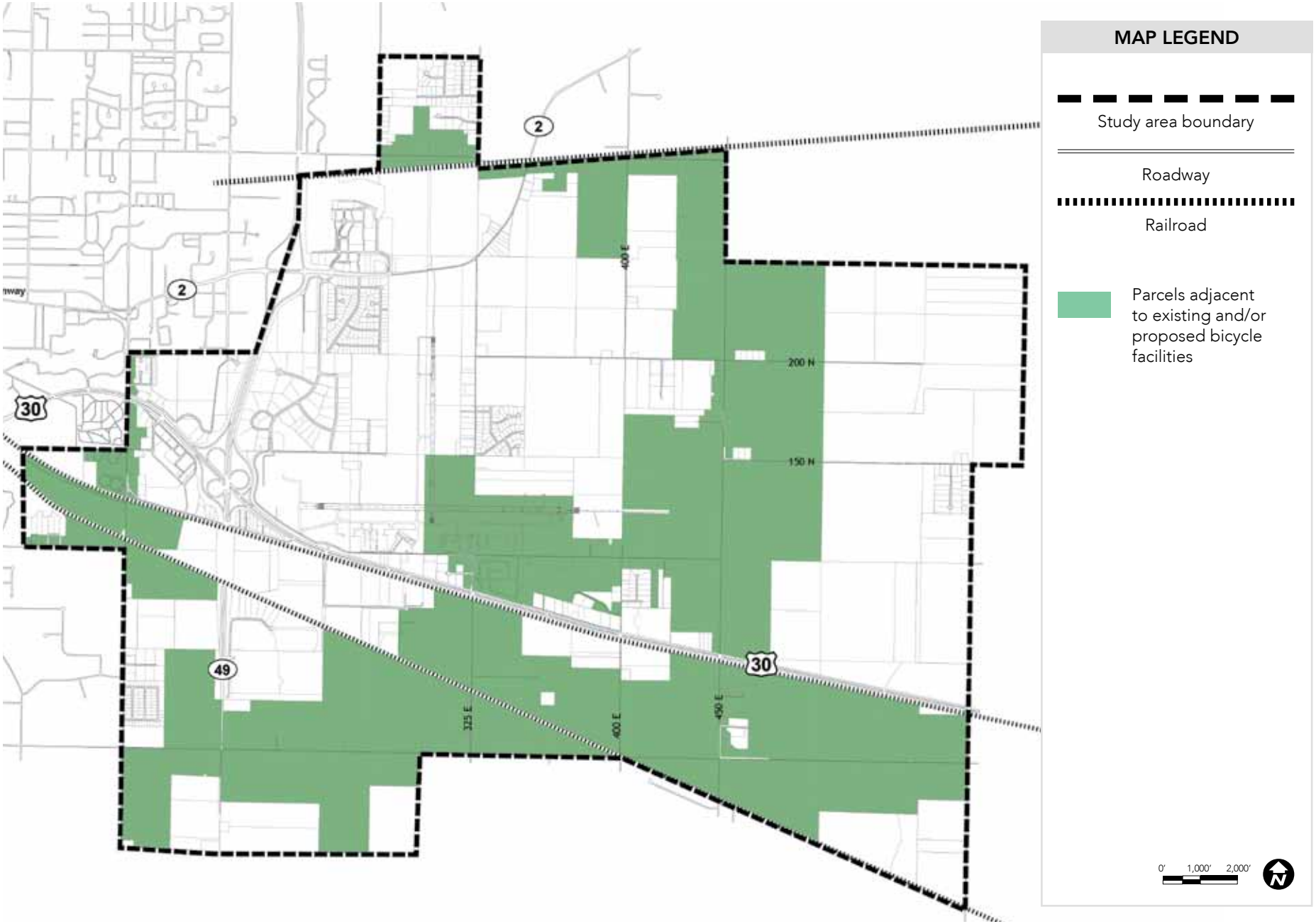

Figure 20: Shovel ready site analysis exercise parcel analysis: Bicycle facilities.

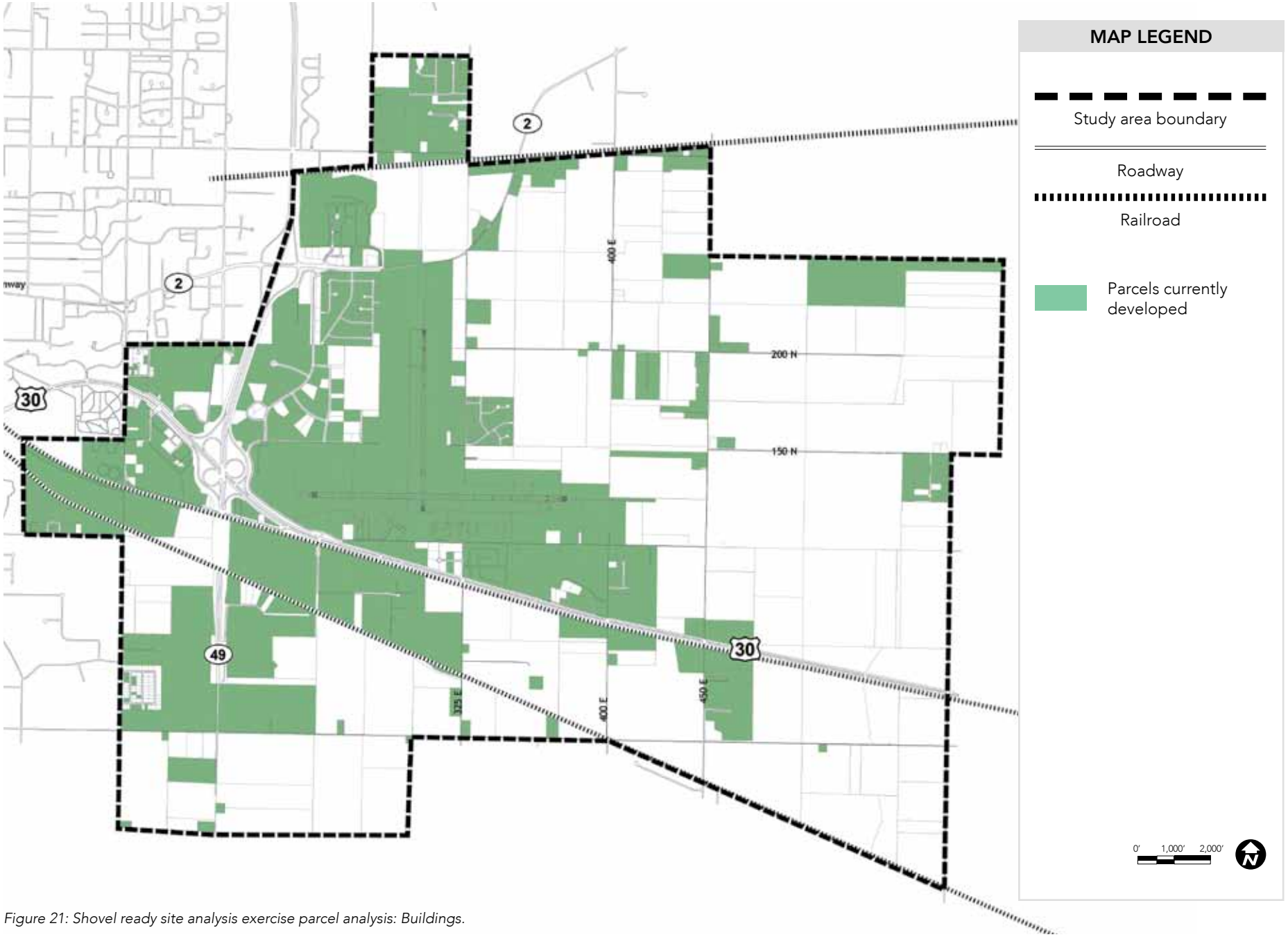

Figure 21: Shovel ready site analysis exercise parcel analysis: Buildings.

Figure 22: Shovel ready site analysis exercise parcel analysis: Prime farmland designation.

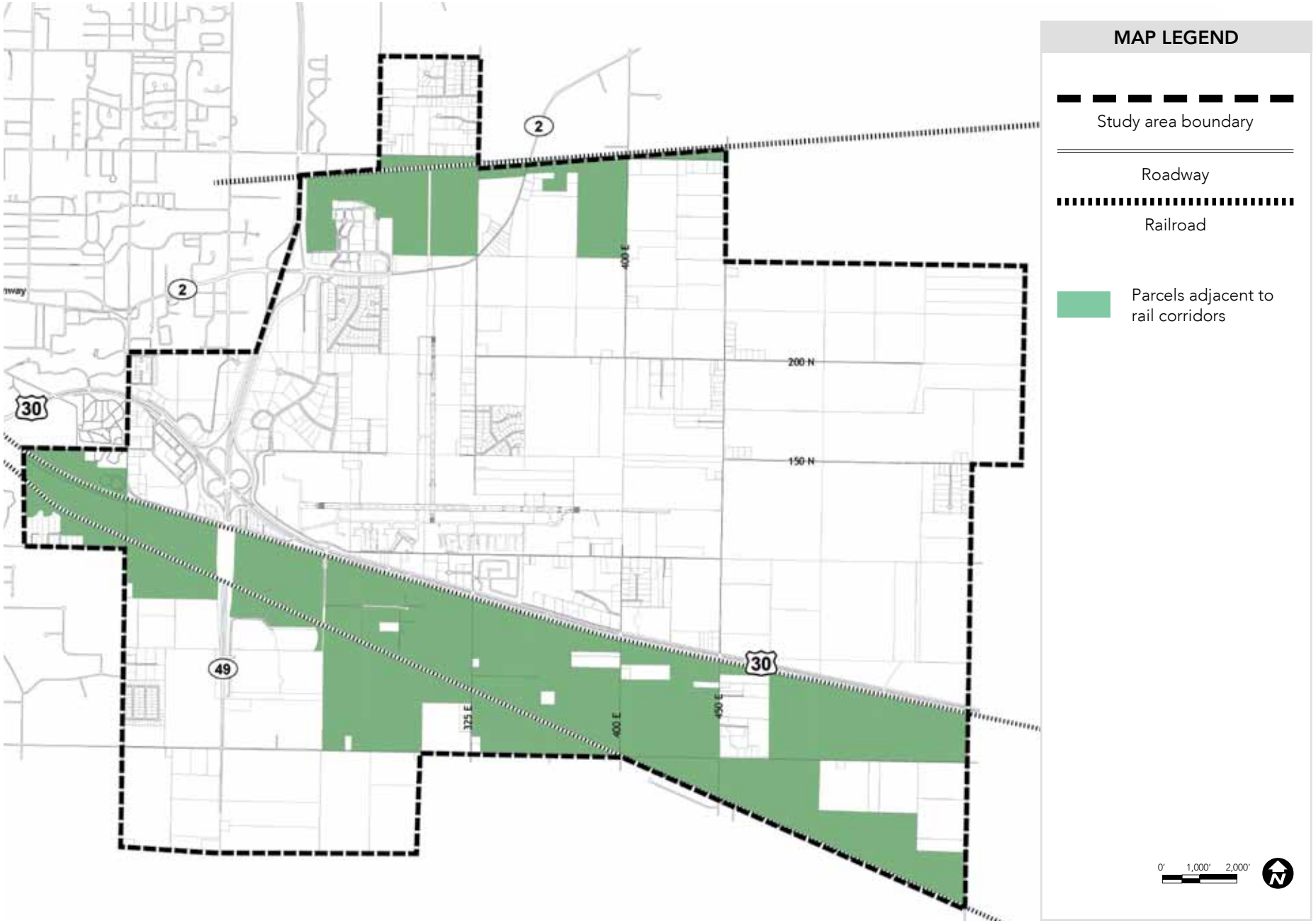

Figure 23: Shovel ready site analysis exercise parcel analysis: Rail corridors.

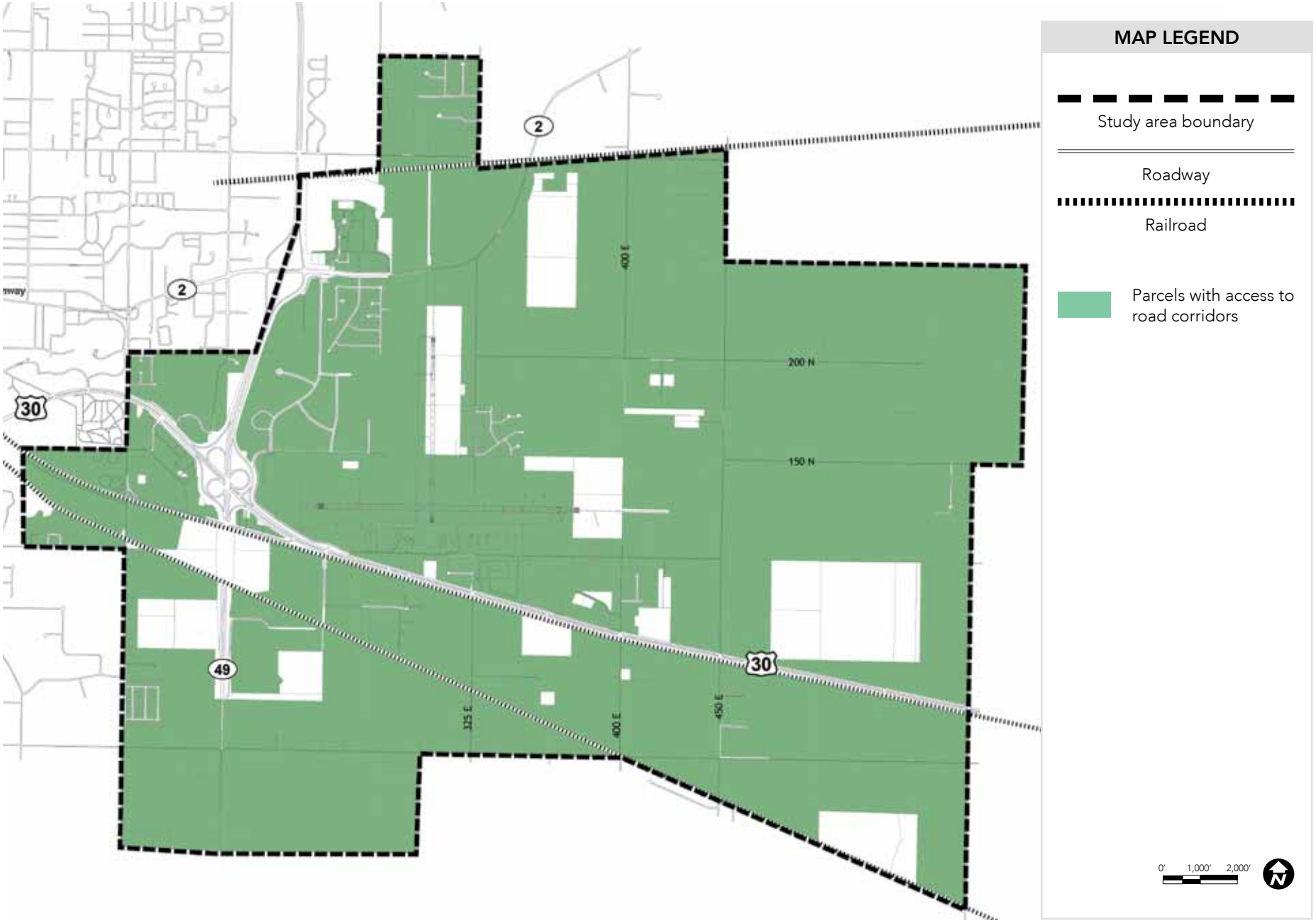

Figure 24: Shovel ready site analysis exercise parcel analysis: Roadways.

Figure 25: Shovel ready site analysis exercise parcel analysis: Storm sewer infrastructure.

Figure 26: Shovel ready site analysis exercise parcel analysis: Sanitary sewer infrastructure.

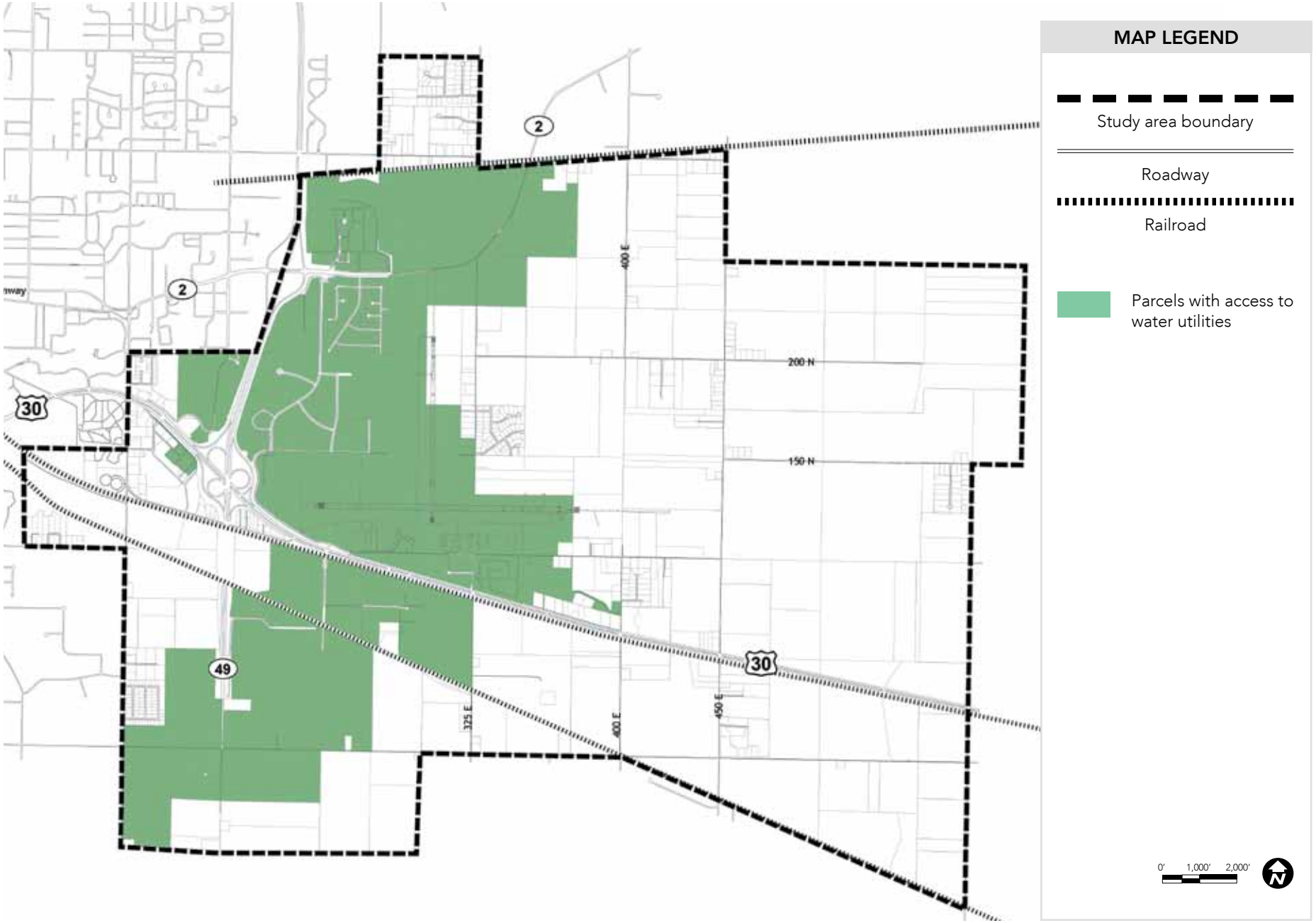

Figure 27: Shovel ready site analysis exercise parcel analysis: Water infrastructure.

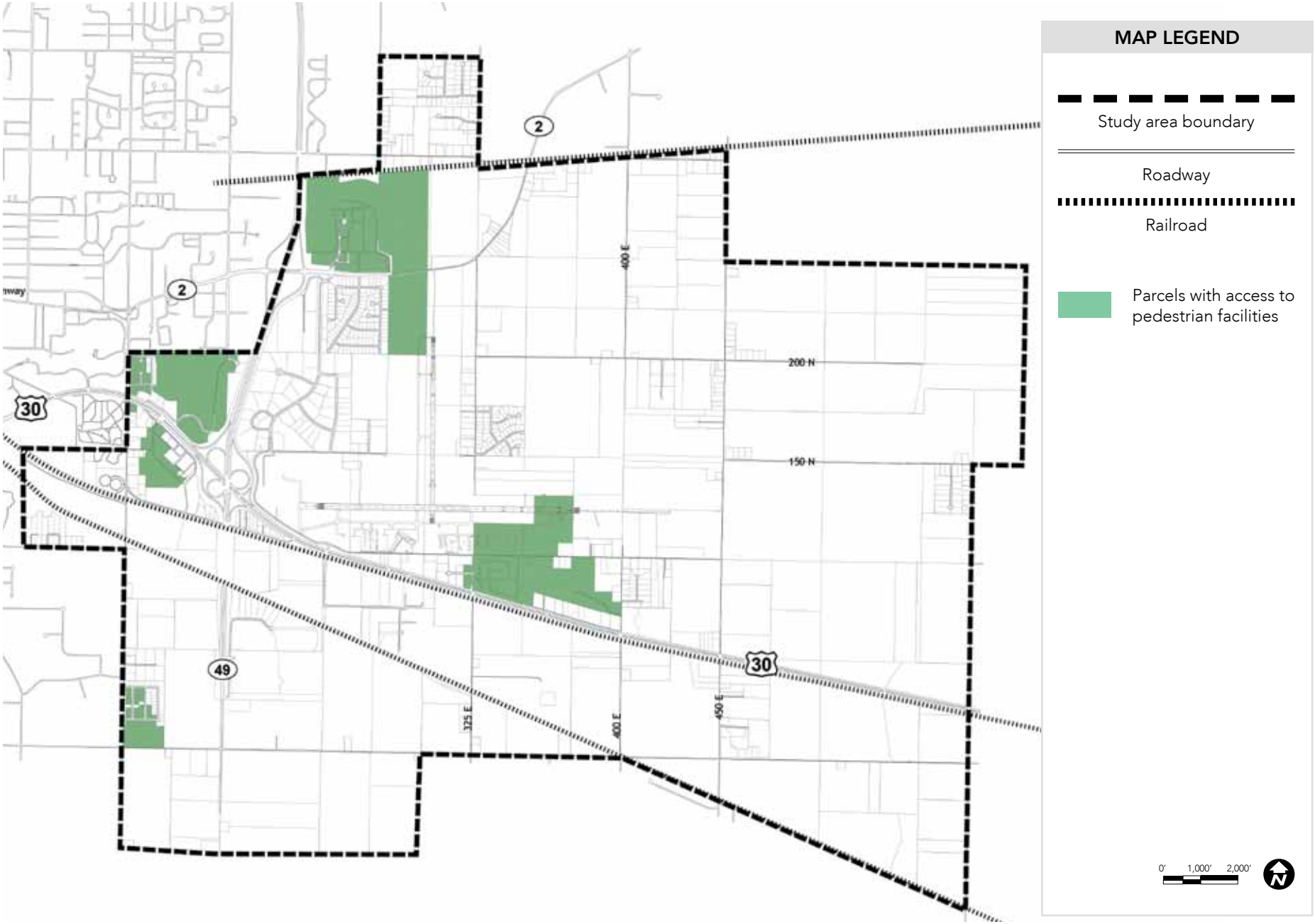

Figure 28: Shovel ready site analysis exercise parcel analysis: Pedestrian facilities

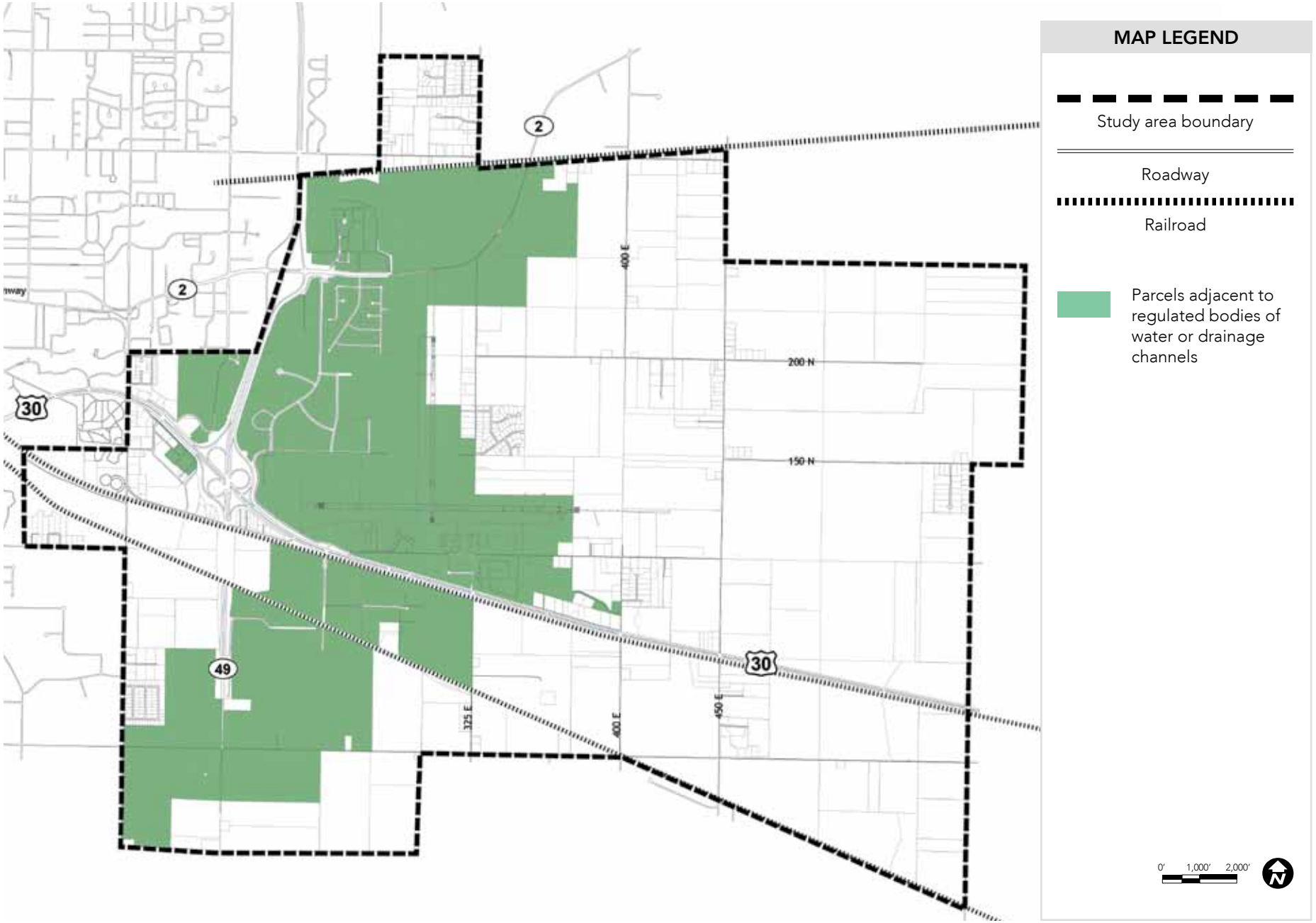

Figure 29: Shovel ready site analysis exercise parcel analysis: Waterways.

Figure 30: Shovel ready site analysis exercise parcel analysis: Wetlands.

The outcome of the exercise was a composite map that identified development potential based on natural and built systems. Figure 31 identifies the development potential from low to high of the entire study area based on the aforementioned development components. For graphic ease, already developed sites were removed from the map.

This composite map and its findings were referred to throughout the plan recommendation process and influenced the land use and transportation components discussed in greater detail later in this report.

Figure 31: Compiled shovel ready site analysis results.

The Market for Industrial & Commercial Uses

CHAPTER THREE

This chapter presents an analysis of the economic structure of Porter County, historical employment trends by industry sector, and implications for future land and building space demands potentially served in the Porter County Airport Study Area. The results of the analysis serve as inputs into the identification of the types of businesses likely to be attracted to the Study Area and projections of potential office and industrial space demand. This chapter also presents a review of the labor force and commutation characteristics of Porter County residents.

-Gruen Gruen + Associates, Market Strategists

LOCAL AND REGIONAL EMPLOYMENT BASE

Table D summarizes the current distribution of non-farm employment by industry sector within Porter County and Northwest Indiana.

Employment in the education, healthcare, and good-producing sectors comprise nearly 50 percent of the employment base in Porter County and Northwest Indiana. Manufacturing activities comprise about 16 percent of total jobs in Porter County and 14 percent in Northwest Indiana. Financial activities and professional and business services employment comprise only 11 percent of the local and regional base.[i] Retail trade comprises nearly 13 percent of total employment while wholesale trade comprises about three to four percent in Porter County and Northwest Indiana. Leisure and hospitality employment comprises about 12 percent of total jobs in Porter County and Northwest Indiana. Construction employment is nearly eight percent of total employment in Porter County and over six percent in Northwest Indiana. Transportation and warehousing employment comprises about four percent of total employment in Porter County and Northwest Indiana. Government employment comprises nearly six percent of total Northwest Indiana employment and four percent of Porter County employment.

Secondary data and results of the interviews summarized below both suggest that the Porter County economic base emphasizes non-basic industry employment.[ii] For example, the public administration (primarily including local government operations) and retail trade sectors are inherently non-basic industries serving the local household and population base. Most other service sectors of the Porter County economy, however, are also non-basic in nature. Figure 32

DISTRIBUTION OF TOTAL NON-FARM EMPLOYMENT BY INDUSTRY SECTOR: 3RD QUARTER 2010

INDUSTRY SECTOR	PORTER COUNTY %	NORTHWEST INDIANA[1] %
Natural Resources and Utilities	0.7	1.5
Construction	7.7	6.4
Manufacturing	16.3	14.1
Wholesale Trade	3.7	3.2
Retail Trade	12.5	12.8
Transportation and Warehousing	3.9	4.2
Information	1.1	1.2
Financial Activities	3.0	3.3
Professional and Business Services	8.1	7.6
Education and Health Care Services	22.6	24.0
Leisure and Hospitality	12.1	12.4
Other Services	4.4	3.7
Public Administration	4.1	5.6
TOTAL	100.0	100.0

[1] *The Indiana portion of the Chicago-Naperville-Michigan City Combined Statistical Area (Jasper County, IN; Lake County, IN; Newton County, IN; Porter County, IN; and LaPorte County, IN)*

Sources: Indiana Business Research Center, Kelley School of Business, Indiana University; Gruen Gruen + Associates.

Table D: Distribution of total non-farm employment by industry sector.

Figure 32: Local Quotient for Select Non-retail Industries in Porter County

below illustrates the location quotient for select industry sectors of the Porter County economic base, using the State of Indiana as a reference or comparison point.[iii]

As would be expected given the long-standing concentration of steel and metal production within the County, the primary metal manufacturing sector includes a location quotient greater than six (indicating a significant share of this activity is supported by non-local demands). Fabricated metal product manufacturing is also quantified as a non-basic industry (with a location quotient greater than 1.2).

Other manufacturing sub-sectors of the local economy, such as machinery manufacturing for example with a location quotient of 0.6, are more likely to serve these basic industries (i.e. they provide support to steel and metal-related manufacturing activities). The location quotient for the construction sector is estimated at 1.7, again suggesting that construction-related businesses export their services beyond the immediate area. The transportation sector, particularly transportation support activities and truck transportation, include location quotients greater than 1.0 (at 2.07 and 1.09, respectively). Such transportation-related activity is likely attributable to the Indiana Port-Burns Harbor. Consistent with the presence of post-secondary institutions such as Valparaiso University and Ivy Tech which attract students from outside Porter County, the educational services sector also includes a location quotient greater than 1.0.[iv]

The location quotients for finance and insurance, information, real estate, professional and technical services, healthcare and social services of under one suggest these sectors tend to be local-serving rather than export their services well beyond the County. As reviewed below, the employment base of firms in these sectors tend to be small.

As summarized in Figure 33, the Porter County economic base is also characterized by a preponderance of small businesses. According to County Business Pattern data, in 2009, more than 73 percent of all establishments located in Porter County employed fewer than 10 workers. More than 85 percent of all establishments included fewer than 20 employees. Only three percent of businesses included greater than 50 employees.

The concentration of relatively small business establishments is particularly visible in economic sectors most likely to utilize office space: information, finance and insurance, real estate, and professional and business services. Approximately 84 percent of businesses in these traditional office space-using sectors included fewer than 10 employees in 2009. The manufacturing sector contains a higher proportion of larger-sized firms. In 2009, approximately 19 percent of Porter County manufacturers employed more than 50 people. Firms employing fewer than 10 people still represented the majority (51 percent) of local manufacturing establishments.

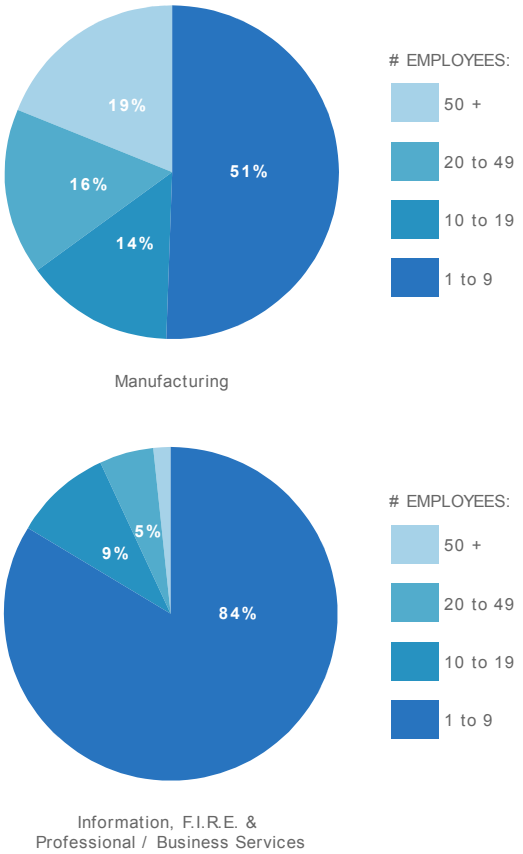

Figure 33: Firms by class size.

HISTORICAL EMPLOYMENT GROWTH

Table E below summarizes historical employment by industry sector for Porter County from 2001 through 2010. Between 2001 and 2010, the Porter County employment base expanded by approximately 1,500 jobs, or three percent. Prior to the latest recession, between 2001 and 2007, the employment base experienced a considerably higher rate of growth of approximately 1.3 percent annually.

As of the third quarter of 2010, Porter County contained approximately 54,400 non-farm wage and salary jobs. Education and healthcare services represent the largest sector of the economic base with approximately 12,300 jobs, up from 10,300 jobs in 2001. Historical growth in education and healthcare employment has been consistent, growing at an average annual rate of approximately two percent. Manufacturing, the second largest sector of the local employment base, is estimated to currently contain approximately 8,800 jobs. Over the 2001-2010 period, manufacturing employment declined by approximately 1,900 jobs, or 17 percent.

On an average annual basis, the rate of decline approximated 2.1 percent. Sectors which experienced employment growth over the 2001-2010 period include:

- Construction (although down from peak 2007, pre-recession employment, an overall gain of 337 jobs or 8.7 percent);
- Retail trade (although down from peak 2007, pre-recession employment, an overall gain of 410 job or 6.4 percent);
- Professional and business services (although down from peak 2007, pre-recession employment, an overall gain of 694 jobs or 18.7 percent);
- Leisure and hospitality (although down from peak 2007, pre-recession employment, an overall gain of 720 jobs or 12.3 percent);
- And other services (an overall gain of 328 jobs or 16 percent).

Employment growth was flat or negligible in transportation and warehousing; and public administration. Employment from 2001 through 2010 declined in the following sectors: wholesale trade (a loss of 475 jobs or 19.1 percent); information (a loss of 205 jobs or nearly 25 percent); and financial activities (a loss of 105 jobs or nearly 11 percent). Employment in wholesale trade and financial activities was impacted by the recession, given the decreases reported since 2007.

PORTER COUNTY NON-FARM WAGE AND SALARY EMPLOYMENT: 2001-2010[1]							
INDUSTRY SECTOR	2001 #	2004 #	2007 #	2010 #	CHANGE #	CHANGE %	AVERAGE ANNUAL GROWTH RATE %
Construction	3,862	4,224	4,808	4,199	337	8.7	0.9
Manufacturing	10,701	9,012	9,235	8,843	-1,858	-17.4	-2.1
Wholesale Trade	2,483	2,482	2,689	2,008	-475	-19.1	-2.3
Retail Trade	6,395	6,428	7,069	6,805	410	6.4	0.7
Transportation and Warehousing	2,069	2,155	2,126	2,102	33	1.6	0.2
Information	827	667	643	622	-205	-24.8	-3.1
Financial Activities	1,827	1,874	1,883	1,632	-195	-10.7	-1.2
Professional and Business Services	3,716	4,206	4,976	4,410	694	18.7	1.9
Education and Health Care Services	10,279	11,152	11,967	12,277	1,998	19.4	2.0
Leisure and Hospitality	5,845	6,353	6,624	6,565	720	12.3	1.3
Other Services	2,052	1,973	2,353	2,380	328	16.0	1.7
Public Administration	2,206	2,161	2,198	2,214	8	0.4	0.0
TOTAL[2]	52,888	53,198	57,067	54,411	1,523	2.9	0.3

[1] Employment estimates for the 3rd quarter of each year.

[2] Total includes natural resources and utility employment (which are not reported individually due to disclosure requirements).

Sources: Indiana Business Research Center, Kelley School of Business, Indiana University; Gruen Gruen + Associates.

Table E: Porter County Non-Farm Wage and Salary Employment 2011-2010

LABOR FORCE AND COMMUTATION

According to the Bureau of Labor Statistics, the Porter County labor force currently includes 79,500 members. Approximately 72,700 resident labor force members are currently employed (as of February 2011), resulting in a current unemployment rate of 8.5 percent (down from a peak unemployment rate of 10.0 percent in February 2010). Given the employment base of Porter County totals just over 54,000 jobs, Porter County exports significantly more labor than it imports. In 2009, approximately 60 percent of the County's resident labor force was employed outside of the County.

This imbalance between the size of the resident labor force and the number of jobs in the County indicates a relatively low jobs-to-housing balance and therefore the need for a significant share of local residents to commute out of the area for work. It also relates to the desirability of the County – particularly the City of Valparaiso – as a housing location relative to some other communities in Northwest Indiana. The interviews, for example, suggest that Valparaiso to some extent serves as a bedroom community to larger employment centers in Lake County (along I-65 and I-80/94) and southwest Cook County. As Table F below summarizes, in 2009, an estimated 43,500 members of the Porter County labor force (i.e. employed residents of Porter County) commuted out of the County for employment. Nearly two-thirds or 66 percent of those who did not work in Porter County were employed in either Lake County (IN) or Cook County (IL).

Approximately 64 percent of the County labor force employed in goods-producing industry sectors (natural resources, construction and manufacturing) commute to workplaces outside Porter County. An even higher share, 69 percent, of local residents employed in the trade, transportation and utility industries commute out of the County for employment. A smaller but still large percentage of labor force members employed in the service sectors leave the County for work.

The more jobs relative to the size of the resident labor force, the more likely a higher proportion of working residents can hold jobs within or nearby the community in which they live, thereby reducing time and resources expended on commuting. In addition, the availability of a proximate and adequate labor base represents a locational inducement to expanding industries.

BALANCE BETWEEN LABOR FORCE AND JOB BASE OF PORTER COUNTY: 2009

	GOODS-PRODUCING	TRADE, TRANSPORTATION AND UTILITIES	SERVICES	TOTAL
Total Labor Force[1]	16,488	14,244	41,980	72,712
Labor Force Employed Within Porter County	5,859	4,402	18,918	29,179
OUT-COMMUTERS ("EXPORTED LABOR")	**10,589**	**9,842**	**23,062**	**43,533**
Percent out-commuters	*64%*	*69%*	*55%*	*60%*
Total Jobs	11,618	10,913	31,552	54,083
Jobs Held by Members of County Labor Force (i.e. County residents)	5,859	4,402	18,918	29,179
IN-COMMUTERS ("IMPORTED LABOR")	**5,759**	**6,511**	**12,634**	**24,904**
Percent in-commuters	*50%*	*60%*	*40%*	*46%*

[1] *Not including unemployed members of the County's labor force.*

Sources: U.S. Census Bureau, Center for Economic Studies, OnTheMap; Gruen Gruen + Associates.

Table F: Balance between labor force and job base of Porter County: 2009

THE MARKET FOR POTENTIALLY DEVELOPABLE LAND USE OPTIONS

In addition to analysis of employment trends, GG+A conducted interviews and obtained and analyzed land use/real estate market data in order to assess the prevailing market conditions and trends and to identify the following:

- The primary geographic area within which the Porter County Airport study area will compete for industrial- and office-space using businesses;
- The primary geographic origins of potential sources of demand for industrial and office space;
- The primary comparative advantages or strengths of the study area; and
- The primary disadvantages or constraints on attracting industrial and office development.

The results of interviews with real estate developers and real estate brokers and the results of the survey indicate that the primary geographic area within which the study area will compete is Northwest Indiana, primarily including the communities of Portage, Chesterton, Hobart, Valparaiso and Merrillville. Large industrial users considering a Northwest Indiana location also tend to consider alternatives available in the Interstate 80 and Interstate 55 corridors (in Illinois).

POTENTIAL SOURCES OF DEMAND

The results of the survey, interviews, and review of supply suggest that sources of demand will come from businesses which outgrow or cannot be accommodated in existing locations in or near Porter County. Northwest Indiana as a whole has a limited base of large multi-tenant office space. Most office space users in existing space are small, under 5,000 square feet of space, and relocate or expand from within Valparaiso. Industrial space users also tend to be smaller, but a relatively small number of large firms account for the predominant share of the local industrial space inventory.

COMPETITIVE ADVANTAGES

The results of the survey and interviews indicate the following factors represent the primary locational advantages or strengths of the study area:

- Central location within Northwest Indiana;
- Access and visibility to three highways (US Highway 30, State Highway 49 and State Highway 2, each of which connect to major area interstates to the north and west);
- Proximity to the Porter County Regional Airport (including the availability of charter service) and three active rail lines (with potential for rail service);
- Proximity to the Port of Indiana-Burns Harbor;
- Presence of higher education institutions (Valparaiso University and Ivy Tech);
- Valparaiso is perceived as a desirable community, with a diverse and affordable housing stock, good schools, attractive parks, and a positive business climate;

- A high proportion of Porter County's resident labor force commutes outside the County for employment and therefore the potential exists for the growth in the local job base to reduce the amount of commuting; and
- Nearby retail, hospitality and support services.[v]

COMPETITIVE DISADVANTAGES

The results of the survey and interviews indicate the following factors represent the primary disadvantages or constraints on development:

- Lack of infrastructure (including water, sewer and storm water) in much of the study area;
- The study area is not adjacent to interstate highways;
- The study area is not proximate to a large commercial service airport; and
- The study area and broader area lacks a critical mass or agglomeration of businesses that help businesses attract and retain labor and operate cost effectively and productively. Agglomeration economies refer to a spatially concentrated form of development and capital base that from increasing returns to economies of scale, give cost and revenue advantages to a geographic area's expanding and new firms. These advantages are "external to the firm" because they benefit all the companies engaged in a given range of activities within a particular place, without firms having to shell out extra resources.

STUDY AREA DEVELOPMENT TRENDS

As shown on Map 1, existing industrial and office space development within the study area has been concentrated south and east of the Airport, close to Highways 30 and 49. Over the past four decades approximately 2.4 million square feet of building space is estimated to have been developed, or on average about 60,000 square feet per year. Development activity, however, has not occurred in a linear fashion. Several large users account for the majority of space built. For example, the 420,000 square foot Aldi distribution center built in 1991; the 440,000 square foot Pratt Industries' corrugating facility built in 1999; and the 185,000 square foot Ivy Tech campus completed in 2008 comprise nearly half of all building space constructed over the past four decades. The two major developments near the Airport include Eastport Centre for Commerce & Industry and Montdale Industrial Park, reviewed below.

Map 1: Concentrations of development activity

EASTPORT CENTRE

The Eastport Centre for Commerce and Industry, located just north of the Airport, includes approximately 140 acres of land and an estimated 550,000 square feet of building space. Development and marketing of the project commenced in the early 1990s. The first lots, however, were not sold until the mid to late 1990s. To date 100 acres of land have been absorbed. Absorption of office and industrial land has averaged approximately 3-4 acres per year (over 1993-2010). Total building space constructed, excluding Ivy Tech campus, has averaged less than 25,000 square feet per year.

The project was originally conceived to be oriented to light industrial and manufacturing users, but as summarized below in Table G (based on information from the Porter County Assessor), the majority of uses developed to date have consisted of office and institutional uses.

Most development activity to date has consisted of relatively small building products. According to the developer of Eastport Centre, no office buildings constructed have been larger than 30,000 square feet of space and many are owner-occupied. Industrial facilities constructed average about 30,000 square feet in size. Much of development is very low density with room for existing property owner/users to expand on existing lots. Ivy Tech purchased 38 acres of land in 2000 on which it has since constructed 185,000 square feet of campus facilities, including a 10,000-square-foot flexible manufacturing lab. Ivy Tech selected the location before the area was built-up because of the high level of accessibility to Highway 49, which connects to every major east-west route in northwest Indiana.

EASTPORT CENTRE LAND USE AND BUILDING SPACE

	LAND AREA # ACRES	BUILDING SPACE # SQUARE FEET
Institutional	42	190,000[2]
Industrial	17	180,000
Office	28	141,000
Medical Office	10	26,000
Other	4	15,000
Vacant	43	0
Total	144	553,000

[1] *Figures are rounded.*

[2] *Estimate, building space not reported for exempt properties. Note that Ivy Tech owns approximately 37 acres of land, portions of which are not currently developed. To date, Ivy Tech has built 185,000 square feet of campus facilities.*

Sources: Porter County Assessor; Gruen Gruen + Associates.

Table G: Eastport Centre land use and building space

Accessibility is important because about 50 percent of students commute from outside Porter County.

Six vacant lots totaling about 40 acres of land remain available at asking prices of $94,000 per acre, or approximately $2.20 per square foot of land. Land prices have been relatively stable over the past few years.

According to the developer, most of the users have originated within Porter County and more particularly within the City of Valparaiso. The area contains a limited amount of modern office space. As a result, Eastport Centre has attracted firms seeking to replace older facilities

or to expand their space with accessibility and visibility to Highway 49. Accessibility to Highway 49 and US 30 are advantages of the location as is proximity to the Airport, which some occupants of the Eastport Centre use to move personnel and clients. Eastport Centre has attracted medical uses but with the construction of the Porter Regional Hospital at Highway 49 and Highway 6, future medical office space is likely to be clustered around the Hospital. The preponderance of office space users have occupied relatively small amounts of space. Eastport Centre, however, did attract a larger user, Follett Bookstores, which occupied a multi-tenant building for about five years. The 60-75 person office relocated to a Chicago suburb because of the absence of fiber optics, which have since been installed.

More typical sources of supply competition frequently include the Ameriplex development in Portage, locations along Interstate 80/94 in Chesterton and locations to the west in Merrillville along Interstate 65.

Most inquiries for land and space relate to space users in the 15,000 to 25,000 square foot range seeking a flexible product type including an office component, light manufacturing, assembly or distribution space. The small to mid-size industrial users have been oriented to truck rather than rail service. Large distribution and logistics users prefer immediate access to Interstate 80/94 or Interstate 65 for which ample sites are available.

MONTDALE INDUSTRIAL PARK

While much of the industrial space inventory in Northwest Indiana is situated closer to Interstate 80 and occupied by users linked to the steel industry and refineries, Porter County has experienced some industrial space development. Much of this development has occurred near the Airport in space in the Montdale Industrial Park, south of Highway 30, which was originally developed in the 1970s and 1980s. The Montdale Industrial Park contains nearly 900,000 square feet of light industrial and heavy manufacturing space. Major occupants include:

- Task Force Tips;
- UGN;
- Rexam Beverage Cans;
- Union Electric Steel;
- Northern Indiana Public Service Company; and
- Alpha/Owens-Corning.

All buildings in the Park are freestanding, single-tenant facilities, most owner-occupied. The low density development pattern relates to the presence of outdoor activities. As summarized in Table H, about 200 acres of land has been developed or occupied over the course of 30 years.

OTHER DEVELOPMENT ACTIVITY

Additional industrial developments within the Study Area include:

- Pratt Industries' 440,000-square-foot corrugating facility, built in 1999, along Highway 49 just south of the Porter County Jail; and
- The 420,000-square-foot Aldi distribution center, built in 1991.

North Coast Distributors, a local Valparaiso firm, has relocated its warehouse and distribution center to the Study Area. This firm has built a 225,000-square-foot building on 37 acres. Sources of financing include funds from the Valparaiso Redevelopment Commission.

Adjacent to the Eastport Centre, 10 acres have been developed over the past decade (by the owner of a local manufacturing business) consisting of two buildings totaling 130,000 square feet of space.

MONTDALE INDUSTRIAL PARK BUILDING SPACE BY YEAR BUILT		
YEAR BUILT	LAND AREA # ACRES	BUILDING SPACE # SQUARE FEET
1970 – 1979	65	290,000
1980 – 1989	84	261,000
1990 – 1999	32	178,000
2000 and later[1]	25	160,000
Total	206	889,000
[1] Includes only the Task Force Tips facility that was expanded considerably in size. The building was originally developed in 1968.		
Sources: Porter County Assessor; Gruen Gruen + Associates.		

Table H: Montdale Industrial Park building space by year built

INDUSTRIAL MARKET OVERVIEW

According to Paine/Wetzel, the Northwest Indiana industrial market of which the study area is a part includes a total building space inventory of just under 30 million square feet.[vi] Table I below summarizes current and recent historical vacancy rates, asking rents and average sales prices.

Over the past three years the industrial space supply has increased by approximately 3.9 million square feet or about ten percent. The inventory of available vacant space has also increased from 4.8 million square feet in 2007 to 6.2 million square feet in 2010.

Accordingly, the industrial vacancy rate in Northwest Indiana now stands at just under 21 percent. Average asking industrial rents, according to Paine/Wetzel, have decreased considerably with the increase in vacant space. Average triple-net rents approximated $3.87 per square foot at year-end 2010. Three years prior, rents were reported to approximate $5.13 per square foot.

NORTHWEST INDIANA INDUSTRIAL MARKET TRENDS[1]					
	Total Inventory # Square Feet	Available Space # Square Feet	Vacancy Rate %	Average Asking Rents $ Per Square Foot	Average Sales Price $ Per Square Foot
2007	26,094,333	4,795,829	18.4	5.13	38.09
2010	29,965,325	6,221,119	20.8	3.87	35.70
[1] *Includes Lake, Porter and LaPorte Counties. Figures are for year-end.*					
Sources: Paine/Wetzel ONCORE International; Gruen Gruen + Associates.					

Table I: Northwest Indiana industrial market trends

SUPPLY COMPETITION

Sources of competition for industrial users include land and existing space in Hobart, Portage, Chesterton, and to a lesser extent, Merrillville. The two primary sources of competition for users seeking sites or building space in planned industrial and business parks include AmeriPlex at the Port and Northwinds Crossing. The Eastport Centre within the study area also includes land still available for industrial and office development.

The primary source of competition for traditional office users is the Interstate 65 corridor at US 30/ Broadway and US 30/I-65 to the west in Merrillville, near the Westfield Southlake Mall. Examples of developments in these competing locations include a four story, 175,000 square foot Class A office building; the four-story, 45,000 square foot Merrillville Corporate Center (including Walgreen's, PNC, Morgan Stanley and State Farm Insurance as tenants); the 60,000 square foot Park Tower (including Met life, Ameriprise Financial and the IRS as tenants); and the five-story, 72,000 square foot Centier Bank headquarters, which opened in 2008.

AMERIPLEX AT THE PORT

AmeriPlex at the Port, located in Portage at the Interstate 94 and Crisman Road interchange, is a 385-acre mixed-use business park consisting of 2.5 million square feet of industrial and office space. The park is approximately 70 percent built-out. Approximately 50 acres of land remain available for light industrial development.[vii] Since breaking ground in 2000, according to the developer of the project, absorption of industrial land has averaged approximately 25 acres per year. Several large

industrial land users, however, represent the majority of this absorption. Examples of large users attracted to the location include:

- BP Products North America, which recently leased a 575,000-square-foot speculative warehouse facility to support its Whiting refinery modernization project;
- Hosley International, an Illinois-based home décor manufacturer, which occupies a 470,000-square-foot distribution center (the firm expanded by approximately 100,000 square feet last year);
- MonoSol, headquartered in Merrillville, expanded operations to AmeriPlex to include a 70,000-square-foot manufacturing and R&D facility;
- Aventis Pharmaceuticals, which relocated its distribution operations from Tinley Park (IL) to a 75,000-square-foot facility; and
- DaimlerChrysler, which operates a 120,000-square-foot automotive parts distribution center that services Midwest manufacturing operations.

Graycor, an industrial contractor, recently consolidated three of its existing facilities (in Gary, Portage, and additional functions now handled at the company's equipment yard currently located on the south side of Chicago) to one location at AmeriPlex.[viii] The 44,000-square-foot facility will include office and operations support space on approximately 10 acres of land with outdoor storage and maintenance yards.

Ten multi-tenant industrial buildings have been constructed in addition to build-to-suit facilities. Most tenants of multi-tenant buildings tend to range in size from 10,000 to 25,000 square feet with a small office component (representing five percent to 10 percent of building space). The developer of the project indicated that many smaller users at the park have selected the location because of proximity to heavy industrial activities associated with the Port and lakefront and access to I-94. A number of smaller users provide support services to the steel and refinery operations (assembling, repairing and shipping parts and supplies, etc). Most larger users include distribution operations that have located at AmeriPlex because of logistical and cost efficiencies. Demand has originated from a mixture of sources including both smaller and larger industrial users that have expanded operations from within Northwest Indiana and out of the region or have relocated or consolidated from within the local Portage area. Some users such as Aventis have relocated operations from Chicago-area suburbs.

In addition to vacant land available for future development, AmeriPlex at the Port also contains 500,000 square feet of speculative industrial space currently available for lease. The developer of the project indicated that land and space in AmeriPlex would compete with the study area for smaller industrial users, but that larger users that rely heavily on trucking to transport goods would be unlikely to consider locations without direct interstate access such as those within the study area. Although AmeriPlex does not possess rail access, the project representative indicated that relatively few light industrial users seek rail-served sites in Northwest Indiana.

NORTHWIND CROSSINGS

Northwind Crossings is a 200 acre master planned industrial park located in Hobart alongside Interstate 65, adjoining the Canadian Northern main rail line. The development was facilitated by a 10 year tax abatement and tax increment financing incentives provided by the city. The project is a State certified "shovel ready" site, which broke ground in 2004. Approximately 50 acres of land have been absorbed for industrial uses, including six buildings developed with approximately 600,000 square feet of space. A 130,000 square foot build-to-suit cold storage facility was developed in 2007 for Hanson Logistics. Other large users attracted to the park include Point Imaging, a graphics and digital imaging and printing firm, and Americall, which operates a 500 person call center. Point Imaging outgrew its previous Lake County facility and relocated to a larger space in the park. Americall relocated from Merrillville. The development of the Hanson Logistics facility represented a new location due to growth in the firm's food distribution and logistics service operations. Most other existing tenants of the park tend to be small in size (less than 20,000 square feet). The development competed with Holladay's Ameriplex at the Port in Portage for Graycor.

Approximately 150 acres of land are available for future speculative and build-to-suit industrial development. Approximately 160,000 square feet of multi-tenant space is currently available for lease. The park is fully-improved with off-site detention, fiber optic infrastructure, and utilities. Several available sites possess frontage on Canadian Northern's main rail line with potential rail spur access. According to the City of Hobart Development Director, no rail spurs have yet been installed. Demand for rail-accessible sites has not materialized and therefore necessary agreements and investments to extend rail spurs to the site have not been made.

CHESTERTON

Undeveloped land in Chesterton, which does not yet include an improved business park, is also likely to represent a source of competition for industrial users. Chesterton does not yet include a large industrial base, but its proximity to both Interstates 80 and 94 and the Indiana Port position greenfield sites within the community to capture future industrial growth. A representative with the Chesterton/Duneland Chamber of Commerce (the area's economic development entity) indicated that multiple locations within the community are planned for industrial uses although no proposals to develop a master-planned industrial park have been formally made. The City recently annexed land and established a TIF district encompassing approximately 140 acres of land on the south side of the Interstate 80 at the Highway 49 interchange. Utilities and other infrastructure are planned to be extended to the district soon. Approximately 200 acres of undeveloped land further north at the Interstate 94 and Highway 49 interchange are also anticipated to be developed for industrial uses, although the sites are currently unimproved. Both areas could accommodate users requiring rail access.

Inquiries from industrial users have tended to relate to out-of-state firms seeking a Midwest location, local firms wishing to expand or relocate their facilities, and entities currently located in Illinois (those that do not require skilled labor) considering relocating to Porter County for operating cost efficiencies. No major industrial developments, however, have yet occurred. The community, not unlike Valparaiso, is perceived as having a good quality of life, an ample supply

of new and affordable housing, and a number of recreational amenities related to the Lake Michigan lakefront. In that regard, industrial businesses whose owners or managers prefer to live close to their business, and do not require direct access to the interstate highway network, are likely to consider each location.

LAND AVAILABILITY

As summarized in Table J, more than 1,000 acres (exclusive of land within the study area) are estimated to be available for future industrial and office development within the broader market area. As reviewed above, several of these sites are located in industrial or business park developments improved with necessary infrastructure.

Given the supply of existing office and industrial space and the amount of land already available for such development, the competition for attracting office and industrial users to land and building space within the study area is likely to be intense for the foreseeable future.

Map 2: Land available in competing locations

LAND AVAILABLE IN COMPETING LOCATIONS			
MAP ID	NAME / LOCATION	AVAILABLE # ACRES	CHARACTERISTICS
1	Sand Creek Industrial Park Chesterton, I-94 & SR 49	200	Planned, but not yet developed, industrial park with potential for rail access and visibility/access to I-94
2	Tech Business Center Burns Harbor, SR 149 & Tech Drive	11	Two sites available for industrial use in planned rail-served park, approximately one mile south of I-94
3	Port of Indiana Burns Harbor	85	Eight parcels available for heavy industrial development on-site at port. Access to rail, interstate and port.
4	AmeriPlex at the Port Portage, I-94 & Crisman	50	Mixed-use business park featuring access and visibility to I-94. Build-to-suit industrial sites and multi-tenant spaces available. On-site restaurants and retail (e.g. Bass Pro Shops)
5	Willowcreek Business Park Portage, US 20 & Willowcreek	10	Smaller industrial development sites in planned park adjoining I-94
6	Northwinds Crossing Hobart, I-65 & 61st	150	Master planned industrial park. Rail-accessible sites and fiber-optics available
7	Southlake Industrial Park Merrillville, I-65/Mississippi	200	Industrial district adjoining I-65. Some sites improved with infrastructure, Industrial zoning
8	Broadfield Center Merrillville, I-65 & 93rd	50	Fully-improved sites of 1 to 20 acres, available for light industrial or commercial development
9	AmeriPlex at the Crossroads Merrillville, I-65 & 101st	200	State "Certified Technology Park" including Purdue University-related technology and incubator facilities. Multiple sites and speculative building space available for industrial and commercial uses
10	Crown East Business Park Crown Point, 113th & I-65	22	Small improved sites (2-4 acres) in planned business park, proximate to I-65
11	North Pointe Business Park LaPorte, SR 39 & I-80	24	Fully-improved sites of 2 to 10 acres. Rail access and incentives available
Sources: Holladay Properties; Becknell Development; Northwest Indiana Forum; NIPSCO Economic Development; Gruen Gruen + Associates.			

Table J: Land Available in Competing Locations

PORTER COUNTY EMPLOYMENT FORECAST

Table K below summarizes a long-term employment projection for Porter County prepared by the Northwestern Indiana Regional Planning Commission.

Between 2009 and 2040, the Porter County employment base is projected to grow by approximately 15,600 jobs at an average annual rate of 0.8 percent. The projections prepared by NIRPC assume that Porter County captures a share of regional job growth proportionate to the current distribution of employment throughout Northwest Indiana.[ix]

By 2040, total employment is projected to reach nearly 69,000 jobs. On average, approximately 500 jobs are expected to be added within the County each year. Historically, wage and salary employment within Porter County grew between 1990 and 2010 at an average annual rate of one percent, or about 470 jobs per year. Prior to the job losses associated with the Great Recession, long-term employment growth averaged 1.4 percent annually (between 1990 and 2007) as the economy added on average 720 jobs per year.

The manufacturing base is projected to expand by approximately 2,700 jobs over the 30-year period, increasing to just under 12,100 jobs by 2040. Trade employment, including retail and wholesale trade, is projected to increase by approximately 2,600 jobs between 2009 and 2040. Service employment (which includes finance and insurance, real estate, professional and technical services, accommodations and food services, and other services) is projected to grow by 7,300 jobs from a current base of approximately 25,000 jobs to 32,400 jobs by 2040.

PROJECTED PORTER COUNTY EMPLOYMENT GROWTH: 2009-2040

	2009 BASE # JOBS	2040 PROJECTION # JOBS	2009 – 2040 PROJECTED GROWTH # JOBS
Manufacturing	9,338	12,070	2,732
Trade	8,871	11,471	2,600
Services[1]	25,029	32,359	7,330
Other[2]	10,055	12,999	2,944
Total	53,293	68,902	15,609

[1] Includes finance, insurance, real estate, professional and technical services, education and health care services, accommodations and food services and other services.

[2] Includes natural resources, utilities, construction, transportation and warehousing, information, administrative and waste management services, and public administration.

Source: Northwestern Indiana Regional Planning Commission

Table K: Projected Porter County employment growth: 2009-2040

FUTURE JOB GROWTH AND LAND NEEDS FOR OFFICE, INDUSTRIAL AND RETAIL LAND USES IN PORTER COUNTY: 2009-2040

LAND USE	2009 – 2040 PROJECTED EMPLOYMENT GROWTH # JOBS	2009 – 2040 LAND NEEDED[1] # ACRES
Office	4,094	94
Manufacturing	2,732	157
Warehouse	1,303	128
Retail	3,304	190
TOTAL	11,433	569

1 Land requirements based on the following employment densities and floor-area-ratios ("F.A.R."):
Office – 250 square feet per worker, and 0.25 F.A.R.
Manufacturing – 750 square feet per worker, and 0.30 F.A.R.
Warehouse – 1,500 square feet per worker, and 0.35 F.A.R.
Retail – 500 square feet per worker, and 0.20 F.A.R.

Sources: Northwestern Indiana Regional Planning Commission; Gruen Gruen + Associates.

Table L: Future job growth and land needs for office, industrial and retail land uses in Porter County

JOB GROWTH AND DEMAND FOR LAND

To put the future employment projections into context, Table L converts additional job growth into potential land use needs. The resulting land requirements are based on estimates of space utilization by workers of various sectors of the economy[x], average employment densities for different types of work space, and relatively low floor-area ratios summarized in Table L.

Approximately 4,100 office space-using jobs and 4,000 industrial space-using jobs are projected to be added to the County over the next three decades. Approximately 50 percent of future job growth within Porter County is likely to result in demand for office and industrial space. The remainder of future growth, consistent with the current make-up of the local economic base, will likely result in the need for retail, institutional and other types of building space and land. Some proportion of future job growth will not generate space demands (for example, construction-related jobs and others that are transient in nature or not housed in traditional nonresidential building space).

IMPLICATIONS OF FORECAST

One critical implication to draw from the land demand forecast relative to the preparation of the Porter County Airport Zone Development Plan is that even if the area around the Airport captured all of the demand within Porter County through 2040, only four percent of the land included in the study area would be potentially subject to development of commercial and industrial uses. The land and infrastructure planning should be scaled to reflect that much of the land in the study area is unlikely to be subject to development pressures for industrial and commercial uses.

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[i] *By comparison, financial activities and professional and business services comprise about 23 percent of total jobs in the Chicago Metropolitan Area.*

[ii] *Basic activities export their goods and services outside the community or region, while non-basic activities serve the demands of local consumers and industry.*

[iii] *The location quotient technique compares the local economy to a larger reference economy. The location quotient technique is based upon a calculated ratio between the local economy and the economy of some larger reference unit. The industry location quotient identifies specializations in the local economy. Industry sectors that include a location quotient greater than 1.0 tend to be basic industries (those which export their goods and services beyond the local area. Industry sectors with a location quotient less than 1.0 generally include non-basic or locally-serving activities.*

[iv] *A representative of Ivy Tech, for example, indicated than more than 50 percent of its enrollment is attributed to students residing outside of Porter County.*

[v] *Two relatively new retail centers near the Study Area at LaPorte Avenue and Silhavy Road, Valparaiso Market Place and Valparaiso Walk, consist of nearly 700,000 square feet of space and include anchor tenants such as Bed Bath & Beyond, The Home Depot, Best Buy, Target, Pier 1 Imports, Menards, Marshalls, Kohl's, Barnes & Noble, Lane Bryant and Michael's. In addition, the 2007 development Porters' Vale located at the intersection of State Road 2 and State Road 49 in Valparaiso includes a 104,000 square foot JC Penney's, Sports Authority, Petsmart and a 12 screen Cinemark movie theatre. The project includes land for additional retail development as well as vacant retail space as result of closings of Circuit City and Office Depot. The project was originally planned to contain 750,000 square feet of retail space.*

[vi] *Although the current inventory is not reported by individual County, historical CoStar market data indicates that the preponderance of industrial space within Northwest Indiana is concentrated within Lake County. At year end 2009, for example, Lake County contained nearly four times more industrial space than Porter County.*

[vii] *A regional-serving retail component, anchored by Bass Pro Shops, includes and additional 60 acres of vacant land available for future retail development.*

[viii] *The firm elected to move its headquarter offices to Oak Brook, Illinois.*

[ix] *The projections do not consider the potential for Porter County employment centers to capture or attract a higher share of job growth than has historically been the case. Therefore, if regional locational preferences of different economic activities shift to Porter County, the projected growth could be understated.*

[x] *Based on the Bureau of Labor Statistics' 2008 National Employment by Occupation Matrix, employment by industry sector is separated into occupational groups - workers whom are likely to require comparable types of work space given the functions and operations they perform. For example, office and administrative and business and financial occupations are assumed to require office space. Transportation and materials moving occupations are assumed to require warehouse space.*

Project Guiding Principles

CHAPTER FOUR

This plan outlines a vision for strengthening the economic potential, appearance, and function of the airport zone. It does so by creating opportunities for new development and community growth, identifying economic, environmental and social infrastructure improvements needed to enhance the study area and its existing neighborhoods, businesses and infrastructure, and by identifying a series of implementation recommendations so that the vitality and viability of the study area are sustained throughout the future generations.

The plan spans a potential 30-year time horizon and while many of the improvements are intended to occur in a much shorter time frame, larger development projects will likely happen as market forces dictate. Whether in the near-term or twenty-years in the future, it is important that the airport zone create balanced development. Balanced development is that in which the economic, social, and environmental systems provide a productive, healthy, meaningful life for residents as well as affording the opportunity for prosperity. This means meeting the needs of the present and planning for the future, by striving to achieve the following goals:

Economy:
Promoting vital economic development and fiscal stability that focuses on retaining existing businesses and attracting new businesses that fit within the scale and character of the study area.

Environment:
Promoting orderly growth and development that leads to a balanced community with great neighborhoods and commerce, sufficient infrastructure, connected parks and open space, and a positive appearance.

Social Well-Being:
Providing community and social facilities strategically located to provide for the safety, health, and well-being of its residents and promote efficient use of resources, ensuring that future generations have opportunities for meaningful livelihoods.

As such, the following *Guiding Principles* were established to further support the goals of balanced development and ensure that important issues are addressed when planning for and reviewing new development and redevelopment. These principles are reflective of fundamental planning values and were validated by the project steering committee and during the public outreach process. The principles are grouped into seven categories and include:

- Land Use & Zoning
- Transportation System
- Utilities & Infrastructure
- Multi-modal Connections
- Landscape & Natural Systems
- Community Amenities
- Economic Development

Within each category, the principles are organized according to the following scales: regional, study area, development zone, and site. The regional scale includes broad ranging land use patterns and transportation networks and includes how the study area relates to the City of Valparaiso, Porter County, and beyond. The study area scale includes more detailed techniques for determining the development framework of systems and uses within the airport zone. The development zone scale begins to examine development of more defined sub-areas of the overall airport zone. Finally, the site level scale addresses how individual parcels can be prepared for development and includes recommendations on placing structures on the site.

When combined, the seven principle categories, each at four scales, create a matrix of general planning recommendations. This organization allows each element to be examined individually, while still seeing it in the context of the whole. It provides the basis for future planning and code revisions that address development form and function at all scales. This means considering all of the effects of particular planning and development decisions in one category at one level in relationship to all of the other elements in the matrix.

As previously mentioned, these principles were presented to the steering committee and refined throughout the planning process to reflect the desired character and intensity of growth in the airport zone. They influenced the recommendations in the following chapters and should continue to be referred to by elected officials, public policy makers, planners, developers, and community. These principles could form the basis for revisions to development ordinances or a new airport overlay zone, be used by economic development professionals in targeting and attracting new businesses, or inform developers and builders about the vision and desire for projects that build community and neighborhood value.

LAND USE & ZONING

New development should serve to strengthen existing development patterns. Land use planning and zoning aid in directing future growth but must also be flexible over time to respond to changing conditions. Successful airport areas contain a dynamic mix of uses and activities and encourage a compact development pattern. Priority should be given to infill and redevelopment sites already served by public utilities. Where greenfield development occurs, it should be in accordance with the future land use plans of the City of Valparaiso, Porter County, and the Northwest Indiana Regional Planning Commission (NIRPC).

REGIONAL LEVEL

- Regional development should be organized around centers of activity such as employment, housing, and retail to make transit more viable.
- Give priority to brownfield and infill development within areas already partially or inefficiently developed.
- Ensure efficient use of existing infrastructure.
- Relieve development pressures on vulnerable natural areas.
- Promote compact, walkable communities.
- Give second priority to areas immediately adjacent to existing development.
- Design new development in ways that will improve the conditions in existing development.
- Plan new development to protect natural resources.

STUDY AREA LEVEL

- Ensure that industrial parks and other large-scale developments do not interrupt the established city and county development pattern.
- Use FEMA Floodplain Maps to avoid developing in areas designated as floodplain.
- Do not locate development on wetlands, prime farmland, or steep slopes.
- Limit rural residential subdivision of parcels along road frontage.

DEVELOPMENT ZONE LEVEL

- Allow multiple uses in each development zone, ensuring that the scale and type of those uses are compatible with the scale of the zone.
- Base the development zone plan on the interconnected network of streets and open space.
- Streets, paths, open spaces, and public facilities should be designed as connecting elements, rather than separators.
- Provide flexibility as uses may change over time in response to changes in the market.
- Include civic/shared public space in each development zone.
- Encourage shared parking facilities between two or more buildings or uses.
- Common driveways that provide vehicular access to more than one building site are encouraged.

SITE LEVEL

- Reuse existing buildings where possible.
- Design site so as to protect wetlands, water bodies, and buffer lands.
- Incentivize green building principles where possible.
- Establish setbacks consistent with street pattern.
- Public and semi-public open space should create a connection as part of a pedestrian circulation system.
- Open space should be universally accessible and accessible from the primary street and public sidewalk.
- Open space should be functional and designed for activity.
- Parking should be in structures, accessed off secondary streets, or located within the interior of the plot to reduce visibility.

TRANSPORTATION SYSTEM

The existing transportation system should be used to help determine appropriate locations for future development based on existing capacity and expansion potential. Future investments in transportation infrastructure should support planned development patterns and offer a variety of transportation choices. Similar to utilities, investments in transportation should be used to direct growth and construction of new roadways should not come at the expense of maintaining existing facilities.

REGIONAL LEVEL

- Land use planning should be done in concert with transit, highway, and transportation solutions. Transportation solutions should include coordinated highways, heavy rail, light rail, buses, freight, bike, pedestrian, port facilities and airport.
- Provide a complete network of primary and secondary routes and road types to form a regional network.
- Create/maintain viable rail networks.
- Ensure that transportation decisions can accommodate future use of public transportation even if such facilities are not currently planned.
- Develop transit facilities in conjunction with population, employment, and retail centers.

STUDY AREA LEVEL

- Coordinate the street network and land use pattern.
- Create a network of streets to include varying dimensions, capacity, and speed.
- Give pedestrians and cyclists equal importance with vehicles when designing roads.
- Relate the hierarchy of streets to the intensity of adjacent uses.
- Design all streets to support walkable communities, enabling safe and enjoyable pedestrian circulation.
- Avoid routing new transportation corridors through environmentally sensitive areas or prime farmland.
- Try to develop/maintain a grid street pattern to aid in wayfinding and offer multiple connection options.

DEVELOPMENT ZONE LEVEL

- Ensure a high quality walking environment both along streets and internal to development zones.
- Include internal connectivity in the design of development to reduce trips on external roadways for intra-zone trips.
- Design streets that are appropriate for the use(s) within each development zone.
- Define appropriate dimensions for each street type to ensure safe vehicle-pedestrian interaction.
- Use traffic calming street designs to slow traffic and protect pedestrians.
- Minimize curb cuts to external roadways.
- Utilize medians to capture stormwater, increasing infiltration and pollutant removal.
- Streetscape elements should be consistent throughout each development zone.

SITE LEVEL

- Preserve street frontage for building facades.
- Configure vehicle access such that service and parking areas can be screened as much as possible.
- Reduce overall parking and pavement footprint.
- Reduce the number of access curb cuts while ensuring adequate ingress and egress for emergency vehicles.

UTILITIES & INFRASTRUCTURE

Utilities and infrastructure are costly to expand; as such, use and expansion of public services must be done to maximize efficiency. Investments in utilities and infrastructure should be seen as investments in directing and managing growth and maintaining fiscal responsibility.

REGIONAL LEVEL

- Use recycled and reclaimed materials in infrastructure installation.
- Utilities should be designed, located, and constructed to avoid significant adverse environmental impacts and protect valuable environmental features.
- Plan and manage utility expansion in conjunction with municipal and public opinions on development.

STUDY AREA LEVEL

- Encourage the replication of hydrologic conditions (infiltration, runoff and evapotranspiration) of the site based on historic, natural and undeveloped ecosystems in the region.
- Avoid locating distribution lines through ecologically sensitive areas.
- Utilities should make joint use of rights-of-way wherever possible.
- Underground utilities should be grouped together and accessible for maintenance, repair, and expansion.
- Above ground utility infrastructure should be designed and located to minimize unsightly views.
- Power and telephone poles should be located as far from right-of-way centerlines as possible.
- Power and communication lines should be located underground where possible, especially in newly-developing areas.

DEVELOPMENT ZONE LEVEL

- Evaluate energy and water requirements so that sustainable strategies may be applied to reduce overall resource requirements.
- Explore the possibility of district heating and cooling as a way to minimize overall energy use and maximize efficiency.
- Public sewers are the preferred method of wastewater treatment.
- Ensure level of service standards for water quality and fire-flow levels are met.
- Energy facilities and infrastructure should be sited such that:
  - Visual impacts are minimized through buffering and/or distance.
  - Aviation/airport restrictions are met.
  - Co-location of utility providers on one site or one facility should be encouraged where possible.

SITE LEVEL

- Manage stormwater on site.
- Protect and enhance on-site water resources and receiving water quality.
- Encourage the design of rainwater/stormwater features to provide a landscape amenity to the community.
- Reduce the overall amount of stormwater generated by decreasing impervious coverage.
- Harvest rainwater and graywater for use in landscape irrigation.
- Utilize solar panels and small scale wind turbines to generate power on-site when possible.
- Label storm drains with their ultimate outfall to discourage the dumping of pollutants.
- Ensure adequate utility capacity for proposed development.
- Limit on-site wastewater treatment (specifically blackwater), ie, package plants and septic systems on inappropriate soils.

MULTI-MODAL CONNECTIONS

Communities should provide a range of facilities for all modes of transportation which accommodate people of all ages and economic status. This interconnected system should include transit facilities to support those who cannot operate private automobiles because of physical, social, or economic condition as well as bicycle and pedestrian facilities which benefit public health and the environment through reduced vehicle miles traveled.

REGIONAL LEVEL

- Develop a regional system of trails and bikeways that provide an alternate means of transportation as well as a recreational amenity.
- Promote healthy lifestyles through access to recreational amenities.

STUDY AREA LEVEL

- Utilize easements, floodplain, and public rights-of-way for greenways and multi-modal facilities.
- Encourage site development that is accessible by pedestrians and bicyclists and near public transit to reduce pollution and improve human health.
- Ensure multi-modal facilities are universally accessible.
- Protect existing rights-of-way even when not constructing roadways; these rights-of-way can be utilized for pedestrian, bicycle, and transit connections.

DEVELOPMENT ZONE LEVEL

- Include sidewalks and other pedestrian paths throughout the development zone.
- Provide safe, well-marked pedestrian crossings at significant intersections.
- Provide pedestrian connections to multi-modal corridors.
- Provide bicycle connections to multi-modal corridors.
- Develop a multi-modal street network that accommodates bicycles and pedestrians in addition to vehicles.
- Cluster buildings to provide convenient pedestrian access across multiple sites/uses.
- Maintain consistent multi-modal facility design throughout the district.
- Provide for optimum accessibility, safety and wayfinding;
- Promote area use by increasing user's ability to understand and safely access developments.

SITE LEVEL

- Connect building entrances to the larger pedestrian network with the use of sidewalks and paths.
- Include bicycle parking facilities (bike racks/lockers) on-site to accommodate bicycle commuters.

LANDSCAPE & NATURAL SYSTEMS

A healthy environment supports social well-being, sustains economic development, and protects against flooding and other natural events. The continuity and sustainability of quality natural systems and ecologically sensitive land should be ensured when developing new land.

REGIONAL LEVEL

- Development patterns should follow the larger scale patterns of natural systems.
- New development decisions should protect and/or improve the health of natural resources.
- Watershed, wetland, woodland, and wildlife protection is managed at the regional scale.
- Use targeted incentives to direct development towards areas with less negative effect on natural systems; use disincentives to direct development away from sensitive natural areas.
- Avoid locating regional corridors, such as transit and infrastructure, in sensitive areas.
- Protect sensitive lands by placing them in conservation banks, easements, and other protective covenants. See Trust for Public Land.
- Develop and implement sustainable agriculture practices at the regional level.

STUDY AREA LEVEL

- Develop infrastructure as a comprehensive and connected network so that alteration to natural systems is minimized.
- Take advantage of potential dual-use areas, for example, utility easements may be used as recreational corridors.
- Incorporate institutional uses as part of the open space network.

DEVELOPMENT ZONE LEVEL

- Decrease stormwater runoff by designing streetscapes with reduced impervious surfaces and integrated management practices (bioretention, swales, etc.).
- Avoid tree removal where possible; plan and enforce tree protection ordinances.
- Include street trees in roadway design/re-design.
- Include public open space in each development zone.
- Plan the open spaces within each development zone to interconnect larger scale natural systems and recreation amenities.

SITE LEVEL

- Evaluate all site features before making decisions about development and before altering the site.
- Determine which trees and plants are of value and ensure that they are protected during construction.
- Locate buildings as near the street as possible to reduce the area of overall paved driveway.
- Develop a stormwater management plan that retains all increased runoff on-site.
- Develop a landscape plan that reduces runoff, filters stormwater, and where possible, provides habitat for wildlife.
- Use native plants to reduce watering and fertilizer needs and improve rainwater percolation into the soil.
- Minimize the use of lawns where possible.
- Minimize site disturbance in design and construction.

COMMUNITY AMENITIES

Community amenities will be developed to maintain a safe environment to live and work, provide active and passive recreation opportunities which contribute to a healthy lifestyle, and encourage high quality education at all levels. Equity in accessibility and affordability should be present across the spectrum of community amenities and housing options.

REGIONAL LEVEL

- Encourage site development within existing communities to reduce pollution and development impacts, support local economy and improve human health.
- Protect and restore area riparian corridors, wetland eco-systems and community specific conservation areas.
- Protect and maintain unique cultural and historical places.
- Coordinate regionally on the provision of community facilities with multijurisdictional impacts.

STUDY AREA LEVEL

- Provide the necessary community facilities to support the proposed future land use pattern. These facilities include:
  - Education
  - Social services
  - Cultural resources
  - Recreation
  - Health care
  - Public safety
  - Public (or private) utilities
  - Waste management
- Establish levels of service for such community facilities so they will meet the needs and requirements of local government and residents.
- Ensure that facilities are provided for in a timely and efficient manner as demand for them arises.

DEVELOPMENT ZONE LEVEL

- Provide visual and physical connections to the outdoors to optimize the mental health benefits of site users. (i.e. provide adequate buffers between conflicting land uses-residential, industrial etc.)
- Provide outdoor gathering spaces of various sizes and orientations to accommodate groups, for the purpose of building community and improving social ties.

SITE LEVEL

- Connect community amenities to related adjacent uses through accessible paths.

ECONOMIC DEVELOPMENT

The Porter County Airport Development Zone should strive to create opportunities to strengthen the economic base of the community by capitalizing on existing assets and further developing the competitive business climate of the area. Utilize the existing environmental and cultural resources to attract and retain skilled workers as well as targeting specific industry. This area can become a model of balanced development for the region.

REGIONAL LEVEL

- Collaborate regionally to maximize benefit from limited resources.
- Capitalize on the existing multimodal hub.
- Use regional materials when possible when developing sites. (Reduce energy use for transportation; increase demand for materials, plants and soils that are extracted, manufactured, or grown within the region to support the use of local resources; and promote a regional identity.)

STUDY AREA LEVEL

- Establish competitive business climate.
- Ensure municipal costs are competitive with neighboring jurisdictions.
- Provide an environment of certainty for businesses by establishing and upholding clear, consistent policies for development, regulation, and taxation.
- Make the regulatory and permitting processes clear and efficient.
- Include economic impact considerations in municipal decision making.
- Work closely/partner with local businesses, higher education institutions, nonprofits, and community organizations to better market area strengths.
- Target industry clusters suited to the area rather than specific businesses.

.DEVELOPMENT ZONE LEVEL

- Maintain existing structures, hardscape and landscape amenities in their existing form to extend the life cycle of existing building stock, conserve resources and reduce waste.
- Promote equitable site development;
- During construction of the site, ensure that the project provides economic or social benefits to the local community.
- Develop a Community Benefits Agreement or other similar agreement that outlines how the project will be shaped to provide a range of community benefits during the construction of the site.
- Utilize TIF districts to provide incentives for economic development, but only at the appropriate scale. TIF designation is not appropriate at a single site level.

SITE LEVEL

- Obtain shovel ready site certification for priority development sites.
- Promote equitable site use;
- During site use, ensure that the project provides economic or social benefits to the local community.
- Provide events identified as a community need or desirable amenity during meetings with the local community.
- Ensure proper permitting and zoning compliance before development.

Land Use & Zoning

CHAPTER FIVE

"New development should serve to strengthen existing development patterns. Land use planning and zoning aid in directing future growth but must also be flexible over time to respond to changing conditions. Successful airport areas contain a dynamic mix of uses and activities and encourage a compact development pattern. Priority should be given to infill and redevelopment sites already served by public utilities. Where greenfield development occurs, it should be in accordance with the future land use plans of the City of Valparaiso, Porter County, and the Northwest Indiana Regional Planning Commission."

- Land Use and Zoning Guiding Principle, Chapter Four

The future land use plan for the airport development zone is the map to guide future development. It physically represents the vision and guiding principles as established during the planning process and described in Chapter 4 and provides the context for future decision-making in regard to development, redevelopment, and changes in zoning. Sound land use planning promotes fiscally responsible growth, balances a compatible mix of uses, ensures a quality of life for area residents, and helps create a strong tax base. The objectives of the land use plan are to: 1) ensure that development within the airport zone takes place in an orderly and complimentary fashion, and 2) ensure that the necessary facilities and infrastructure needed for future development have been or will be provided for. The future land use plan includes recommendations on the location and mix of uses and the intensity of those uses. The City and County zoning ordinances then provides the legal framework by which to enforce the intent of the future land use plan.

The future land use map, shown in Figure 34, can be looked at as a graphic summary of the vision and principles of this document, the market analysis, and the opportunities and constraints that exist in the study area. It is an advisory document to guide overall development of the area, but is not prescriptive in nature to control the regulatory development on individual lots. Land use plans and future planning initiatives are generally adopted as resolution in the State of Indiana, and as such are policy, not law.

Zoning, on the other hand, is adopted as legal ordinance and provides the specific standards for the development of individual or groups of parcels. This may include specific uses allowed in each zone, density, lot size, setback, and other development standards. All future development in the airport zone should be consistent with both zoning and the future land use plan.

As an example, a future land use map may indicate an area as single-family residential. That area of single-family residential development may include one or more zoning districts which allow single-family residential development. One zoning district may restrict lot sizes to no less than one half acre while another district allows for lot sizes down to one eighth of an acre. While both districts correspond with the desired single-family residential land use, the lot size development standards are used to control residential density. Similarly, a land use designation of commercial may have the intent to provide for the sale of goods and services. The zoning district applicable to this land use may simply be called commercial, or commercial-2, or neighborhood commercial. The neighborhood commercial zoning district may then permit uses that provide for the sale of goods and services at the neighborhood level. However, the zoning ordinance may also list prohibited uses, such as vehicle sales, carwashes, or automobile service stations that, while they are commercial land uses, do not fit with the desired intent of the zoning district.

LAND USE CHARACTER

During the planning process it was determined that development character was just as, if not more important than individual land use. For this reason, the future land use designations aim to include descriptions of desired character and intensity in addition to generally permitted land uses. More so than specific use, character creates the overall image of the community and influences the attitudes of residents, visitors, and the business community. These future land use designations are based on the location and character of existing uses, the visions established by previous planning efforts, input gained during the Airport Development Zone planning process, and present and future infrastructure capacities.

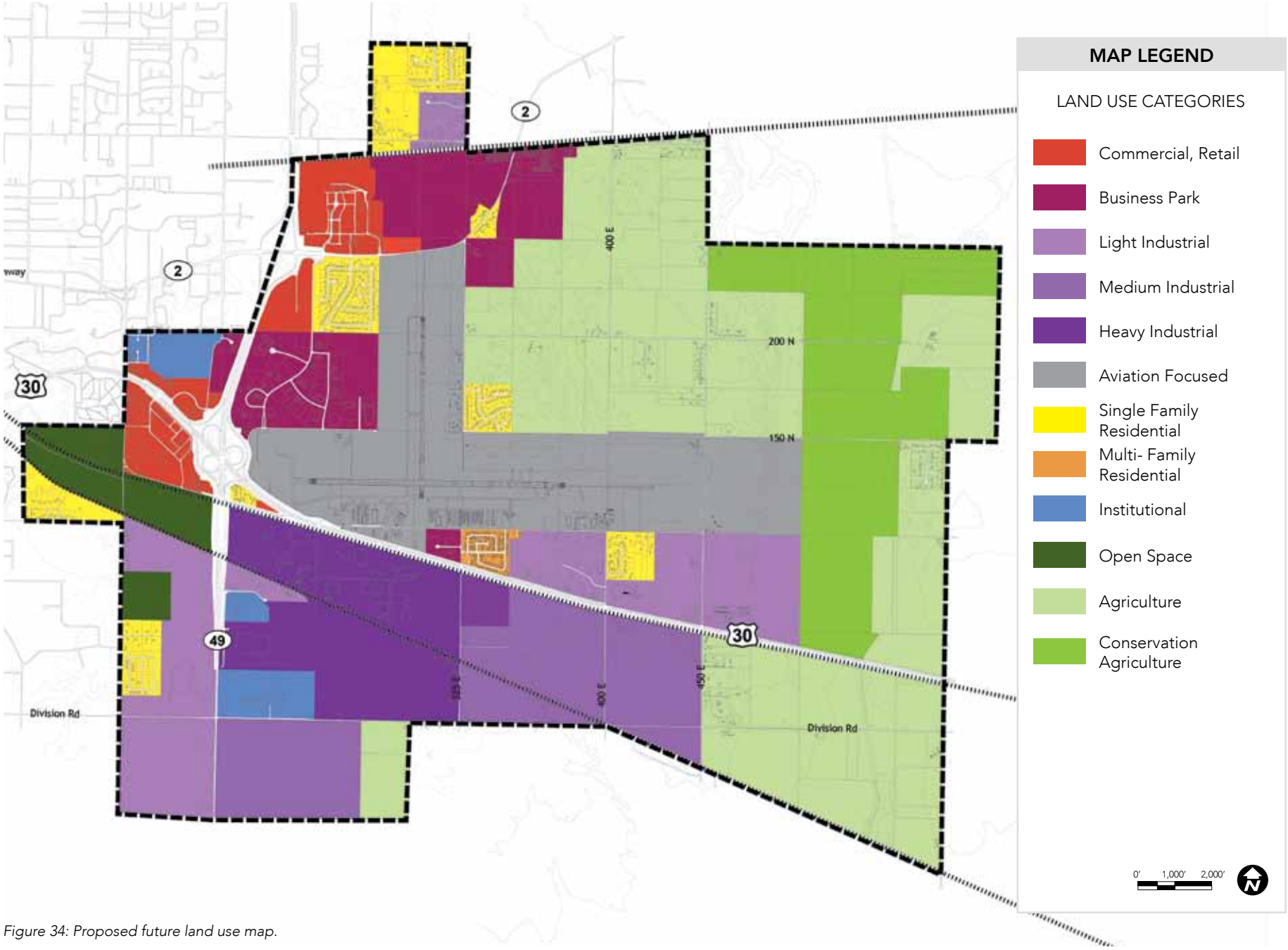

Figure 34: Proposed future land use map.

COMMERCIAL, RETAIL

Concentrations of commercial uses with the primary focus of retail sales and personal services, including restaurants. Some office use may be intermixed. In such concentrations, retail uses are generally regional or community serving in scale and must be adequately served by roadways to accommodate the traffic they generate.

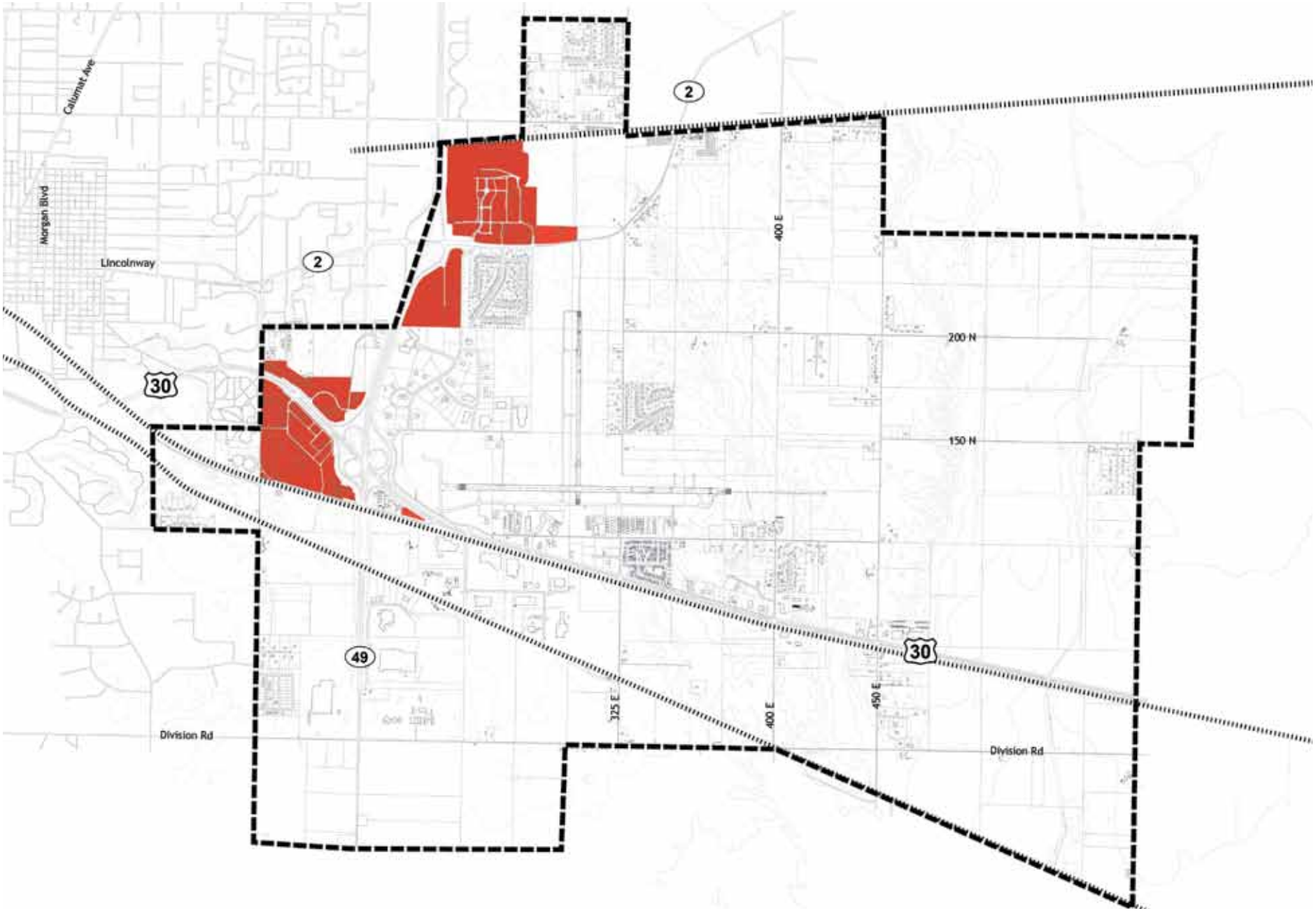

Figure 35: Commercial, retail use areas within proposed land use map.

BUSINESS PARK

A master planned development which may include a mixture of uses including, office, professional service, light industry, small scale warehouses, and accessory retail in a campus style development. Building form, siting, circulation, and landscaping should be consistent throughout the development to create an attractive image.

Open space should be connected throughout the business park for all users and stormwater should be managed on a centralized scale. The park should be designed to limit impacts on neighboring residential uses and the environment. Additionally, business parks will require service by public utilities and should be developed to properly manage access by both truck and automobile traffic.

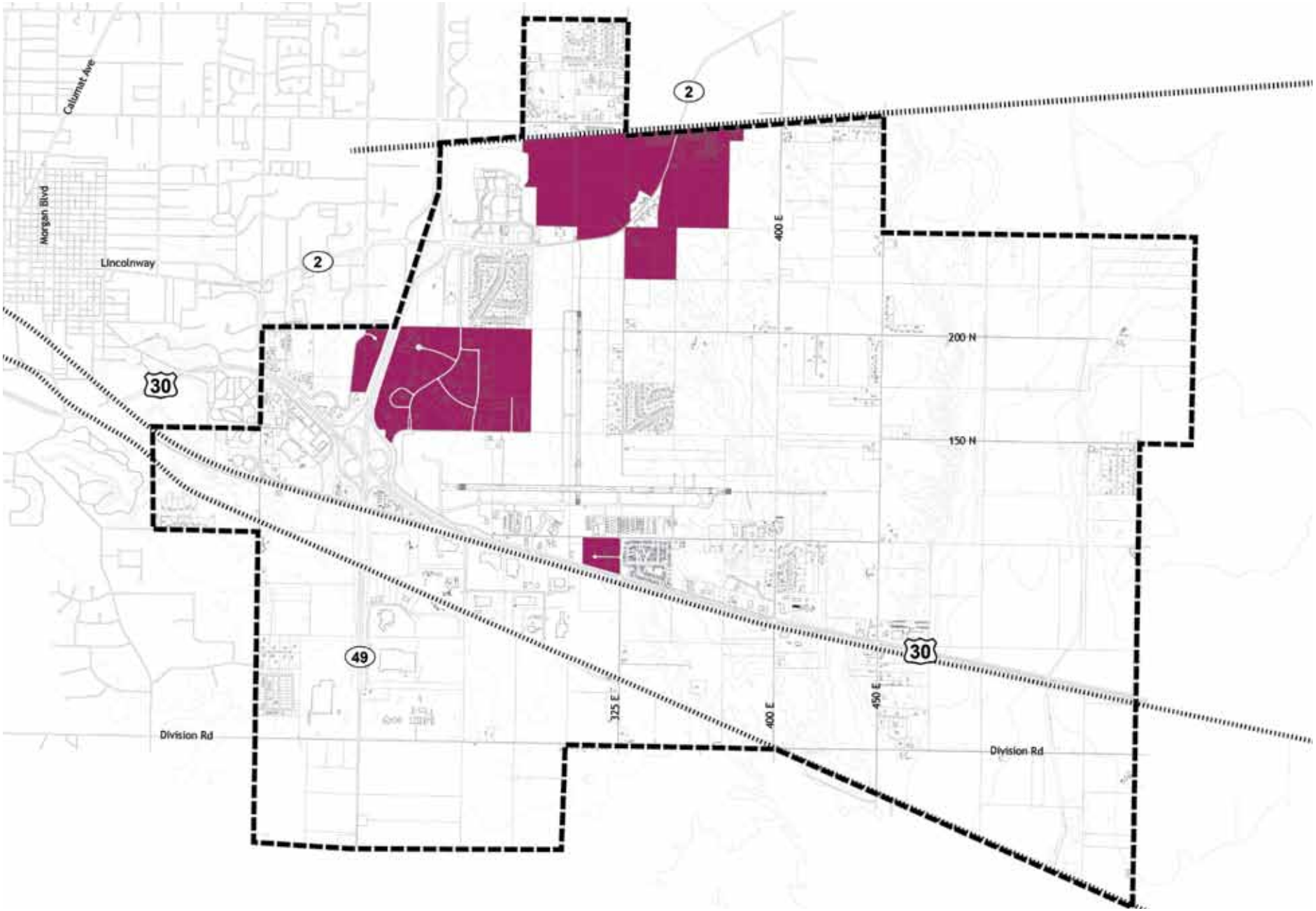

Figure 36: Business park use areas within proposed land use map.

LIGHT INDUSTRY

Low intensity manufacturing and industrial uses which are completely enclosed in a building(s). No outside storage of materials should be permitted. Negative emissions, such as noise, light, and exhaust, should not be transmitted to adjacent properties. Where potential conflicts occur, buffering and landscaping should be used to minimize these impacts.

When grouped, light industrial uses may resemble a business park; in such cases, opportunities for shared open space and stormwater management should be explored.

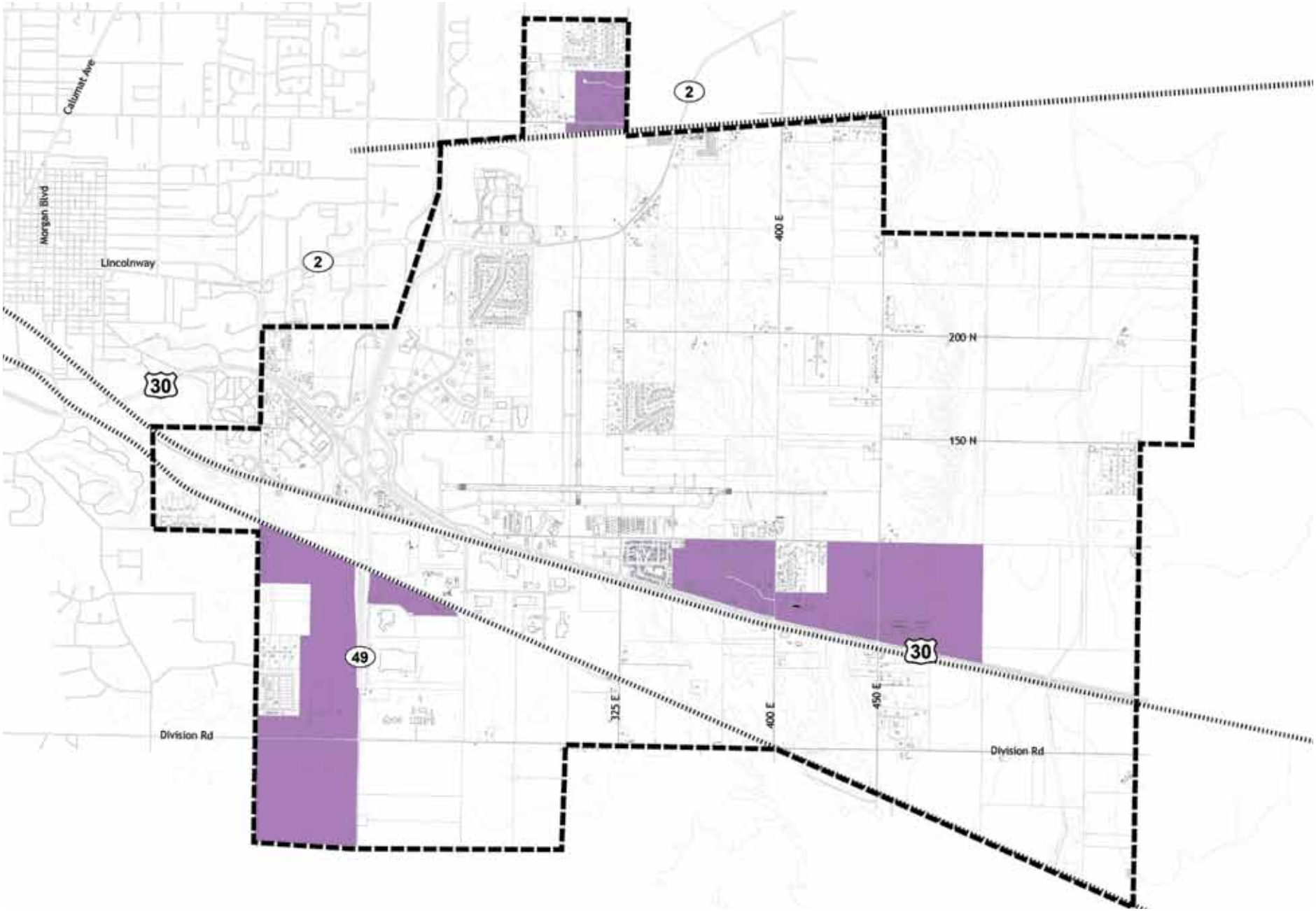

Figure 37: Light industrial use areas within proposed land use map.

MEDIUM INDUSTRY

Moderate intensity industrial developments which may include distribution, capital intensive manufacturing, warehousing, and assembly of goods.

As in light industry, outside storage of materials should be prohibited and negative impacts on neighboring uses should be mitigated with buffering and landscape treatments.

Truck loading, parking, service bays, and outside storage should be screened from the public right-of-way. Medium industrial uses should be located along corridors with the capacity to handle the necessary volumes of truck traffic and be built out in a planned manner so as to maximize investments in public infrastructure systems.

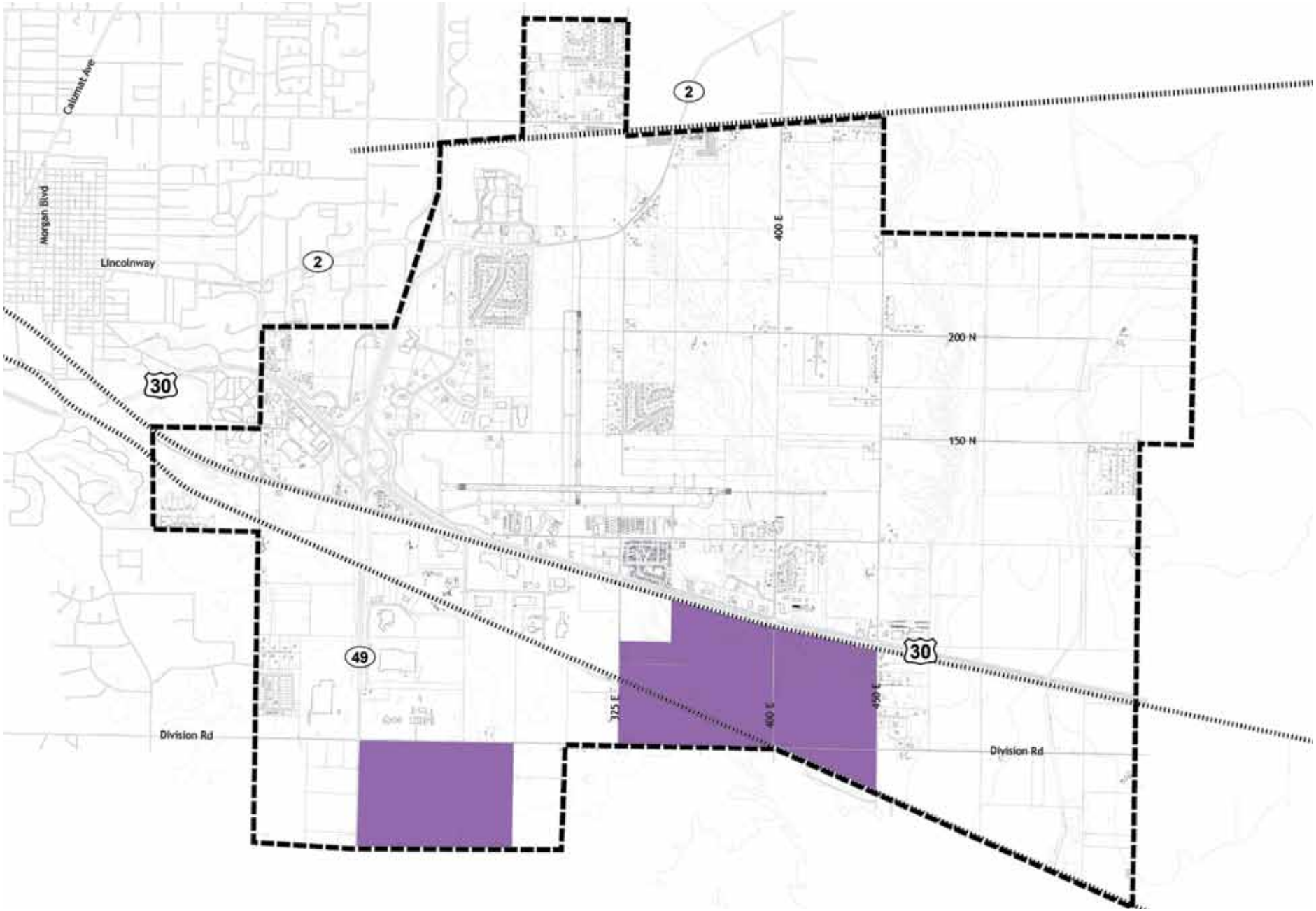

Figure 38: Medium industrial use areas within proposed land use map.

HEAVY INDUSTRY

More intensive industrial and manufacturing uses may involve the processing of raw materials. This district requires standards to ensure the protection of public safety, community character, and compatibility with neighboring uses.

For sites utilizing outside storage and/or processing, increased amounts of buffering and/or setback should be required.

Truck loading, parking, service bays, and outside storage should be screened from the public right-of-way. Heavy industrial uses should be grouped to minimize impacts to surrounding character and the natural environment. These uses should be located along corridors with the capacity to handle the necessary volumes of truck traffic and be built out in a planned manner so as to maximize investments in public infrastructure systems.

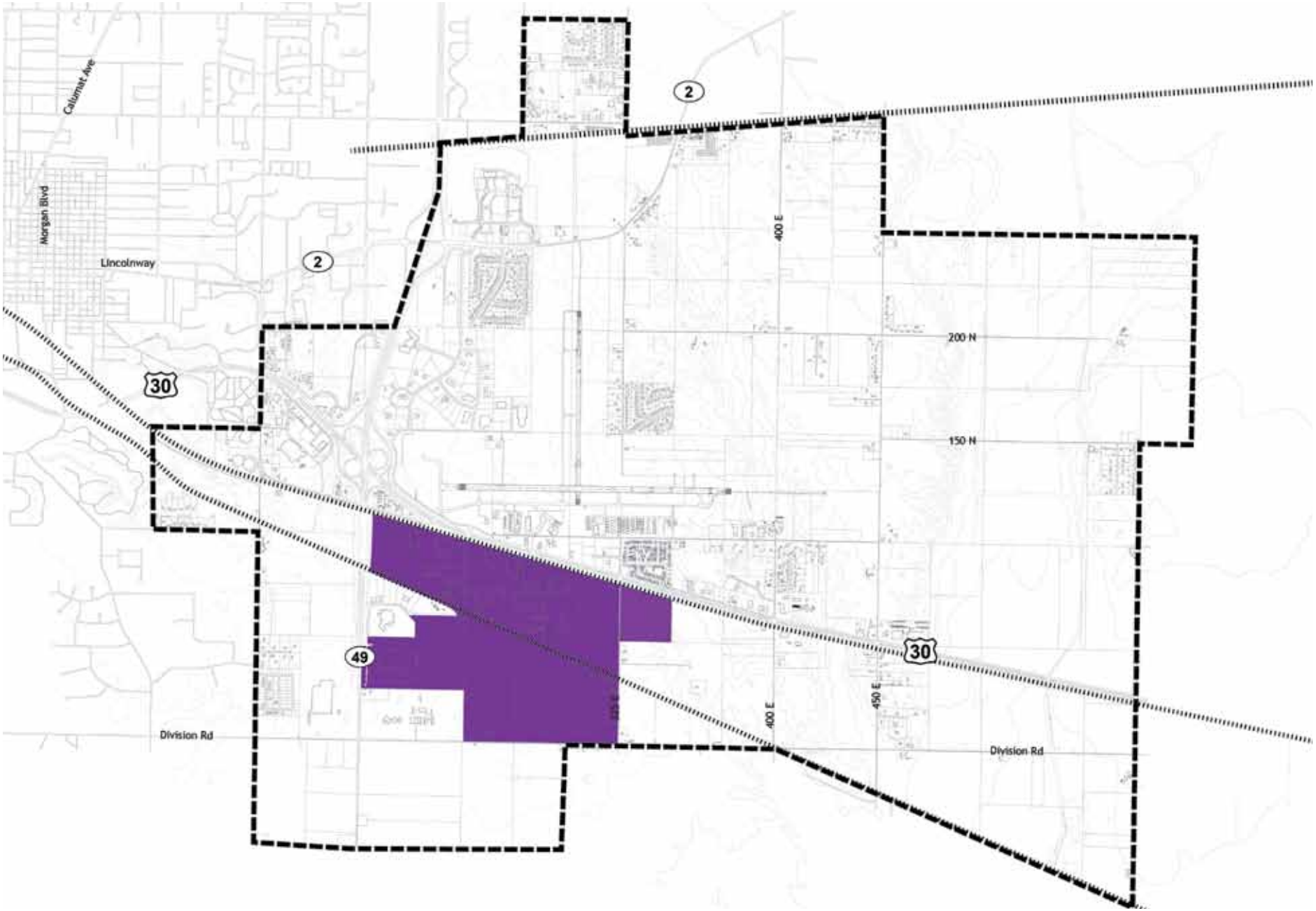

Figure 39: Heavy industrial use areas within proposed land use map.

AVIATION FOCUSED

Parcels dedicated to airside and landside airport related function. Airside activities include runways, taxiways, aprons, and hangars. Landside activities include terminals, parking and transportation facilities, and other airport-support facilities accessible to the public. Commercial uses serving the airport, such as office, retail, and restaurant are also appropriate in this zone. There are particular design standards and considerations for development on airport and airport adjacent lands.

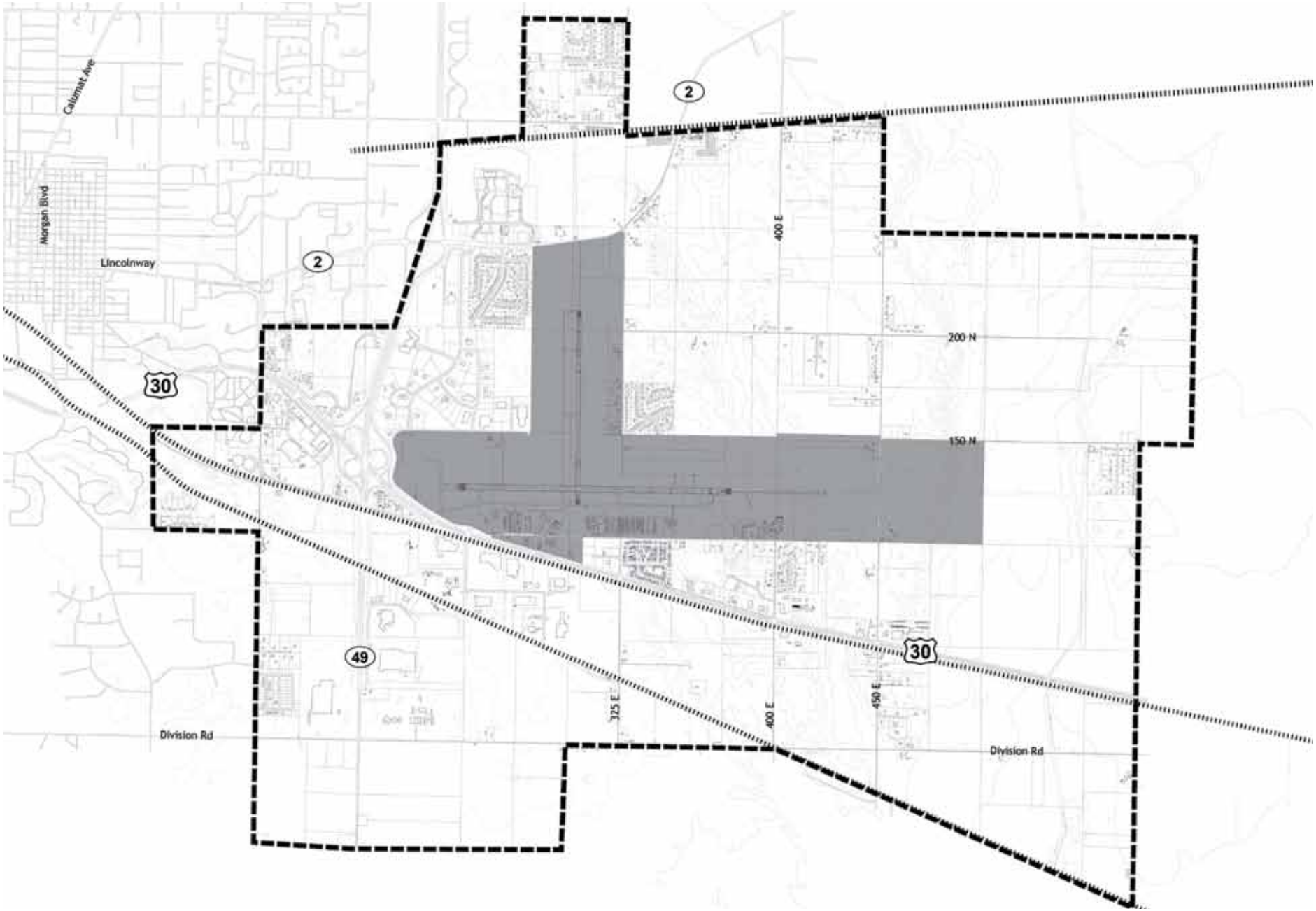

Figure 40: Aviation focused use areas within proposed land use map.

SINGLE FAMILY RESIDENTIAL

Existing residential areas are generally characterized by lot sizes of one eighth of an acre to one acre. In areas with a concentration of units, such as suburban subdivisions, public services are necessary.

No new single family residential developments are planned for this area.

Figure 41: Single family residential use areas within proposed land use map.

MULTI-FAMILY RESIDENTIAL

Higher density residential development characterized by multiple primary structures or units per lot; common forms are apartments, condominiums, and mobile home parks. Service by public utilities is required.

No new multi- family residential developments are planned for this area.






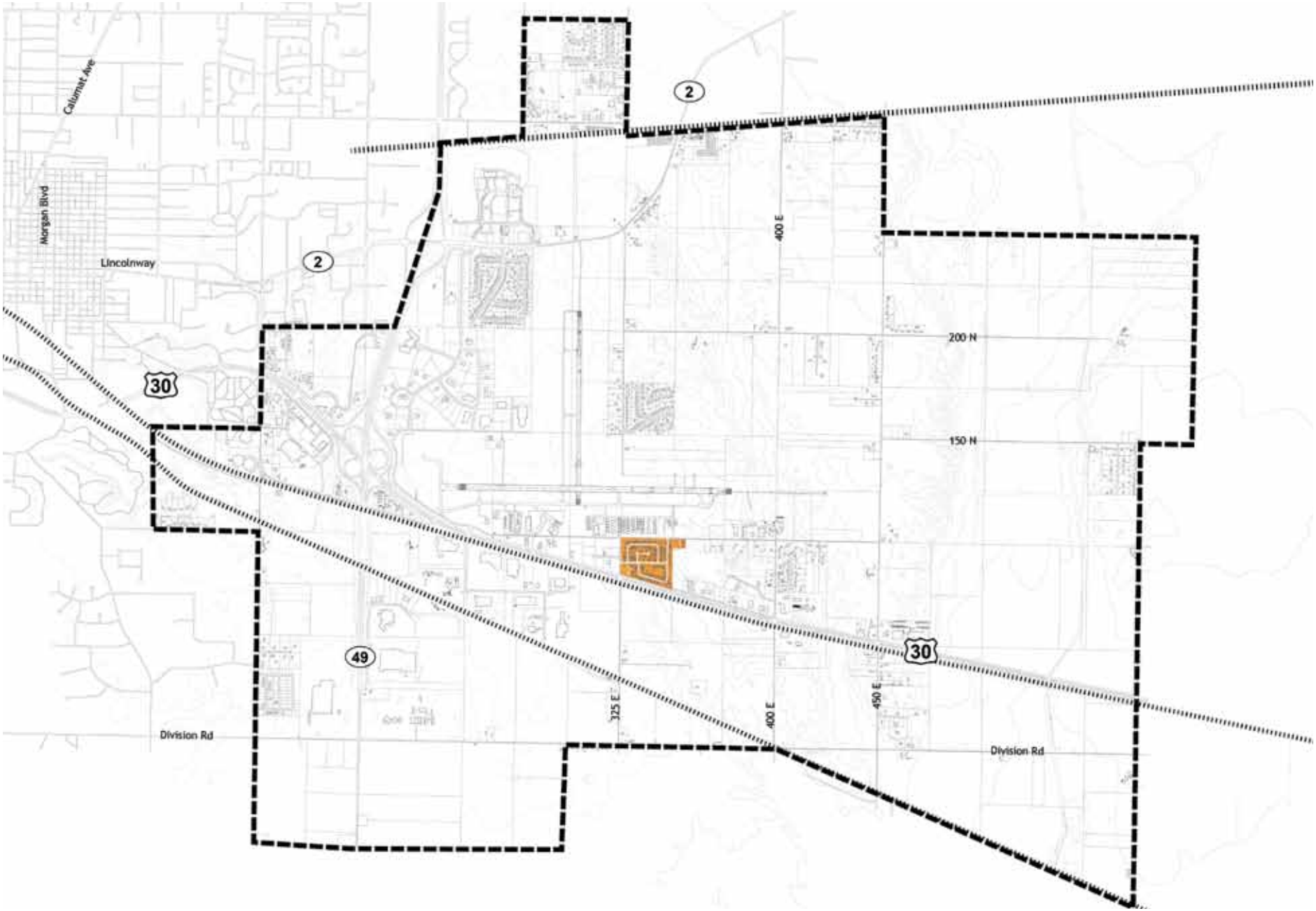

Figure 42: Multi-family residential use areas within proposed land use map.

INSTITUTIONAL

Institutional uses are those parcels that contain schools, religious facilities, government facilities, hospitals, utilities, and other quasi-public facilities. Existing institutional uses are recommended to be maintained. No new institutional uses are specifically recommended but may be included in residential or agriculture areas.

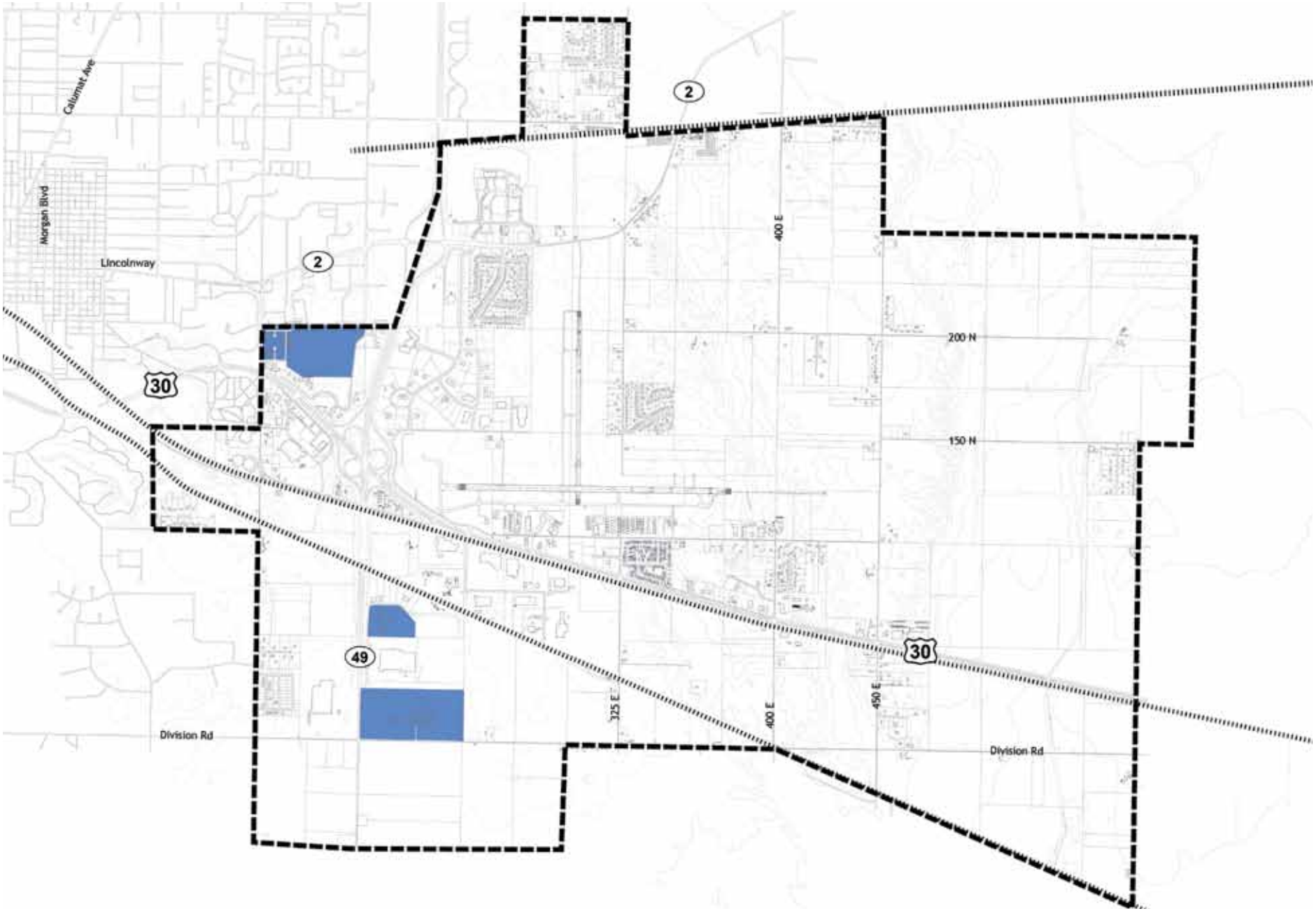

Figure 43: Institutional use areas within proposed land use map.

OPEN SPACE

This district is intended for the preservation of natural features and environmentally sensitive lands and the provision of passive and active recreation areas. Open space lands should remain free from the potential impact of development.

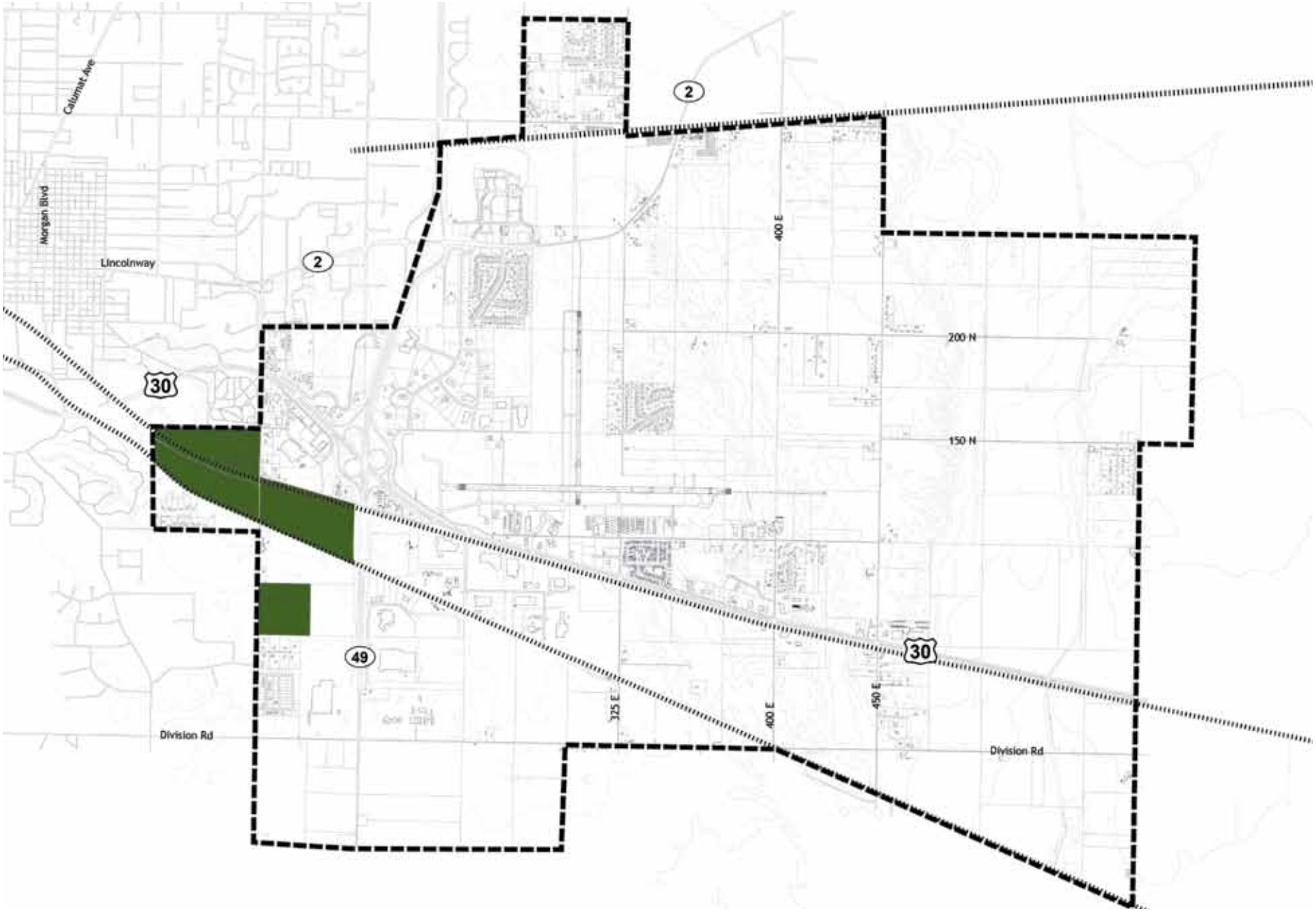

Figure 44: Open space use areas within proposed land use map.

AGRICULTURE

Lands that are sparsely populated and used primarily for farmland, agriculture uses, and single family homes on large lots. These parcels may include one or more accessory structures and utilize on-site services where public utilities are not available.






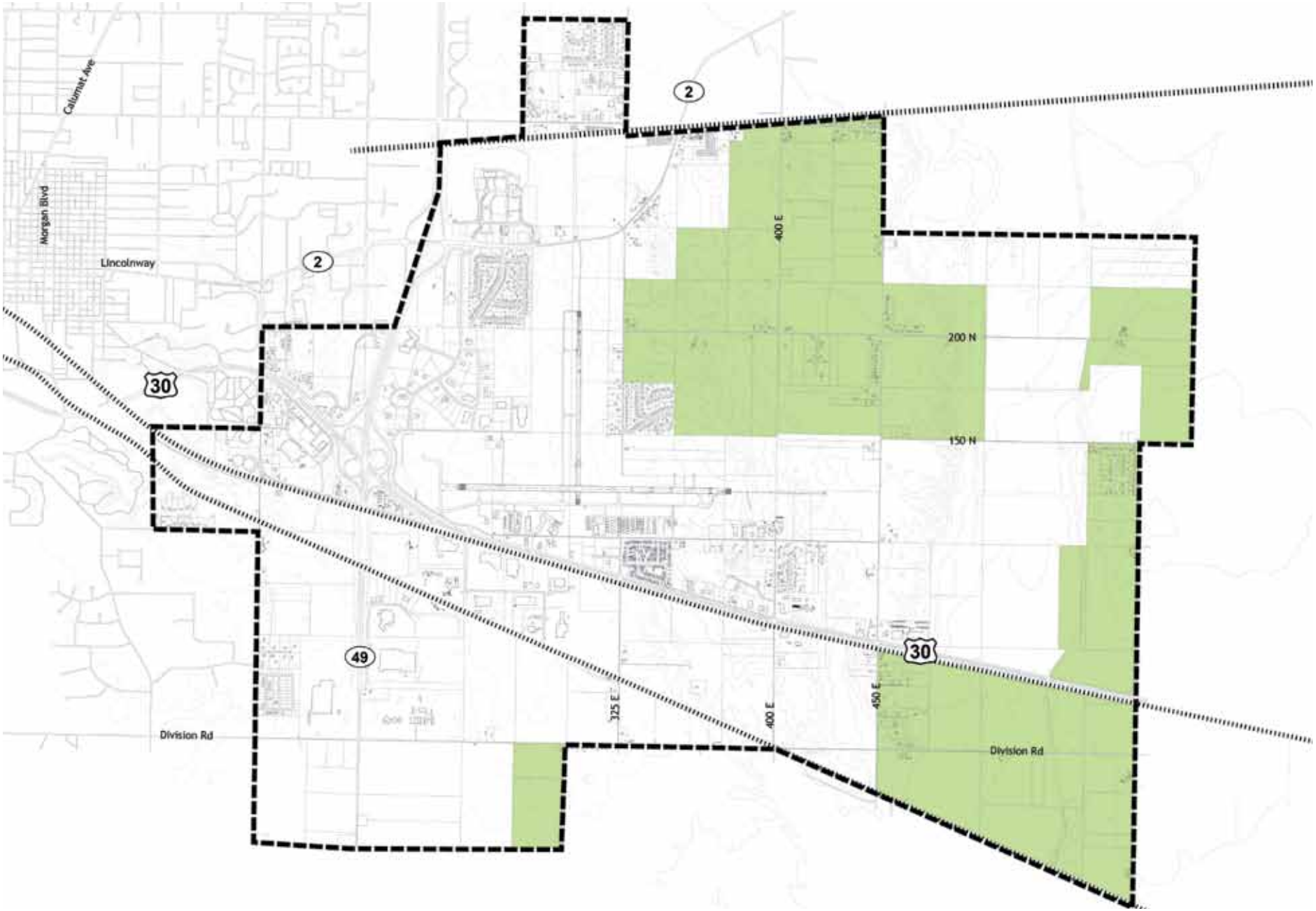

Figure 45: Agriculture use areas within proposed land use map.

CONSERVATION AGRICULTURE

Existing agriculture lands with prime soils which should be protected from residential, commercial, and industrial encroachment. Primary uses are agricultural but may include a single family detached dwelling to support agricultural operations.

Subdivision of these parcels to create additional residential lots should be discouraged.






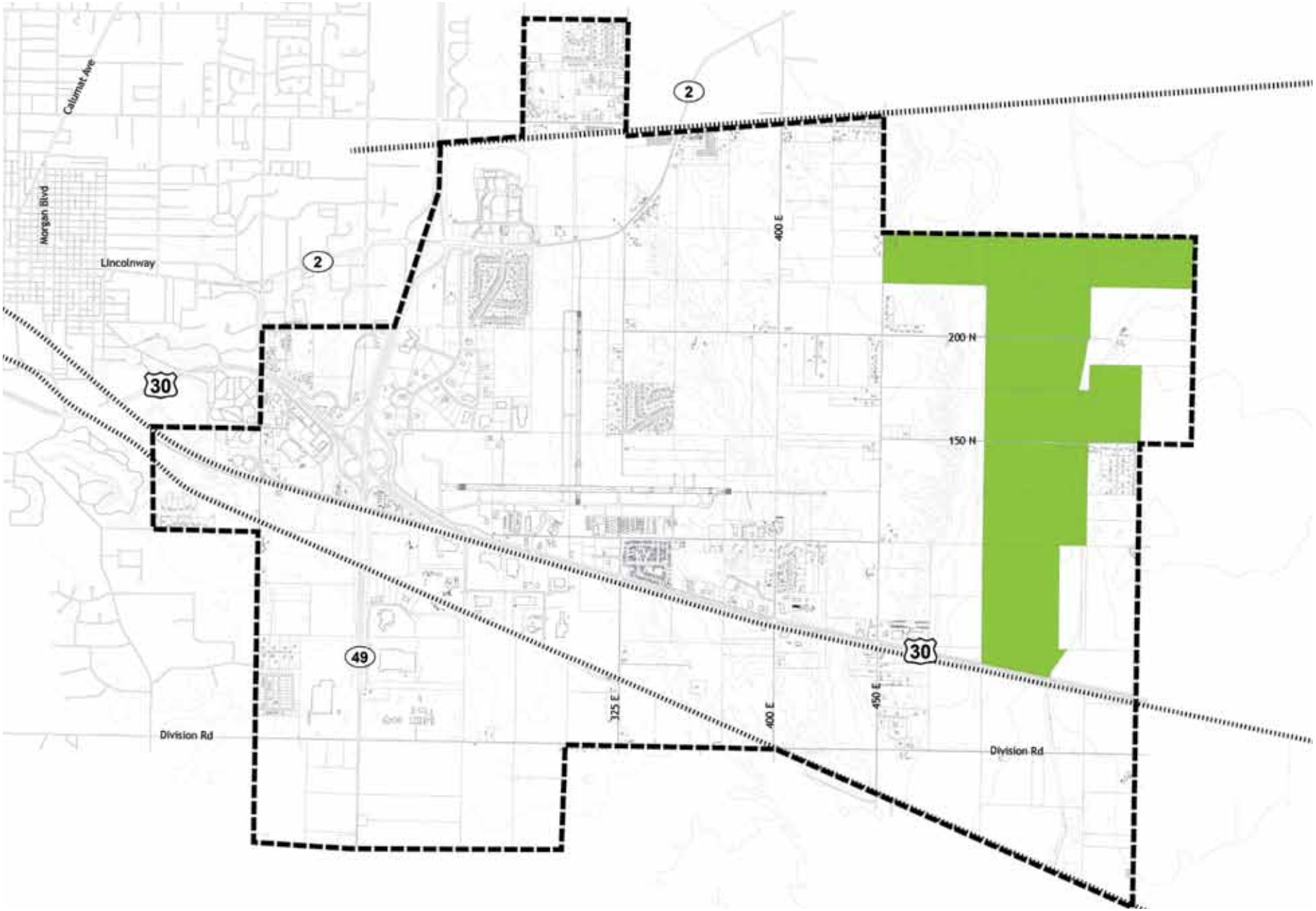

Figure 46: Conservation agriculture use areas within proposed land use map.

AIRPORT LAYOUT PLAN IMPACT ON ZONING

As part of its separate master planning process the Porter County Regional Airport has produced an Airport Layout Plan (ALP) which shows detailed information on specific impacts that will result because of the airport's future development. This Airport Zone Development Study document contains generalized information about potential impacts to properties surrounding the airport. This document does not supersede nor supplement the information contained in the ALP.

Runway Safety Areas. Future RSAs for both runways will remain inside airport property and should not impact surrounding property owners.

Runway Object Free Areas. Future ROFAs for both runways will remain inside airport property and should not impact surrounding property owners.

Runway Protection Zones. Future Runway 27 RPZ may require acquisition of land or an easement. The area within the future RPZ appears to be agricultural land and, subject to conformance with wildlife attractant recommendations, should be a compatible land use. There are several residences and/or businesses within Runway 9's existing RPZ; per the FAA, these uses are incompatible with an RPZ.

Enlargement of the RPZ will result in more residences and/or businesses within it. Future Runway 18 RPZ would appear to require acquisition of land on the north side of Laporte Avenue. Present land use of one property in this area appears to be residential, which would not be a compatible land use inside the RPZ.

Primary Surfaces. Future primary surfaces for both runways will remain inside airport property and should not impact surrounding property owners.

Approach Surfaces. Moving the Runway 27 approach surface 500' to the east will put more neighboring property under the surface and limit the maximum height of any objects on that property. At the east end of the new approach surface, objects will be limited to an elevation roughly 1,200' above the airport elevation. In general, moving the approach surface 500' to the east will result in a 10' reduction in the maximum allowable elevation of any object already under the existing approach surface. Since the approach surface is a trapezoid, some locations near the perimeter of the surface may experience less than a 10' reduction. The future approach surface for Runway 18 will be wider, longer, and have a flatter slope than the existing approach surface. To accommodate the extension of Runway 18, the approach surface will also begin 1,000' north of the existing surface. More property will be subject to maximum allowable object elevations, and those allowable elevations will be lower. The future approach surface for Runway 36 will have the same length and slope as the existing surface, but the future surface will be wider at the south end. More property in this area will be subject to maximum allowable object elevations.

Figure 47 illustrates the various ground surfaces surrounding the airport.

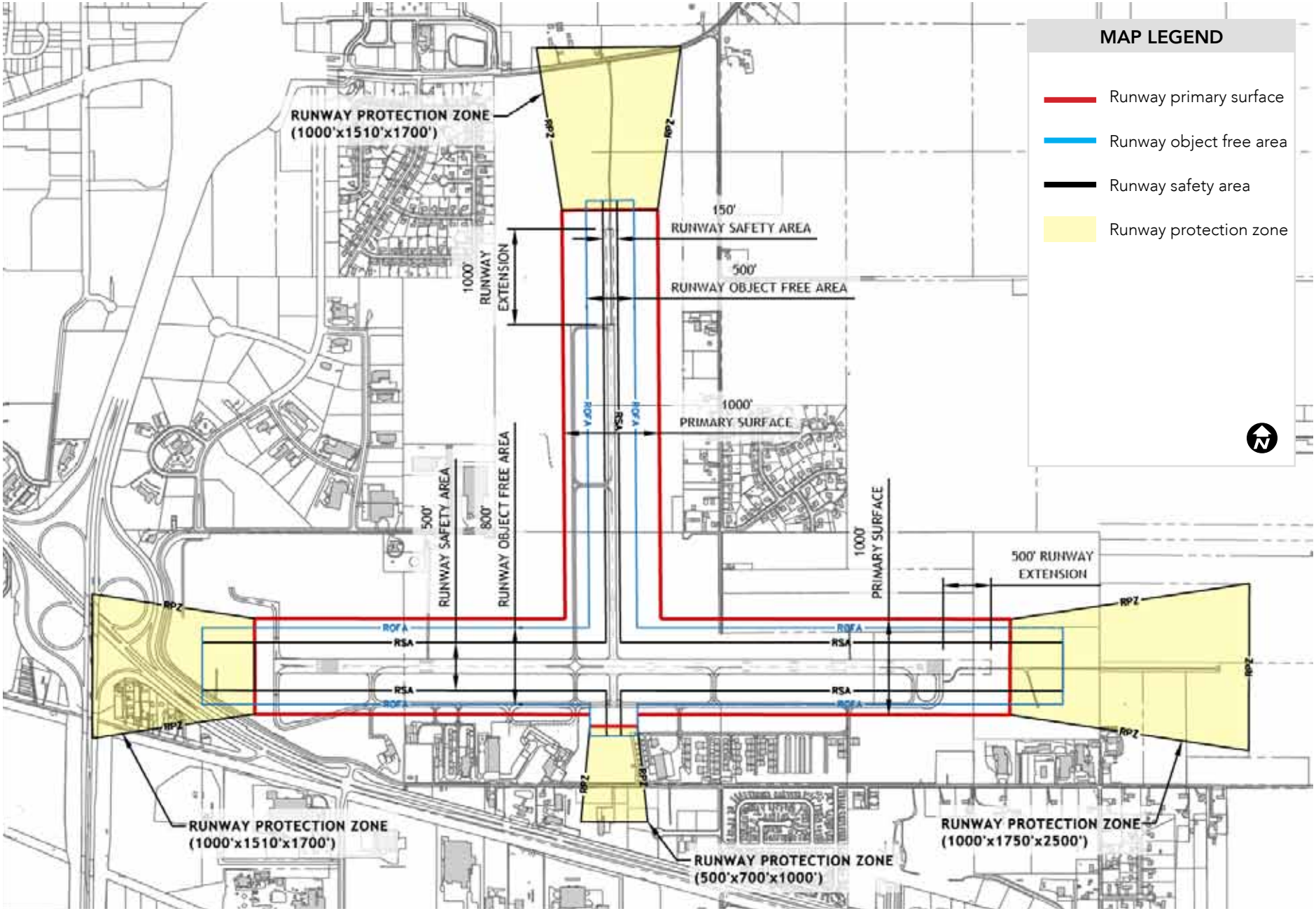

Figure 47: Proposed Porter County Regional Airport ground surface areas.

IMPLEMENTATION STEPS

The most common planning tool for implementing land use maps is the zoning ordinance. In developing the zoning ordinance, there are two distinct ways that a zoning ordinance can be crafted to implement a special study area plan. These include using traditional districts or using an overlay district.

Traditional zoning districts allow a city or county the ability to create standards to manage the type of development within a set of parcels within that jurisdiction. The zoning district would then be applied to each parcel belonging within that classification.

An overlay district is an identified area that "floats" on top of the existing base zoning district but provides additional standards above and beyond the base zoning. In effect, with the overlay district, there are two zones which govern development, the standards in the base district and the standards within the overlay district.

For this particular area, it is best for both the city and county to create a joint overlay district. Both the city and county already have existing zoning districts in place within their jurisdictions which manage the desired future land use. Trying to rezone these to meet the economic intent of the plan would not protect certain areas where development should not occur, as indicated by the future land use plan. In most cases, the current zoning districts are compatible with the future land use plan contained herein. For a few areas, there are some conflicts and noted in the section below. For those areas, rezonings are recommended.

The joint overlay district should be created through a process that was similar to how this study was developed. A committee should be created that contains representatives from all jurisdictions. Joint decisions should be made on how uses, density, design and architectural provisions should be applied consistently. If an area is in the county and is eventually annexed into the city, then the overlay district ensures that the development of the parcel is consistent, no matter under which district is was first planned and developed.

POTENTIAL ZONING CONFLICTS

The future land use plan itself, does not represent a change to existing zoning. However, the future land use plan contained within this document, has recommendations that are not consistent with the established zoning districts within both Porter County and Valparaiso's Unified Development Ordinance Zoning Map. In several places, some changes in zoning will be required to implement recommendations of this plan. Some of the future land use and zoning conflicts are a result of recommended changes in intensity of already zoned uses, for example, light industrial use to heavy industrial use, while other conflicts correspond to changes in permitted uses, for example, residential to business park. Changes in zoning to reflect the future land use plan may be initiated by the City of Valparaiso, Porter County, individual property owners, or developers before properties can advance to construction. All in all, if a parcel has been identified on the Development Map, see Figure 87, in Chapter Eleven as a shovel ready parcel, the zoning will need to be in place in order to achieve shovel ready certification.

Overall, the Porter County Zoning Map boundaries regarding this area should be updated to reflect property zoned by Valparaiso. There are some slight inconsistencies that exist between the two jurisdiction's zoning maps. As depicted in Figure 48, general areas that will need rezoning are along State Road 49, south of Division Road. The area is recommended to be industrial in use but is currently zoned for agriculture and residential use. Agriculture zoned parcels east of the airport, and north of Highway 30 are recommended to become either light industry or aviation focused. The recommended business park north of the airport, along State Road 2, will require changes in zoning from residential and agriculture districts.

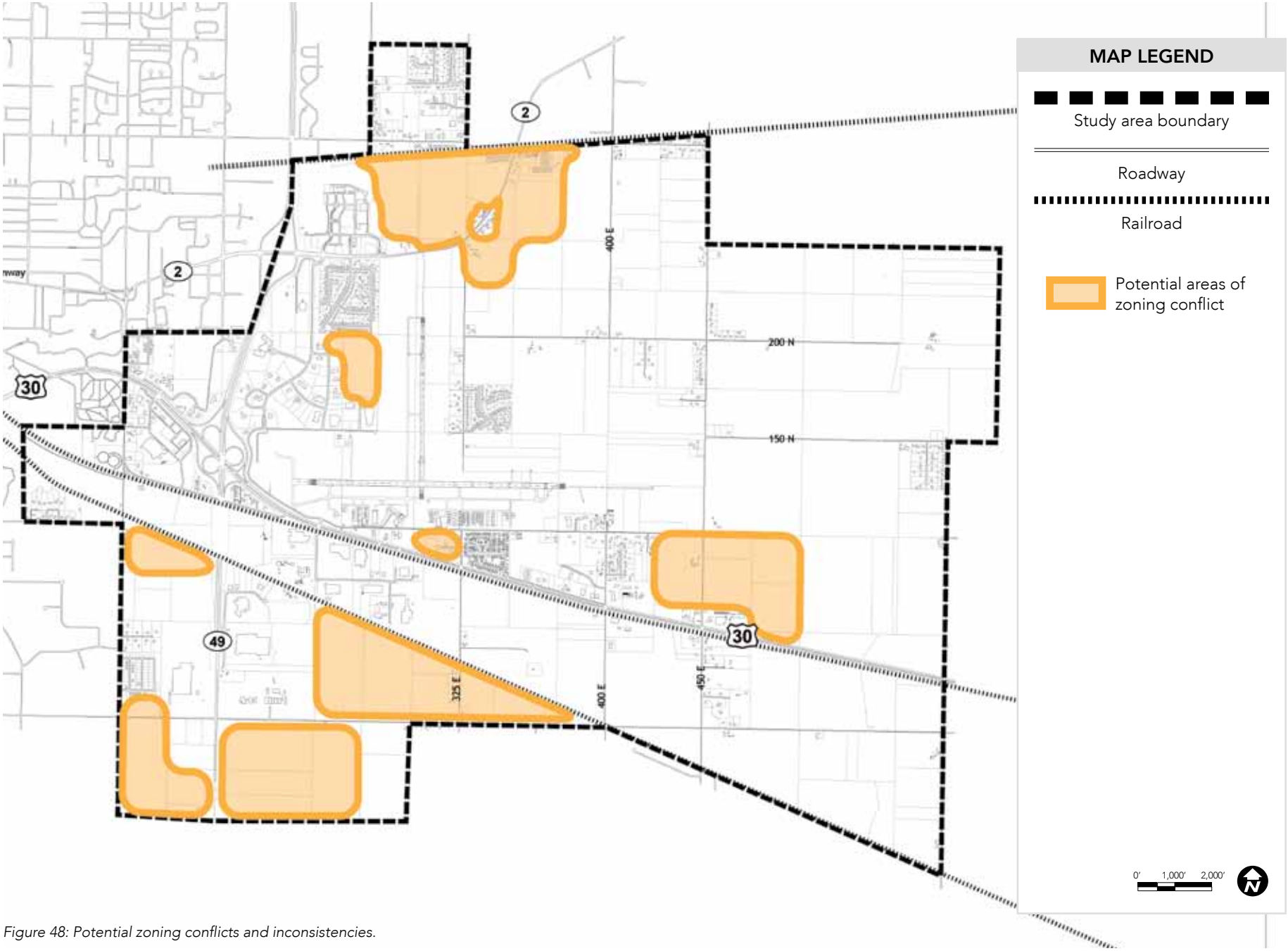

Figure 48: Potential zoning conflicts and inconsistencies.

IDENTIFICATION OF ZONING STANDARDS

As mentioned in Chapter Two, Porter County currently has an overlay district (APO – Airport Overlay District) that covers a portion of the airport. This overlay district focuses on height standards, lighting standards, air pollution, noise sensitivity, hazardous wildlife attractants and location of large gathering areas. Many of these standards are in place to protect airport operations; however they do not address design criteria for future development surrounding the airport.

Valparaiso does not currently have an overlay district or a base district for the Porter County Regional Airport. The areas within the City, that surround the airport, currently have traditional zoning districts to regulate and manage growth.

Therefore, based on the plan contained here, a new, joint overlay district should be created to implement the development plan in accordance with the recommendations contained within this document. The boundaries of the proposed overlay zones are shown in Figure 49. In order to make the new overlay effective, Porter County would need to amend Chapter 3 within their Unified Development Ordinance to repeal and replace the existing overlay with the new overlay. Valparaiso should amend Chapters 1, 2, 3 and 11 of their *Unified Development Code* to include this new overlay district within the framework of their existing ordinance.

The overlay district should be set up as a two layer overlay district that contains two zones to manage the different types of development and protect the airport, see Figure 49. In addition to these two layers, an all airport standards section should be created that applies to all parcels no matter what district the parcel is located within. The purpose of this district would be to protect Porter County Regional Airport operations and ensure that development around the airport is economically viable, sustainable and compatible with the defined character set forth in the *In Plane View: A Clear Vision for the Future* document.

Airport Zone 1. Zone one will cover the area generally identified as airport as well as the entire area south of US 30 east of Sturdy Road, just north of County Road 100 S and just west of 500 East. This zone will primarily focus on industrial development and therefore, the standards developed for this zone should contain more performance based standards and be consistent with the desired intensity and economic development goals of the land use categories.

In Airport Zone 1, the majority of the standards crafted for this zone should be traditional Euclidean zoning that focuses on permitted and excluded uses, size of buildings, density, and access. Some form based elements regarding drainage, landscaping and signage can be used. Look is not as important, unless the uses are located along US 30, which is the front door for the airport, as well as the City and the County. In this case, for properties fronting US 30, more restrictive standards for setbacks, signage, landscape and lighting should be created. Standards for the base developments should be reviewed for both Porter County and Valparaiso and determined if those standards should be changed within the overlay district to provide a more development character consistent with what is spelled out within this planning document.

Airport Zone 2. Zone 2 will be all the areas north, west and east of the airport. Zone 2 will generally cover the area of east of Sturdy Road, south of State Road 2, west of County Road 600 East and just north of Norfolk and Southern Railroad.

This district will primarily focus on commercial, office, mixed use and agricultural land uses. Therefore the standards developed for this zone should contain more design based standards and be consistent with the desired intensity development goals of the land use categories.

In Airport Zone 2, the majority of the standards should be form based zoning which focuses on the ability to create mixed use places and focus on regulating size, form, placement of buildings, parking. Standards for the base developments should be reviewed for both Porter County and Valparaiso and to determine if those standards should be changed within the overlay district to provide a more development character consistent with what is spelled out within the *In Plane View: A Clear Vision for the Future document*.

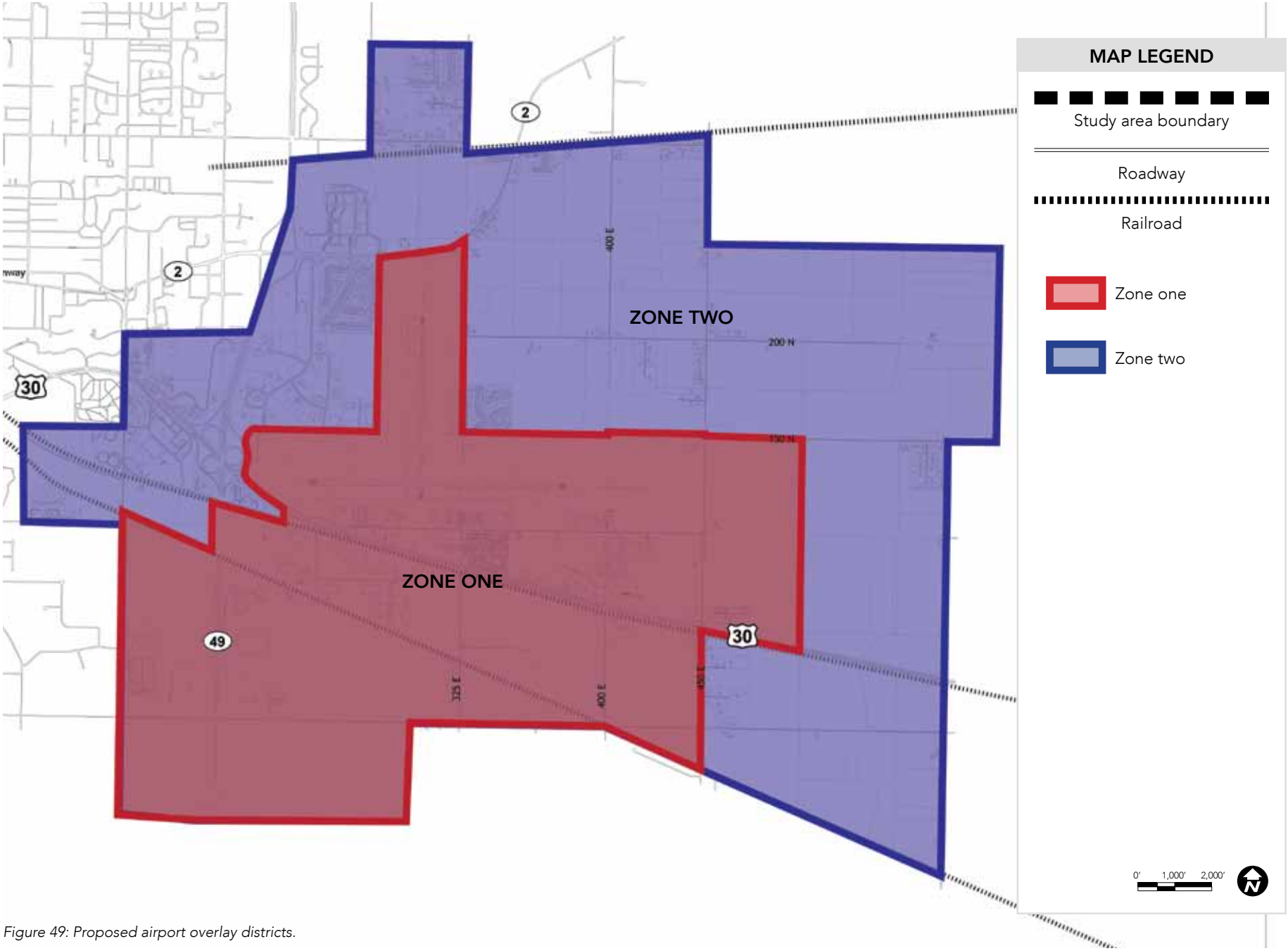

Figure 49: Proposed airport overlay districts.

GENERAL AIRPORT ZONE STANDARDS

An Airport Standards section within the overlay district should be created and these standards, will apply to all parcels within the airport zone. These airport zone standards, which are well written in the *Porter County Airport Overlay District*, should be maintained and updated based on the Federal Aviation Administrations (FAA) Advisory Circulars (AC) and the Porter County Regional Layout Plan, recently updated by the Airport. The following FAA Advisory Circulars should be consulted when writing the new overlay district:

- Advisory Circular 150/5300-13 Airport Design
- CFR Part 77
- FAA AC 150/5200-33B Hazardous Wildlife Attractants On or near Airports

The standards within the overlay district should be referenced in the overlay district; however the specific standards should be maintained by the Porter County Regional Airport as the official map, graphics and standards. For any development that occurs within the airport zone, the airport staff should be included in the technical advisory committee review for both Porter County and Valparaiso.

Some of the specific aviation standards and graphics to be maintained by the Porter County Regional Airport to be used in the review of development can be seen in Figure 50 and are as follows:

Runway Safety Areas. RSAs are aligned with the runway centerlines and include designated widths of ground on either side of the runways. The grass areas in RSAs are graded to allow aircraft to safety traverse them in the event the aircraft leaves the runway. Except as required by their function (runway lights, etc.), no object over 3" tall may be located within an RSA. Under the 2011 Updated Airport Layout Plan, RSAs will increase in length to match the runway extensions – 1,000' for Runway 18 and 500' for Runway 27.

Runway Object Free Areas. ROFAs are similar to RSAs but wider. Not all parts of the ROFAs need to be graded for aircraft excursions, but objects inside the ROFA cannot be taller than 3" above ground. Under the 2011 Updated Airport Layout Plan, ROFAs will increase in length to match the runway extensions – 1,000' for Runway 18 and 500' for Runway 27.

Runway Protection Zones. RPZs extend beyond the ends of each runway and are intended to enhance the protection of people and property on the ground. Airport ownership of property inside an RPZ is preferable but is not always possible. Land uses inside an RPZ are limited to those that do not result in public assembly (churches, shopping centers, etc.) Some uses are permitted (golf courses, agriculture, or similar) as long as they do not attract wildlife and do not interfere with navigational aids. The type of approach to a runway determines the required RPZ size. Under the 2011 Updated Airport Layout Plan, Runway 27 RPZ will move 500' to the east to match the runway extension length. The minimum visibility for Runway 9 will change from 1 mile to ¾ mile, requiring a larger RPZ. The Runway 18 RPZ will move 1,000' to the north and will get larger to accommodate a precision vs. non-precision approach. The RPZ land use restrictions mentioned earlier will apply to the larger land areas.

Primary Surfaces. Similar to Runway Safety Areas, these surfaces surround each runway and a defined amount of ground around them. The elevation of a primary surface is the same as the elevation of the runway it surrounds. Under the 2011 Updated Airport Layout Plan, Runway 27 primary surface will increase in length by 500' to match the runway extension length. The Runway 18 primary surface will increase in length by 1,000' to match the runway extension length, and it will increase in width from 500' to 1,000' to accommodate a precision vs. non-precision approach.

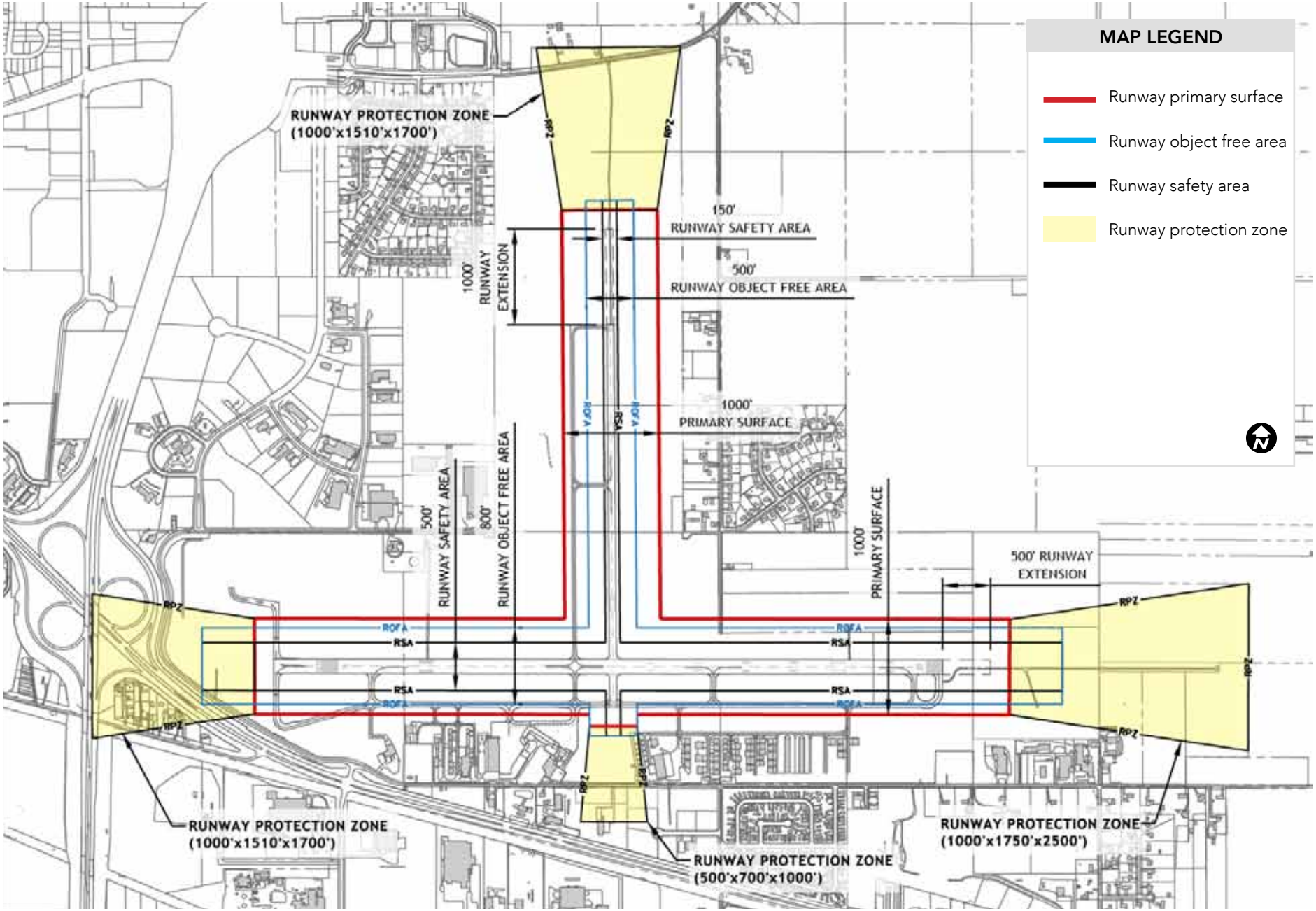

Figure 50: Proposed Porter County Regional Airport ground surfaces.

Approach Surfaces. These trapezoidal areas begin at the ends of the primary surfaces, and extend upward and outward for thousands of feet. At the closest point to a runway the elevation of the approach surface matches the elevation of the primary surface. From this point the elevation of the approach surface increases at a defined slope, depending on whether the approach is precision, non-precision, or visual. Under the 2011 Updated Airport Layout Plan, Runway 27 precision approach surface will move 500' to the east to match the runway extension length. The Runway 18 approach surface will move 1,000' to the north to match the runway extension length. In addition, the approach surface will increase in length from 5,000' to 10,000' and its slope will decrease from 20:1 to 34:1 as the runway changes from a non-precision to a precision approach. The Runway 36 approach surface will increase in width from 1,500' to 2,000' as the runway changes from a visual to a non-precision approach.

Transitional Surfaces. These surfaces slope upwards at 7:1 from the edges of primary surfaces or approach surfaces. Adjacent to a primary surface, the point of the transitional surface closest to the runway matches the elevation of the primary surface. From this point the transitional surface slopes upward until it reaches an elevation 150' above an airport's official elevation, where it intersects the horizontal surface. Adjacent to an approach surface and inside the conical surface, the transitional surface matches the elevation of the approach surface, and then slopes upward to an elevation 150' above an airport's official elevation, where it intersects the horizontal surface. Adjacent to an approach surface and outside the conical surface, the transitional surface matches the elevation of the approach surface, and then slopes up at a 7:1 slope for a horizontal distance of 5,000'. Under the 2011 Updated Airport Layout Plan, Runway 27 transitional surfaces adjacent to the primary surface will increase in length by 500' to match the runway extension length. The Runway 27 transitional surfaces adjacent to the precision approach surfaces will move 500' to the east to match the runway extension length. The Runway 18 transitional surfaces adjacent to the primary surface will increase in length by 1,000' to match the runway extension length. These surfaces will also move to locations 250' farther away from the runway to accommodate the new primary surface width of 1,000'. The Runway 18 transitional surfaces adjacent to the approach surface will increase in length from 5,000' to 10,000' as the runway changes from a non-precision to a precision approach. The Runway 36 approach surface transitional surfaces will move laterally to accommodate the wider approach surface width of a non-precision approach.

Horizontal Surfaces. These areas have the dimensions shown in Figure 51 and are located at an elevation 150' above an airport's official elevation. VPZ's airport elevation is 770.4, and the horizontal surface elevation is 920.4. Under the 2011 Updated Airport Layout Plan, the east-west size of the horizontal surface will increase by 500' to accommodate the extension of Runway 27. The shape of the horizontal surface will change from oval to egg-shaped to accommodate the longer approach surface for Runway 18.

Conical Surfaces. These surfaces are coincident with the outside edges of the horizontal surfaces and extend outward and upward for 4,000' at a slope of 20:1. At the outer edges their elevations are 350' above an airport's official elevation.

Proposed approach, transitional, horizontal and conical surfaces can be seen in Figure 51.

Hazards Wildlife Attractants. The FAA AC contains minimum separation criteria between airports and land use practices that attract hazardous wildlife. For VPZ the FAA recommends a separation distance of 10,000' between any hazardous wildlife attractant and the Airport Operations Area (AOA). For practical purposes the AOA is understood to be the fence line surrounding airport property. In addition, if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace, the FAA recommends a distance of 5 miles between the AOA and the attractant. Among others, hazardous wildlife attractants include waste disposal operations, drinking water treatment facilities, wastewater treatment facilities, detention ponds, wetlands, golf courses, and some agricultural activities.

Figure 51: Proposed Porter County Regional Airport transitional surface for the north end of the runway.

Transportation Systems

CHAPTER SIX

"The existing transportation system should be used to help determine appropriate locations for future development based on existing capacity and expansion potential. Future investments in transportation infrastructure should support planned development patterns and offer a variety of transportation choices. Similar to utilities, investments in transportation should be used to direct growth and construction of new roadways should not come at the expense of maintaining existing facilities."

- Transportation System Guiding Principle, Chapter Four

An area's transportation network plays a central role in supporting and maintaining the area's quality of life. If goods, services or people cannot move effectively and efficiently through an area the economic, environmental and social well-being of the area are impacted making it less desirable to new or expanded development. As a part of this planning study the transportation network has been viewed as a key component to the success of the balanced development principles described in Chapter Four. By looking at the transportation infrastructure on a system wide scale the future improvements can be tied to land use and multimodal planning more effectively.

The transportation network and the proposed land use plan presented in this study are highly interconnected. The proposed land use plan was developed around existing corridors, intersections and the opportunities each offered. By using the existing transportation system to inform the proposed land use planning process, future infrastructure investments can be done in support or encouragement of new development or expansion projects. In addition to integrating the land use planning process into this transportation system it is also important to consider and plan for all existing and future forms of transportation and all user types.

The recommendations and future projections discussed in this chapter represent an integrated vision that will allow for an increase in development while maintaining safety, connectivity and mobility throughout the study area. The future recommendations described allow the City of Valparaiso and Porter County the opportunity to plan for proposed development in land use, transportation and multimodal infrastructure.

TRANSPORTATION SYSTEM ANALYSIS

In order to determine baseline existing traffic operations within the vicinity of the Porter County Airport, a detailed traffic analysis was performed. To determine the operational efficiency, a level of service analysis was conducted for both the AM (7-8am) and PM (3-4pm) peak hour at nine significant intersections (as shown in the Study Area Map, Figure 52) within a study area bounded by State Road 2 on the north, US 30 on the south, County Road 450 E on the east, and State Road 49 on the west. The peak hours were determined by 48-hour machine counts.

Level of service (LOS) is defined by the amount of delay incurred by a vehicle at a given intersection. LOS is defined via assignment of a letter grade quantifying the amount of delay incurred (seconds/vehicle). The LOS grades are defined as follows per the Highway Capacity Manual.

LOS	DELAY (SECONDS/VEHICLE)	
	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

EXISTING TRAFFIC ANALYSIS

The intersections within the study area were analyzed in their current geometric configurations with existing 2011 traffic volumes. Turn movement counts at the three signalized intersections (taken in 2005 and 2009) were provided by the Indiana Department of Transportation (INDOT). The six remaining intersection turn counts were conducted in March 2011. To project the pre-2011 counts up to 2011 volumes, the volumes of each pre-2011 intersection count were compared to those of the adjacent intersection count that was counted in 2011. A growth factor was established based on the volume comparison, and that factor was applied to all turn movements at the intersection. This procedure was completed for each individual intersection which was not counted in 2011 in order to obtain a balanced 2011 traffic volume network for the entire study area.

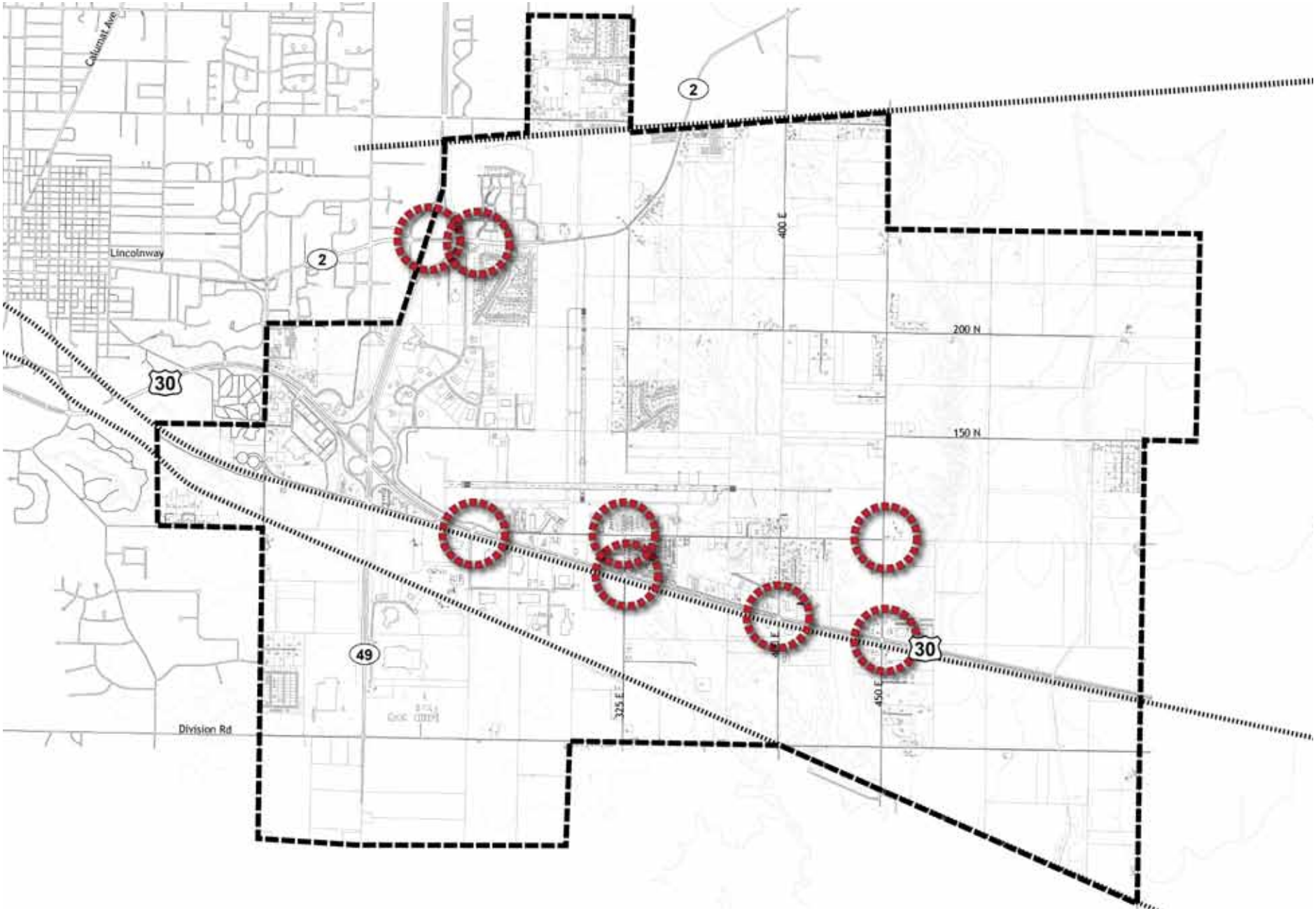

Figure 52: Existing transportation system and intersections studied as a part of this planning document.

The existing geometry at each of the study intersections is as follows:

State Road 2 & State Road 49 Northbound Ramps (signalized)

- State Road 2 eastbound – 2 through lanes, 1 left turn lane
- State Road 2 westbound – 2 through lanes, 1 channelized right turn lane (yield)
- State Road 49 northbound offramp – 1 left turn lane with channelized right turn (yield)

State Road 2 & State Road 49 Southbound Ramps (unsignalized at the time of this study, this intersection has recently been signalized)

- State Road 2 eastbound – 2 through lanes, 1 channelized right turn lane (yield)
- State Road 2 westbound – 2 through lanes, 1 left turn lane
- State Road 49 southbound offramp – 1 left turn lane with channelized right turn (free flow)

State Road 2 & Porters Vale Boulevard (signalized)

- State Road 2 eastbound – 2 left turn lanes, 2 through lanes, 1 right turn lane
- State Road 2 westbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- Mariposa Drive northbound – 1 left turn lane, 1 shared through/right lane
- Porters Vale Blvd southbound – 1 left turn lane, 1 through lane, 1 right lane

US 30 & Industrial Drive (signalized)

- US 30 eastbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- US 30 westbound – 1 left turn lane, 2 through lanes, 1 right turn lane
- Industrial Drive northbound – 1 left turn lane, 1 shared through/right lane
- Industrial Drive southbound – 1 left turn lane, 1 shared through/right lane

US 30 & Montdale Drive/County Road 325 E (unsignalized – 2-way stop)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- Montdale Drive northbound – 1 shared left/through/right lane
- Montdale Drive southbound – 1 shared left/through/right lane

US 30 & County Road 400 E (unsignalized – 2-way stop)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- County Road 400 E northbound – 1 shared left/through/right lane
- County Road 400 E southbound – 1 shared left/through/right lane

US 30 & County Road 450 E (unsignalized – 2-way stop)

- US 30 eastbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- US 30 westbound – 1 left turn lane, 1 through lane, 1 shared through/right lane
- County Road 450 E northbound – 1 shared left/through/right lane
- County Road 450 E southbound – 1 shared left/through/right lane

County Road 100 N & County Road 450 E (unsignalized – 2-way stop)

- County Road 100 N eastbound – 1 shared left/right turn lane
- County Road 450 E northbound – 1 shared left/through lane
- County Road 450 E southbound – 1 shared through/right turn lane

County Road 100 N & Montdale Drive/ County Road 325 E (unsignalized – 2-way stop)

- County Road 100 N eastbound – 1 shared through/right turn lane
- County Road 100 N westbound – 1 shared left/through lane
- Montdale Drive northbound – 1 shared left/right turn lane

The intersections were analyzed to determine operational efficiency (level of service) using Highway Capacity Software (HCS) based on the existing configuration and 2011 volumes at

each location. Typically, LOS for an intersection should be C or better in order for suburban/ rural intersections to operate acceptably, with all individual turn movements operating at a LOS D or better. The level of service (LOS) results are listed in Table M. All intersections operate at a LOS B or better, with all approaches achieving LOS D or better, which means all intersections within the study area are currently operating acceptably during the AM and PM peak hour.

Since all nine intersections operate acceptably in their existing configuration, no improvements are required in order to accommodate existing 2011 traffic volumes on the roadway network within the study area.

INTERSECTION	APPROACH	EXISTING 2011 LOS	
		AM	PM
State Road 2 & State Road 49 NB Ramps	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	B	C
State Road 2 & State Road 49 SB Ramps	EB	A	A
	WB LT	A	A
	SB	B	C
State Road 2 & Porter Vale Boulevard	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	C	C
	SB	C	D
US 30 & Industrial Drive	Intersection	B	B
	EB	B	B
	WB	B	B
	NB	B	C
	SB	B	B
US 30 & Montdale Drive (County Road 325 E)	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
US 30 & County Road 400E	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
US 30 & County Road 450 E	EB LT	A	A
	WB LT	A	A
	NB	B	C
	SB	B	B
County Road 100 N & County Road 450 E	EB	A	A
	NB LT	A	A
County Road 100 N & Montdale Drive	WB LT	A	A
	NB	A	A

Table M: Existing intersection Analysis

METHODOLOGY

While the existing transportation system was analyzed using existing traffic counts and

intersection information, the projected needs of the area was harder to quantify. In order to generate a baseline that could be used to generate projected transportation needs, the study area was calculated in several different ways. First, using existing aerial mapping and GIS information gathered at the beginning of the planning process the acreage of all existing and proposed development areas was calculated. Each area calculated was assigned a corresponding land use based on the proposed land use map discussed in Chapter Five.

Traffic counts and trips per day are impacted by the type of development and the size, and in order to make accurate predictions regarding the transportation network assumptions and projections needed to be made regarding the future development square footages. Using the existing zoning requirements for both the City and County, along with analysis of several existing building developments a set of percentages that reflect the desired standards for each land use type were created. Table N identifies the assumed percentages for building square footage, site hardscape and accepted open space requirements. As specific zoning standards and design guidelines are developed for this area, and as development increases these required percentages may in fact need to be adjusted. By using the calculated site acreage and the assumed percentage standards a set of development square footages is generated that can be used to determine future building areas, site hardscapes and open space.

While the calculations described above, and included in Appendix 'A', can begin to describe the impacts to the existing transportation infrastructure it is based on a land use plan that is meant to cover the next 50-100 years. Projections of any type that look that far into the future can become unreasonable and hard to quantify. In order to predict transportation needs more accurately the calculations were redone using the methodology presented in Chapter Three. During the market analysis portion of the study specific data was generated that identified the land uses and acreage that the area could expect to see within the next thirty years. These calculations were done using projected employment growth, assumed square feet per worker and assumed floor to area ratios (FAR).

In order to adjust the development predictions to a realistic thirty year time frame it was important to determine how the projected employment growth shown in Table O was being distributed throughout the study area. As a part of this analysis it was assumed that the employment numbers shown would be dispersed proportionally throughout the study area, based on specific development type, site acreage and lot size. These representative development square footages, listed in Appendix 'A', were then used to complete the analysis exercise for the study area's transportation network.

PROPOSED TRAFFIC ANALYSIS

DEVELOPMENT STANDARDS			
Business Park		Medium Industrial	
Buildings	25%	Buildings	35%
Transportation	35%	Transportation	40%
Open Space	40%	Open Space	35%
Light Industrial		Heavy Industrial	
Buildings	30%	Buildings	35%
Transportation	35%	Transportation	40%
Open Space	35%	Open Space	35%

Table N: Development percentages used in transportation projections.

FUTURE JOB GROWTH AND LAND NEEDS FOR OFFICE, INDUSTRIAL AND RETAIL LAND USES IN PORTER COUNTY: 2009-2040		
LAND USE	2009 – 2040 PROJECTED EMPLOYMENT GROWTH # JOBS	2009 – 2040 LAND NEEDED[1] # ACRES
Office	4,094	94
Manufacturing	2,732	157
Warehouse	1,303	128
Retail	3,304	190
TOTAL	11,433	569

1 Land requirements based on the following employment densities and floor-area-ratios ("F.A.R."):
Office – 250 square feet per worker, and 0.25 F.A.R.
Manufacturing – 750 square feet per worker, and 0.30 F.A.R.
Warehouse – 1,500 square feet per worker, and 0.35 F.A.R.
Retail – 500 square feet per worker, and 0.20 F.A.R.

Sources: Northwestern Indiana Regional Planning Commission; Gruen Gruen + Associates.

Table O: Future job growth and land needs for office, industrial and retail land uses in Porter County

In order to determine the effect the proposed developments in the vicinity of the Porter County Airport will have on the roadway network in the future, a proposed traffic analysis was performed. To achieve the future background traffic, the existing 2011 volumes were projected up to 2041 volumes using 1% annual straight line growth and the intersections were balanced. Then, the ITE Trip Generation Manual was used to generate trips to and from the development zones based on the 30% build out numbers for the area. The trip generation results can be seen in Table P, which corresponds to the proposed development map shown on in Figure 53.

Development trips were distributed along the external roadway network based on the following zone directional distributions:

- Zone 1 – 80% west, 20% east
- Zone 3 – 35% west, 35% north, 10% east, 10% south
- Zone 4 – 75% west, 25% east
- Zone 6 – 75% west, 25% east
- Zone 7 – 75% west, 25% east

The development trips were added to the background traffic on each road to achieve the design year volumes at each intersection. All intersections were then analyzed using Highway Capacity Software to determine where improvements will be necessary to accommodate the future traffic volumes.

First, the intersections were analyzed in their

	AM TRIPS	AM IN	AM OUT	PM TRIPS	PM IN	PM OUT
Development Zone 1	**1345**	**1130**	**215**	**2381**	**778**	**1603**
Development Zone 2	**0**	**0**	**0**	**0**	**0**	**0**
Development Zone 3	**934**	**822**	**112**	**1073**	**129**	**944**
Development Zone 4	254	208	46	277	58	219
Development Zone 5	**0**	**0**	**0**	**0**	**0**	**0**
Development Zone 6	**578**	**506**	**72**	**637**	**86**	**551**
Development Zone 7	**559**	**458.38**	**100.62**	**734**	**155**	**579**
Development Zone 8	**0**	**0**	**0**	**0**	**0**	**0**
	AM TRIPS	AM IN	AM OUT	PM TRIPS	PM IN	PM OUT
	3670	**3124**	**546**	**5102**	**1206**	**3896**

Table P: Summarized trip generation analysis. For complete trip generation calculations see Appendix 'C'.

Figure 53: Development zones

existing configuration, with the results shown in Table M. Three intersections are expected to operate acceptably with future traffic volumes: US30 & Industrial Drive, County Road 100 N & County Road 450 E, and County Road 100 N & Montdale Drive. For intersections where the existing configuration analysis resulted in unacceptable levels of service, the configuration was altered until acceptable levels of service were attained. At the following intersections, a traffic signal was required to achieve acceptable levels of service:

- State Road 2 & State Road 49 Northbound ramps
- US 30 & Montdale
- US 30 & County Road 400 E
- US 30 & County Road 450 E

Additional lanes are necessary at multiple intersections in order to satisfy proposed horizon-year operational requirements. The required new lane configurations are as follows:

State Road 2 & Porter's Vale

- EB – 2 left turn lanes, 2 thru lanes, 1 right turn lane
- WB – 1 left turn lane, 3 thru lanes, 1 right turn lane
- NB – 2 left turn lanes, 1 thru lane, 1 right turn lane
- SB – 1 left turn lane, 1 thru lane, 1 right turn lane

State Road 2 & State Road 49 NB Ramps

- EB – 1 left turn lane, 3 thru lanes
- WB – 3 thru lanes, 1 right turn lane
- NB – 1 left turn lane, 2 right turn lanes

State Road 2 & State Road 49 SB Ramps

- EB – 3 thru lanes, 1 right turn lane
- WB – 1 left turn lane, 3 thru lanes
- SB – 1 left turn lane, 1 right turn lane

Due to the configurations necessary at the intersections along State Road 2, it is recommended that an additional thru lane be provided both directions on State Road 2 in the general vicinity of the development. The results of the proposed intersection analysis are shown in Table Q. Both the existing configuration and the proposed configuration (if different than existing) are included in the table.

In their proposed configurations, all intersections operate at a LOS D or better with no individual movements receiving unacceptable levels of service. The delay and queue length for all approaches at each intersection are also listed in the table. The queue length shown is the 95th-percentile queue length expected for each intersection movement. A typical car length is considered to be 20ft, so the number of vehicles expected to queue is equal to (queue length/20).

Additional traffic and signal warrant analysis will be required as build out of the development is realized to determine when these improvements will need to be incorporated.

INTERSECTION	APPROACH	2041 LOS				2041 DELAY (SEC)				2041 QUEUE LENGTH (FT)			
		Existing Intersection		Proposed Intersection		Existing Intersection		Proposed Intersection		Existing Intersection		Proposed Intersection	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
State Road 2 & State Road 49 NB Ramps	Intersection	D	F	C	C	47.4	108.3	20.0+	23.8	-	-	-	-
	EB	C	E	B	B	34.2	75.3	15.6	17.7	546	804	218	344
	WB	D	D	C	C	43.4	37.8	27	22.7	438	1262	204	574
	NB	E	F	B	D	68.8	409.4	19.5	39.5	1242	1718	272	226
State Road 2 & State Road 49 SB Ramps	Intersection	-	-	B	C	-	-	15.4	25.4	-	-	-	-
	EB	-	-	B	C	-	-	15.1	33.2	-	-	200	460
	WB	-	-	A	B	-	-	6.8	19.4	-	-	106	388
	WB LT	B	D	-	-	10.7	32.7	-	-	16.6	160.4	-	-
	SB	F	F	C	C	431.4	7299	30	28.9	499.4	329	262	288
State Route 2 & Porter Vale Boulevard	Intersection	B	E	B	C	11.7	63.3	13.2	29.9	-	-	-	-
	EB	A	D	B	C	9.5	37.6	13.2	31.3	434	608	438	486
	WB	B	E	B	C	11.6	66.5	11.2	26.5	200	1070	130	434
	NB	D	F	C	C	49.4	106.6	27.9	32.3	96	1050	30	290
	SB	E	D	D	D	56.1	48.4	35.3	35.0+	20	256	14	180
US 30 & Industrial Drive	Intersection	C	D	-	-	32.4	41.6	-	-	-	-	-	-
	EB	C	C	-	-	29.1	21.5	-	-	386	608	-	-
	WB	C	D	-	-	34.8	50.2	-	-	674	1414	-	-
	NB	D	E	-	-	35.7	69.3	-	-	206	496	-	-
	SB	C	C	-	-	32	34.4	-	-	64	122	-	-

Table Q: Proposed intersection analysis. (Table is continued on the next page.)

INTERSECTION	APPROACH	2041 LOS				2041 DELAY (SEC)				2041 QUEUE LENGTH (FT)			
		Existing Intersection		Proposed Intersection		Existing Intersection		Proposed Intersection		Existing Intersection		Proposed Intersection	
US 30 & Montdale Drive (County Road 325 E)	Intersection	-	-	B	B	-	-	11.3	17	-	-	-	-
	EB	-	-	B	B	-	-	10.7	13.9	-	-	264	460
	EB LT	B	B	-	-	11.4	14.6	-	-	10.4	9.8	-	-
	WB	-	-	A	B	-	-	8.9	15.4	-	-	328	656
	WB LT	A	B	-	-	9.5	11.4	-	-	2.2	1.6	-	-
	NB	D	F	D	D	33.2	135.9	51	49.4	20.8	132.6	60	154
	SB	C	D	D	D	16.1	32.2	45.5	36.7	8.6	57	56	146
US 30 & County Road 400 E	Intersection	-	-	B	B	-	-	16	14.9	-	-	-	-
	EB	-	-	B	B	-	-	16.1	11.2	-	-	338	420
	EB LT	B	B	-	-	12.4	11.4	-	-	22.4	3.2	-	-
	WB	-	-	B	B	-	-	12.7	12.3	-	-	374	594
	WB LT	A	B	-	-	9.6	11.3	-	-	4.4	2.4	-	-
	NB	F	F	D	D	84.3	760.3	46.9	53.5	63.8	549.4	74	118
	SB	C	F	D	D	19.4	82.8	41	46.4	7.4	183.4	54	136
US 30 & County Road 450 E	Intersection	-	-	B	C	-	-	17.5	28	-	-	-	-
	EB	-	-	B	C	-	-	17.8	27.6	-	-	206	682
	EB LT	B	A	-	-	12.5	9.1	-	-	22.2	2	-	-
	WB	-	-	B	B	-	-	14.7	17.8	-	-	414	286
	WB LT	A	B	-	-	8.4	11.4	-	-	3.2	2.4	-	-
	NB	E	F	D	D	44	258.7	38.3	54.5	32	318.8	68	310
	SB	C	C	D	C	19.3	18.3	37	27.1	8.4	32.8	44	188
County Road 100 N & County Road 450 E	EB	A	A	-	-	8.8	9.0	-	-	0.8	0.6	-	-
	NB LT	A	A	-	-	7.3	7.3	-	-	0.2	0	-	-
County Road 100 N & Montdale Drive	WB LT	A	A	-	-	7.3	7.3	-	-	0.8	0.4	-	-
	NB	A	A	-	-	8.9	8.8	-	-	4.2	0.4	-	-

Just east of the intersection of US 30 and Industrial Drive is a traffic signal that regulates the turning movements into the exiting Pilot Travel Center. According to the existing transportation analysis this signal is working at an acceptable level and does not need any additional upgrades. However, during several early steering committee meetings, the group identified that one of the main features, the existing Porter County Regional Airport, lacked a strong presence in the area and that perhaps some type of gateway could be created along US 30 to better showcase the facility and its connections to the adjacent community.

It is recommended that the existing traffic signal at the Pilot Travel Center be relocated to the west so that a new entrance can be created along US 30 that allows for direct access to the Porter County Regional Airport terminal. This new access point along US 30 would be signalized and constructed to meet all current regulations. Additionally, the Pilot Travel Center parking lot would need to be reconfigured so that traffic could not enter the facility directly from US 30, but instead from either Murvihill Road or the newly created entrance mentioned above. It is also recommended that a small gateway feature and planting treatment be applied at the intersection to take full advantage of the new thoroughfare frontage. Within this area structure height will be limited, so by pairing a small gateway structure with a large application of seasonal plantings, the airport will be easily identified as an amenity to the area.

Existing and proposed signal locations are shown in Figure 54. During the review period of this study the following intersections were signalized: State Road 49 southbound ramps and State Road 2, and State Road 49 at the North Coast facility.

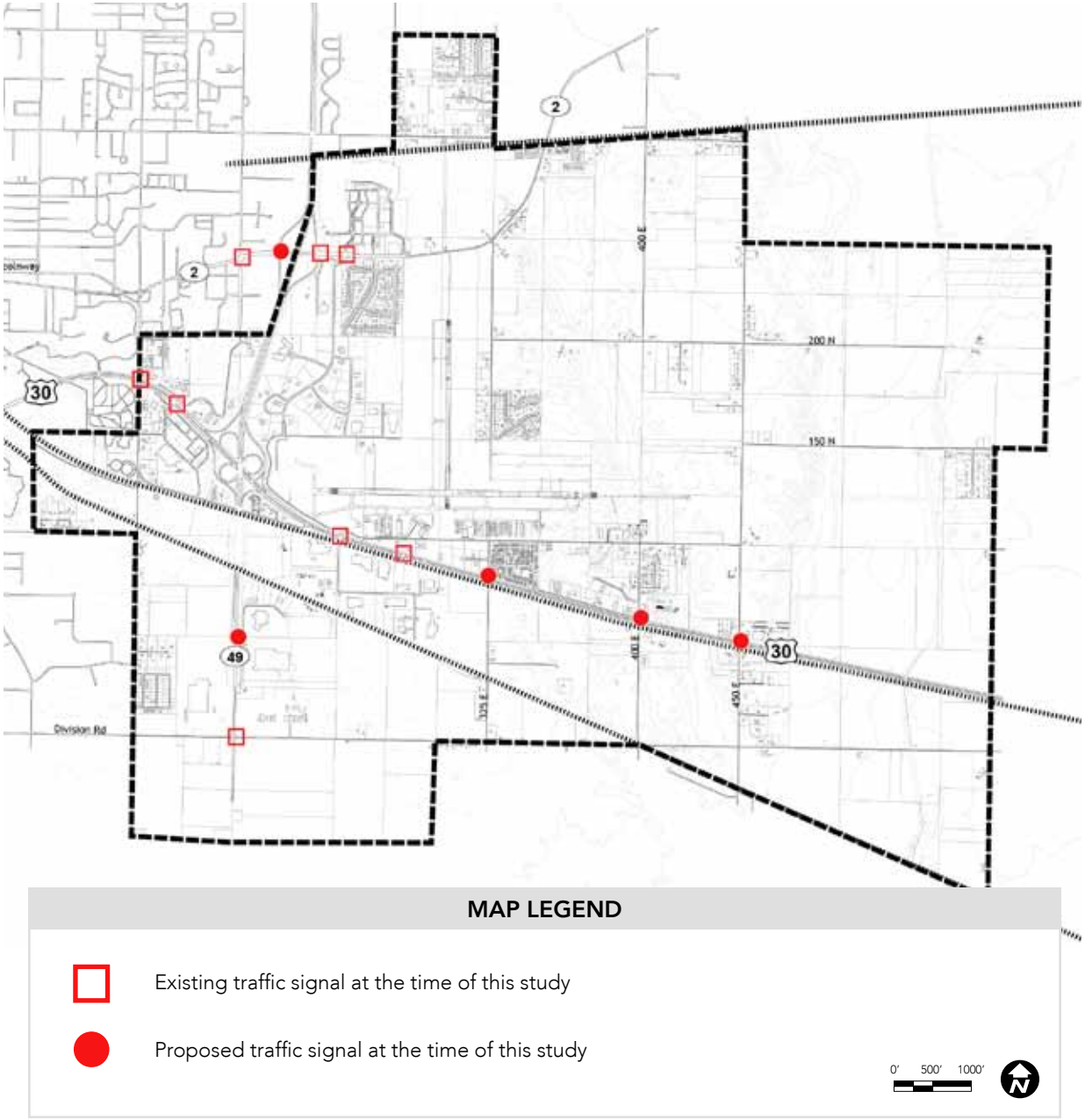

Figure 54: Existing and proposed traffic signals within the study area.

In order to achieve acceptable traffic operations over the next 30 years on the roadway network in the vicinity of the Porter County Airport based on the new development expected to occur, the following improvements will be required:

Signals will need to be installed at the following intersections:

- State Road 2 & State Road 49 south bound ramps
- US 30 & Montdale
- US 30 & County Road 400 E
- US 30 & County Road 450 E

Additional lanes are needed at the following intersections:

- State Road 2 & Porter's Vale
- State Road 2 & State Road 49 northbound ramps
- State Road 2 & State Road 49 southbound ramps

Additional traffic and signal warrant analysis will be required as build out of the development is realized to determine when these improvements will need to be incorporated.

While the specific design of each intersection will need to be addressed at a later date after additional design studies have been done, it is recommended that general guidelines be followed when it comes to crosswalks and signal design.

Crosswalks should be added at locations where sidewalks exist on more than one intersection corner and that are conducive for pedestrians to cross the street safely. The different types of crosswalks should be investigated to determine the best alternative for each location.

Signal timings should be optimized to allow for the best traffic operations. Pedestrian crossing phases should be accounted for where crosswalks exist.

For a series of signalized intersections along a main thoroughfare, interconnection of signals should be investigated. This will ensure that through traffic on the main roadway will have limited delay and will reduce backups during peak hours.

UNCHANGED ROADWAYS

After the intersections were reviewed for necessary upgrades, the network of road corridors was analyzed to determine if additional development pressures would cause capacity issues in the future. The proposed changes and modifications needed are based on the information gathered during the Level of Service analysis, the intersection analysis and professional knowledge of transportation system planning and construction.

Within the study area there are several road corridors, including the majority of the INDOT controlled right of way, that do not need any additional capacity in order to provide safe and efficient routes for traffic. The roadways identified in red in Figure 55 all operate at acceptable levels currently and will continue to do so based on the future development projections. These roads should continue to be maintained and repaired as necessary and in accordance with local municipality regulations.

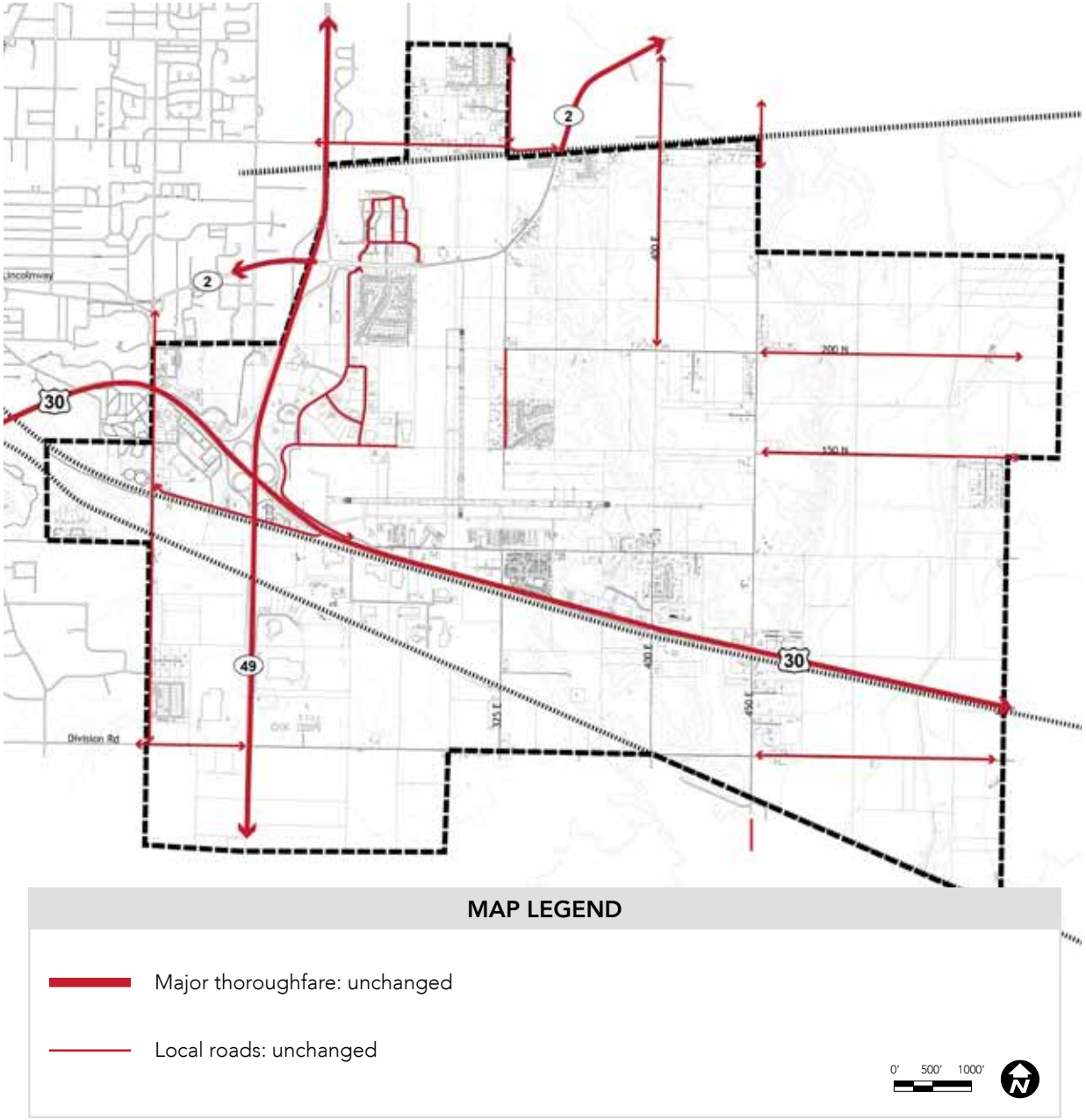

Figure 55 Existing transportation system with identified unchanged roadways.

UPGRADED ROADWAYS

Throughout the study area there are a number of roadways that need to be upgraded in order to continue serving the area with the appropriate levels of service. While many of these upgrades are not capacity expansion projects they are still vital improvements to the system that will be needed in the long term.

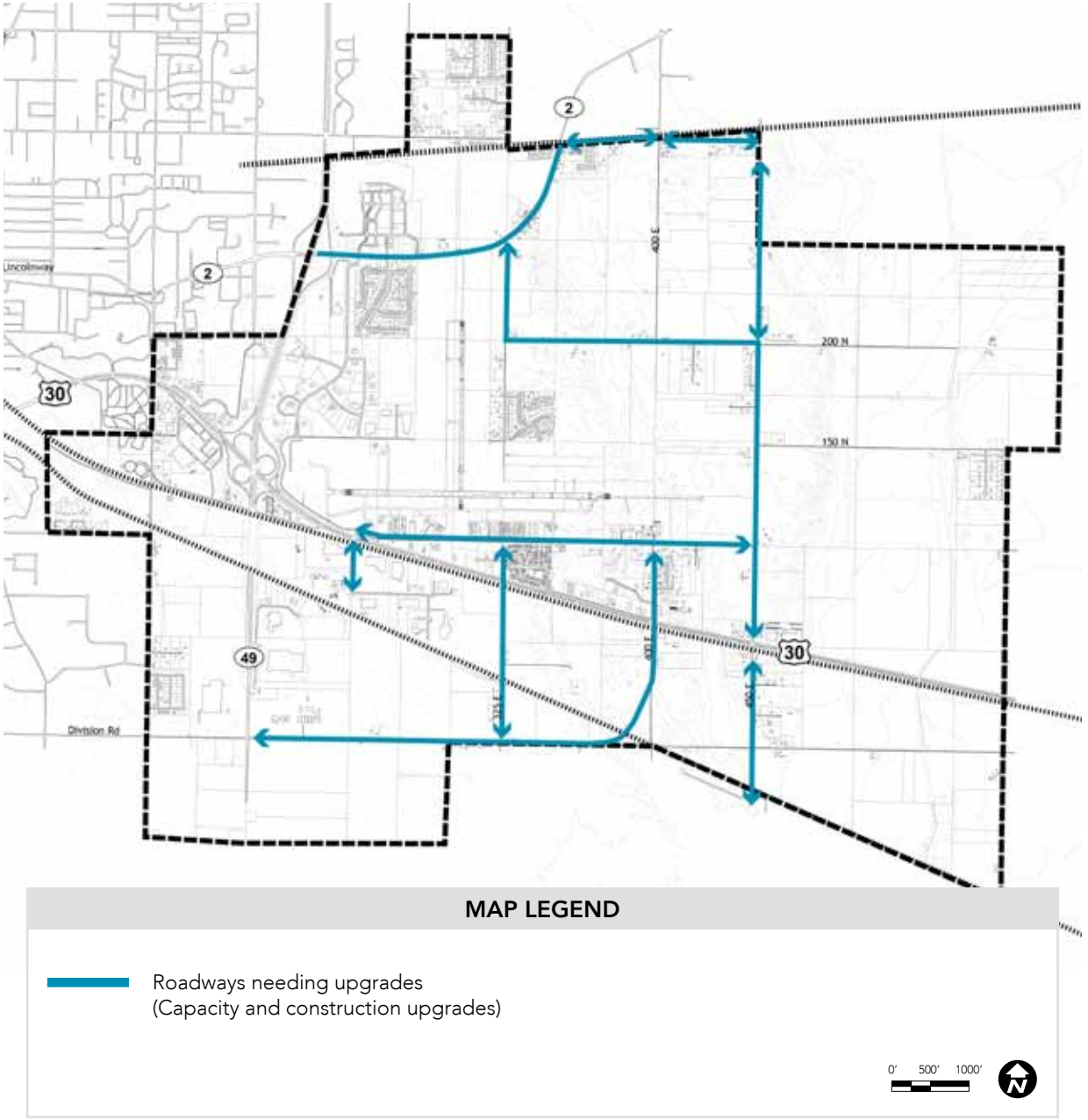

Figure 56: Existing transportation system with identified upgraded roadways.

LaPorte Ave/ State Road 2

After completing the level of service exercise it was discovered that the intersections along State Road 2 require an additional thru lane each direction, so it is recommended that the additional lanes be carried through the study area for optimal traffic operations. State Road 2 from State Road 49 to Eastport Centre Drive will need to consist of three travel lanes in each direction. Additional turning lanes for both left and right turning movements would also be needed at this intersection.

Beginning near the Eastport Centre Drive intersection the roadway cross section can taper down to a total of four travel lanes. And as State Road 2 extends farther to the Northeast the roadway can transition back to the existing width of two travel lanes.

This segment is recommended for construction of bicycle and pedestrian facilities as well. Off road bicycle and pedestrian facilities can be added to the road cross section in conjunction with the capacity expansion projects. Due to potential right of way restrictions and the existing utility corridor to the south of State Road 2 it is recommended that these bicycle and pedestrian facilities be located along the north side, adjacent to nearby development.

Figure 57: LaPorte Avenue/State Road 2- Cross section and plan view of proposed roadway character.

Figure 58: State Road 2 at Rigg Road intersection: Overall cross section can taper down to existing width.

Rigg Road
(State Road 2 and County Road 200 North)
The segment of Rigg Road between County Road 200 North and State Road 2 currently accommodates the existing and projected levels of traffic generated during the analysis. However, the roadway itself was not constructed to handle high levels of traffic. With the development of new businesses near the intersection of State Road 2 and Rigg Road, it is anticipated that this roadway will see additional traffic with the potential for larger trucks and delivery vehicles. Improvements are recommended to allow for better drainage solutions and a full depth pavement construction. No pedestrian or bicycle facilities are recommended for this road segment.

County Road 200 North
(Rigg Road to County Road 450 East)
The segment of County Road 200 North between Rigg Road and County Road 450 East currently accommodates the existing and projected levels of traffic generated during the analysis. However, the roadway itself was not constructed to handle high levels of traffic. With the development of new businesses near the intersection of State Road 2 and Rigg this roadway will see additional traffic with the potential for larger trucks and delivery vehicles. Improvements are recommended to allow for better drainage solutions and a full depth pavement construction. No pedestrian or bicycle facilities are recommended for this road segment.

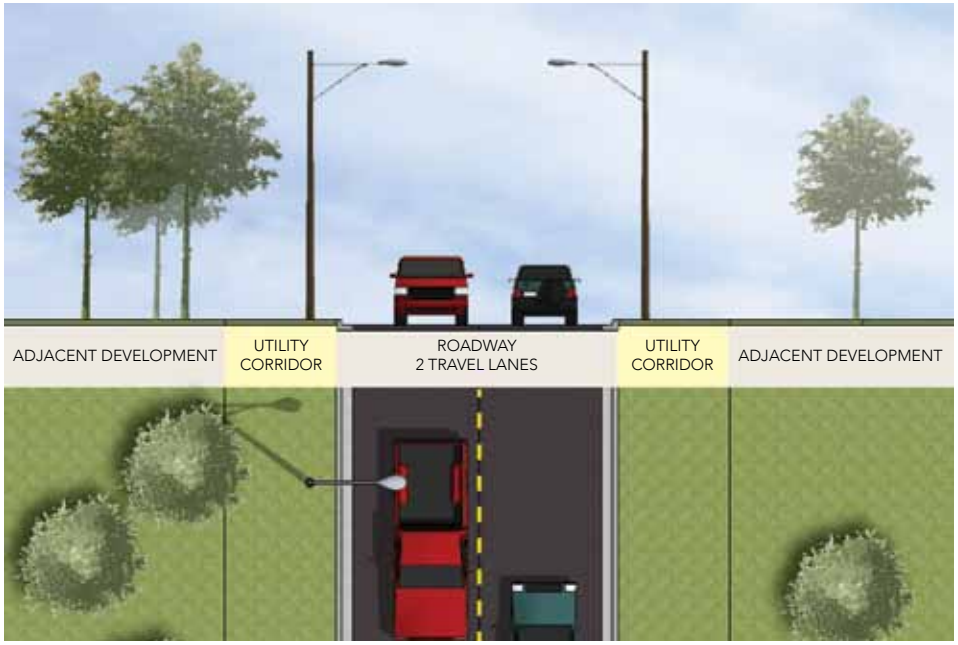

Figure 59: Rigg Road- Cross section and plan view of proposed roadway character.

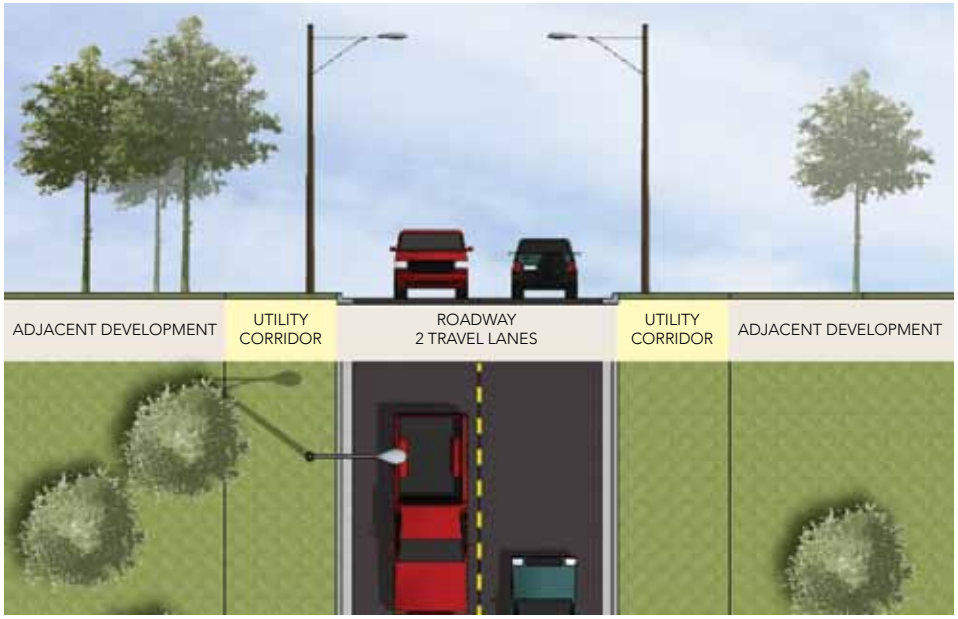

Figure 60: County Road 200 North- Cross section and plan view of proposed roadway character.

County Road 450 E
(County Road 200 N to County Road 300 N)
The segment of County Road 450 East between County Road 200 North and County Road 300 North currently accommodates the existing and projected levels of traffic generated during the analysis. This roadway's traffic counts should remain steady even as new development increases in the area because the route does not provide direct access to areas of new development. This segment is recommended for construction of bicycle and pedestrian facilities. Off road bicycle and pedestrian facilities can be added to the road cross section with minimal impacts to the road itself. In addition, these bicycle and pedestrian facilities will provide a connection throughout the study area.

Evans Avenue
(County Road 450 E to State Road 2)
The segment of Evans Avenue between County Road 450 East and State Road 2 currently accommodates the existing and projected levels of traffic generated during the analysis. This roadway's traffic counts should remain steady even as new development increases in the area. This segment is recommended for construction of bicycle and pedestrian facilities. Off road bicycle and pedestrian facilities can be added to the road cross section with minimal impacts to the road itself. In addition, these bicycle and pedestrian facilities will provide a connection throughout the study area.

Figure 61: County Road 450 E- Cross section and plan view of proposed roadway character.

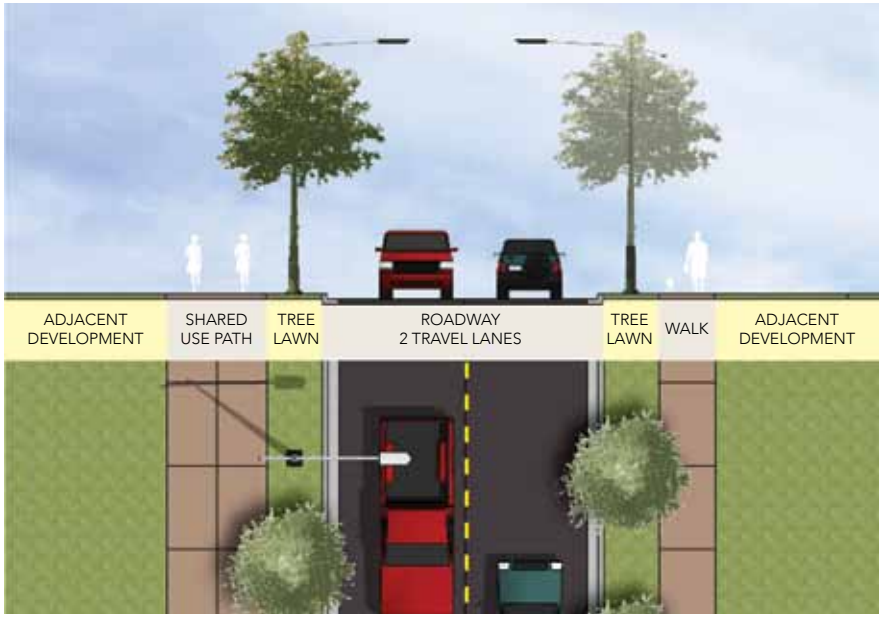

Figure 62: Evans Avenue- Cross section and plan view of proposed roadway character.

County Road 450 East
(Murvihill Road to County Road 200 North)

The segment of County Road 450 East between Murvihill Road and County Road 200 North currently accommodates the existing and projected levels of traffic generated during the analysis. However, the roadway itself was not constructed to handle high levels of traffic. With the development of new businesses near the intersection of State Road 2 and Rigg Road this roadway will see additional traffic with the potential for larger trucks and delivery vehicles. Improvements are recommended to allow for better drainage solutions and a full depth pavement construction. This segment is also recommended for construction of bicycle and pedestrian facilities. Off road bicycle and pedestrian facilities can be added to the road cross section with minimal impacts to the road itself and could be done alongside the road improvements mentioned previously.

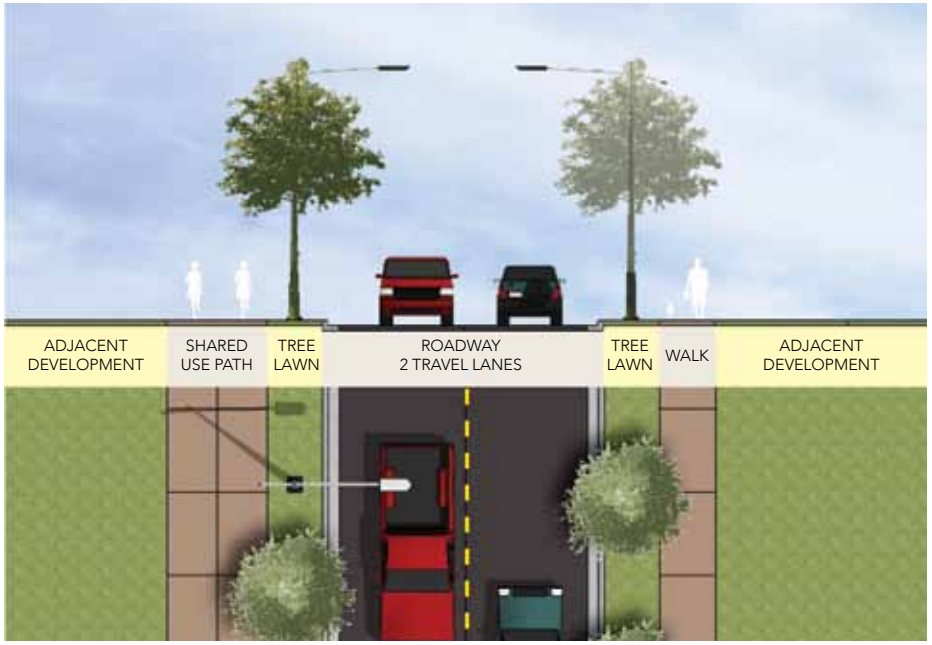

Figure 63: County Road 450 East- Cross section and plan view of proposed roadway character.

County Road 450 East
(Murvihill Road to Division Road)

The segment of County Road 450 East between Murvihill Road and Division Road currently accommodates the existing and projected levels of traffic generated during the analysis. This roadway's traffic counts should remain steady even as new development increases in the area because the route does not provide direct access to areas of new development. This segment is not recommended for bicycle and pedestrian facilities.

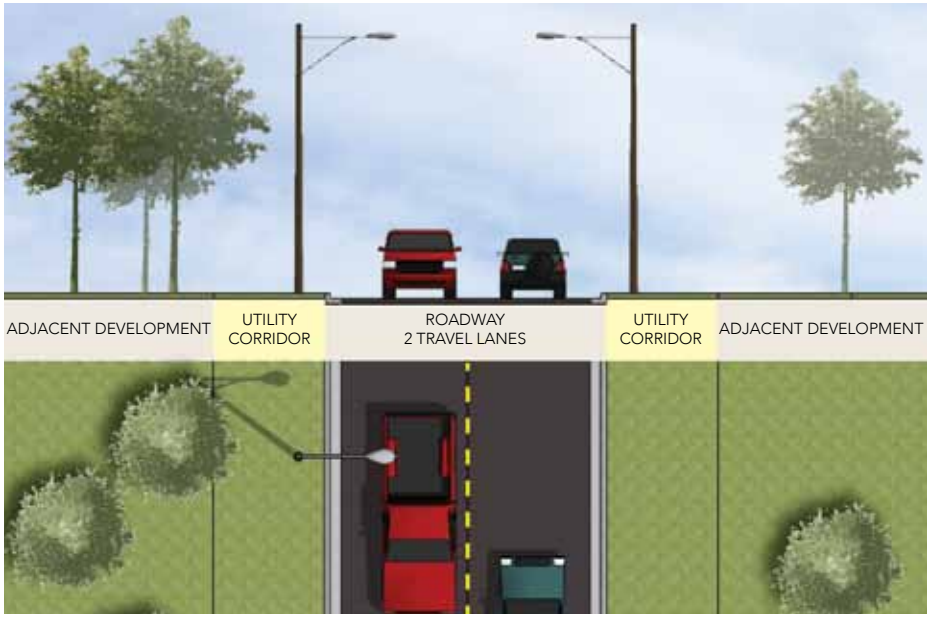

Figure 64: County Road 450 East- Cross section and plan view of proposed roadway character.

Murvihill Road

Murvihill Road currently is the main front door to the Porter County Regional Airport and offers access to additional businesses east of the terminal. With the addition of aviation focused, light industrial and business park development this roadway will need upgrades. While capacity is not an issue for this corridor, the existing roadway will need more appropriate drainage solutions and full depth pavement cross sections. This segment is recommended for construction of bicycle and pedestrian facilities. Off road bicycle and pedestrian facilities can be added to the road cross section with minimal impacts to the road itself. In addition, these bicycle and pedestrian facilities will provide a connection throughout the study area.

County Road 325 East
(Murvihill Road to Division Road)

County Road 325 East between Division Road and Murvihill Road is anticipated to become a north south route leading out of the industrial development south of US 30. While the findings of the transportation analysis did not conclude that capacity was an issue in this segment, the existing road construction and cross section is not designed to handle large amounts of vehicular and truck traffic. Improvements are recommended to allow for better drainage solutions and a full depth pavement construction. This segment is recommended for construction of bicycle and pedestrian facilities. Off road bicycle and pedestrian facilities can be added to the road cross section with minimal impacts to the road itself and could be done in conjunction with an improvement project.

Figure 65: Murvihill Road- Cross section and plan view of proposed roadway character.

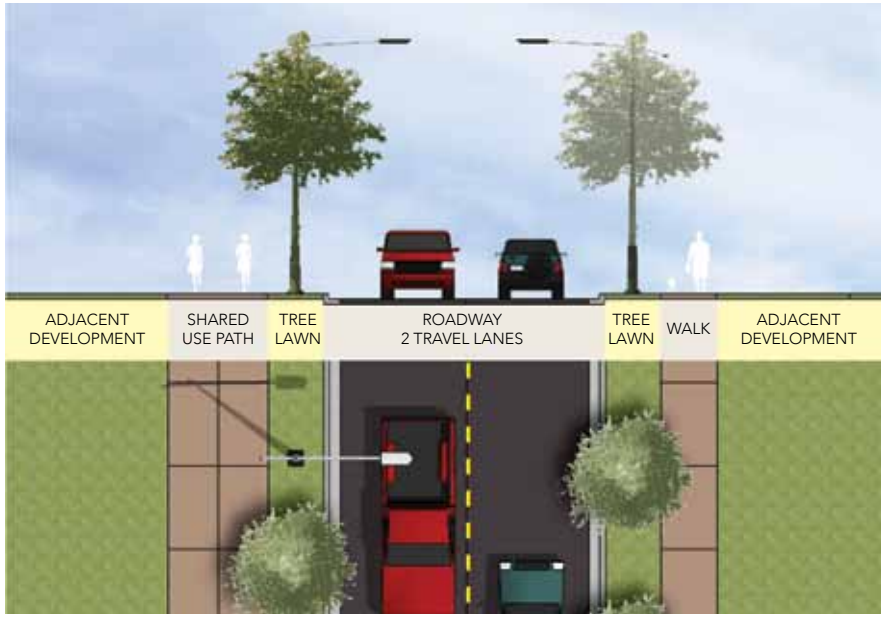

Figure 66: County Road 325 East- Cross section and plan view of proposed roadway character.

Division Road
(State Road 49 to County Road 325 East)

Division Road between State Road 49 and County Road 325 East is anticipated to become a major thoroughfare through the proposed industrial center of the study area. Many of the available parcels of land South of US 30 would have access from Division Road and would provide a direct connection to State Road 49 and to area businesses. Prior to this planning study, a capacity improvement project for Division Road was submitted to be included in the NIRPC *2040 Comprehensive Regional Plan*. This project was ranked among the top ten Congestion Management projects in the plan and was prioritized and included in the *Regional Transportation Plan*. The project included widening Division Road to four travel lanes and amending the roadway classification to a minor arterial. The traffic analysis exercise agreed with the necessary widening and found that four travel lanes was sufficient to serve the area.

When the roadway is constructed, proper drainage solutions are recommended to be included in the project to aid in area storm water management. Pedestrian and bicycle facilities are also recommended for this section of roadway and can be incorporated into the capacity expansion project. Shared use paths and pedestrian sidewalks will provide links to existing and proposed multi modal facilities while also allowing nearby residential communities a useable recreation area.

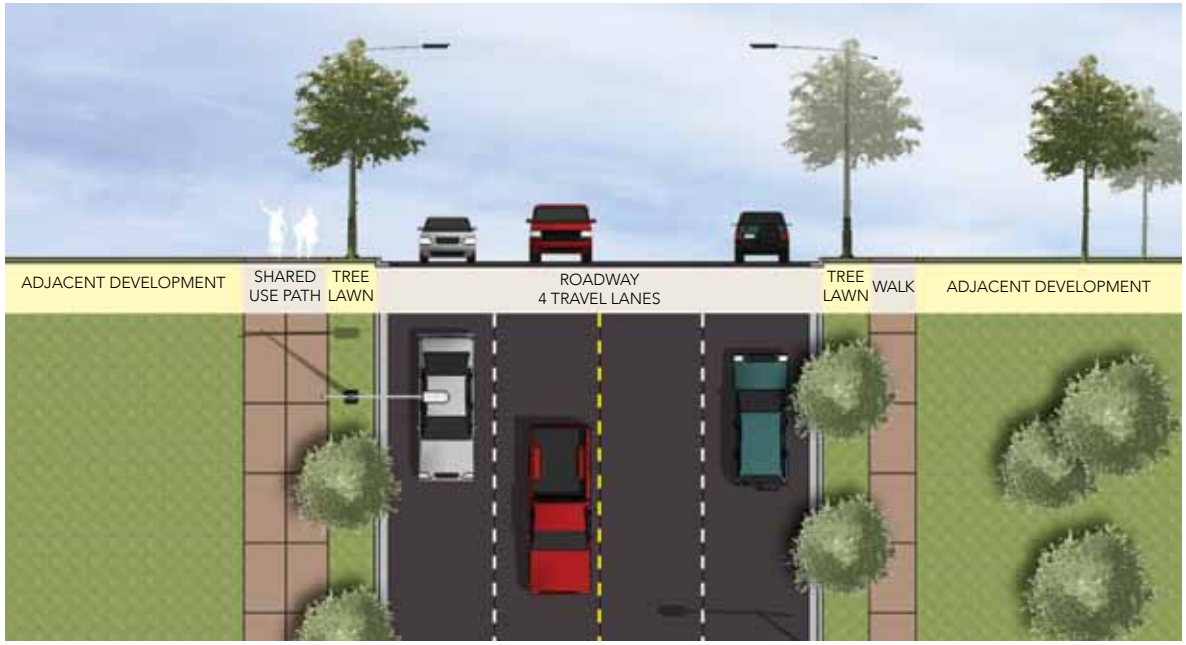

Figure 67: Division Road- Cross section and plan view of proposed roadway character.

County Road 400 East
(Norfolk Southern Railroad crossing to US 30)
Currently, County Road 400 East between Division Road and US 30 is a two lane rural cross section. With the capacity expansion project planned for Division Road vehicular traffic is anticipated to increase on County Road 400 East as a result. This segment of road is recommended to be expanded to four travel lanes. Proper drainage solutions should also be designed and constructed as part of the improvement project to aid in storm water management. Pedestrian and bicycle facilities are not recommended for this area.

County Road 400 East
(US 30 to Murvihill Road)
While the segment of County Road 400 East that is located south of US 30 needs additional capacity, it is not expected that traffic counts will increase north of US 30. The segment of County Road 400 East between US 30 and Murvihill Road provides little direct access to businesses and does not extend north of Murvihill Road. Because of the limited access, County Road 400 East is recommended to remain two lanes wide. Drainage and full depth pavement are encouraged to improve the construction and drainage of the road however. No pedestrian or bicycle facilities are recommended for this road segment.

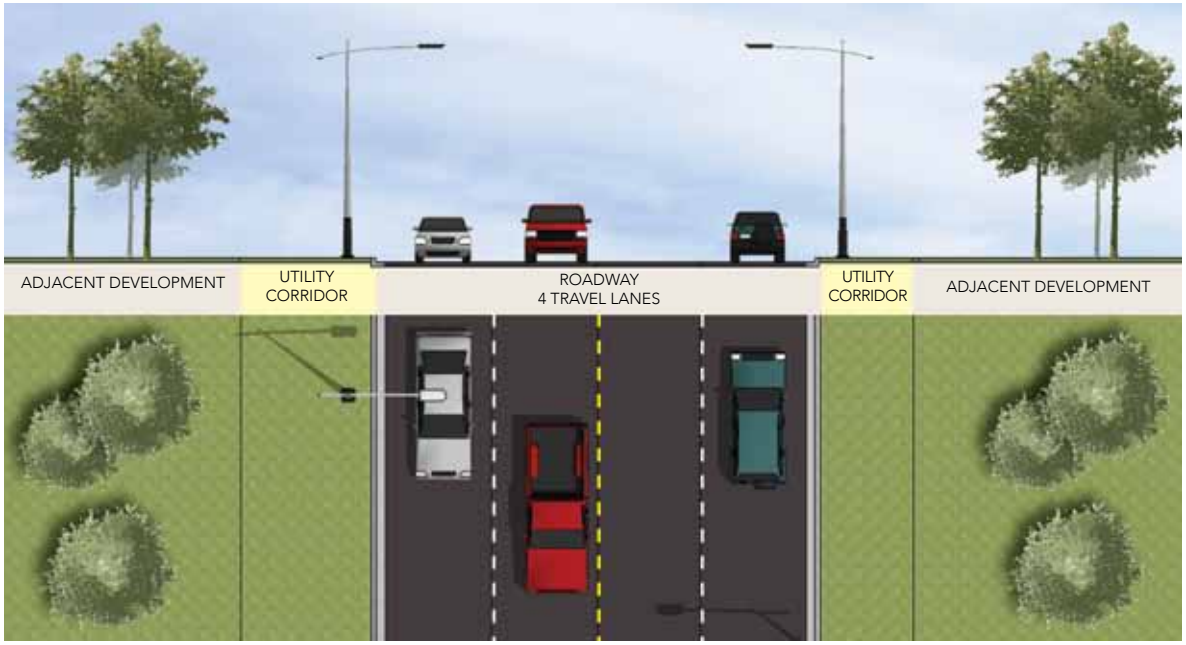

Figure 68: County Road 400 North- Cross section and plan view of proposed roadway character.

Figure 69: County Road 400 North- Cross section and plan view of proposed roadway character.

Industrial Drive
(Montdale Park Drive to US 30)

Industrial Drive is currently a dead-end road that ends at Montdale Park Drive. The roadway currently provides the only direct access to the Montdale Industrial Park. The traffic analysis did not find that additional capacity was needed in the area and recommended that Industrial Drive remain two lanes. Improvements are encouraged to update the pavement construction and drainage solutions to extend the life of the roadway. No pedestrian or bicycle facilities are recommended for this road segment.

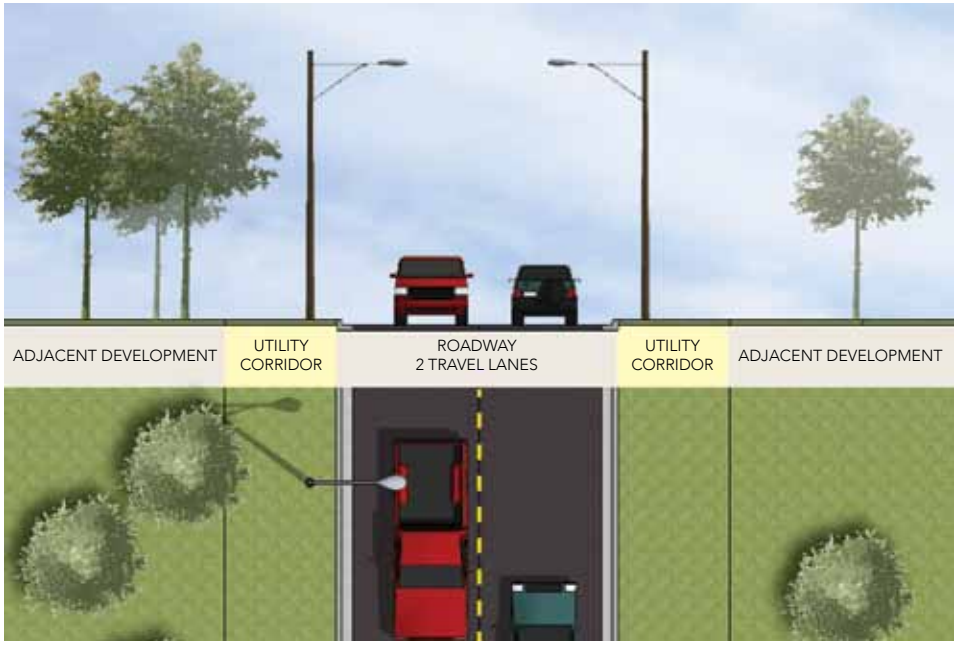

Figure 70: Industrial Drive- Cross section and plan view of proposed roadway character.

PROPOSED ROADWAYS

Throughout the study area there are a number of roadways that need to be constructed so that large blocks of parcels can be accessed for development. North of State Road 2 and South of US 30, there are currently several large parcels that have no access to major roadways. Without access, these parcels are harder to market for new development. By planning for and constructing new roadways in these key development areas, the overall transportation system will be better connected and offer additional opportunities for development.

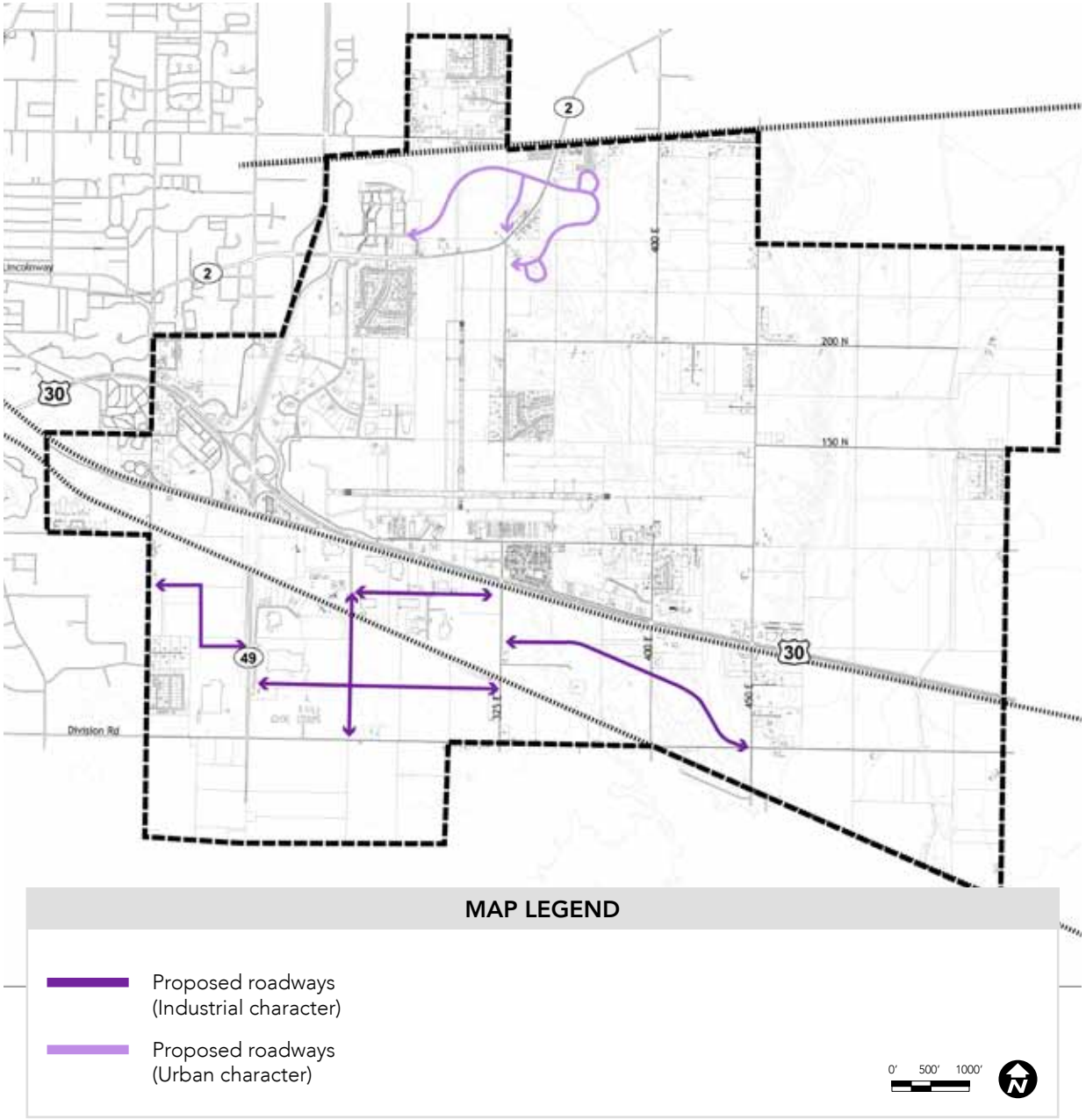

Figure 71 Existing transportation system with both proposed urban and industrial character roadways.

Proposed Urban Roads

Many of the proposed business park and commercial retail developments are located in areas where there are large blocks of parcels with little or no access to adjacent roadways. In order to maximize the development potential, these areas are recommended to be master planned to include access roads. These new roads would provide the access for businesses and would be connected to existing thoroughfares in the area. While the exact alignment is difficult to depict for these urban roads at this time it is recommended that they be a minimum of two lanes in width and include proper drainage solutions as part of the cross section. In additional pedestrian facilities should be included along either side to provide access to a variety of users.

Proposed Industrial Roads

Much of the proposed industrial developments South of US 30 are located in areas where there are large blocks of parcels with little or no access to adjacent roadways. In addition, the lack of transportation access points puts additional pressure on existing roads and intersections in the existing Montdale Industrial Park. In order to maximize the development potential of these areas and provide safe, efficient routes for traffic, multiple industrial roads are recommended to be added to increase access in the area. While some road alignments cannot be accurately determined at this time, many can and are summarized below.

Frontage road connecting State Road 49 and County Road 150 E

A new frontage road is recommended near the Northcoast Beverage property to provide additional access to the properties. This road would allow Aldi Distribution, Northcoast Beverage and future development to the north the opportunity to enter and exit from State

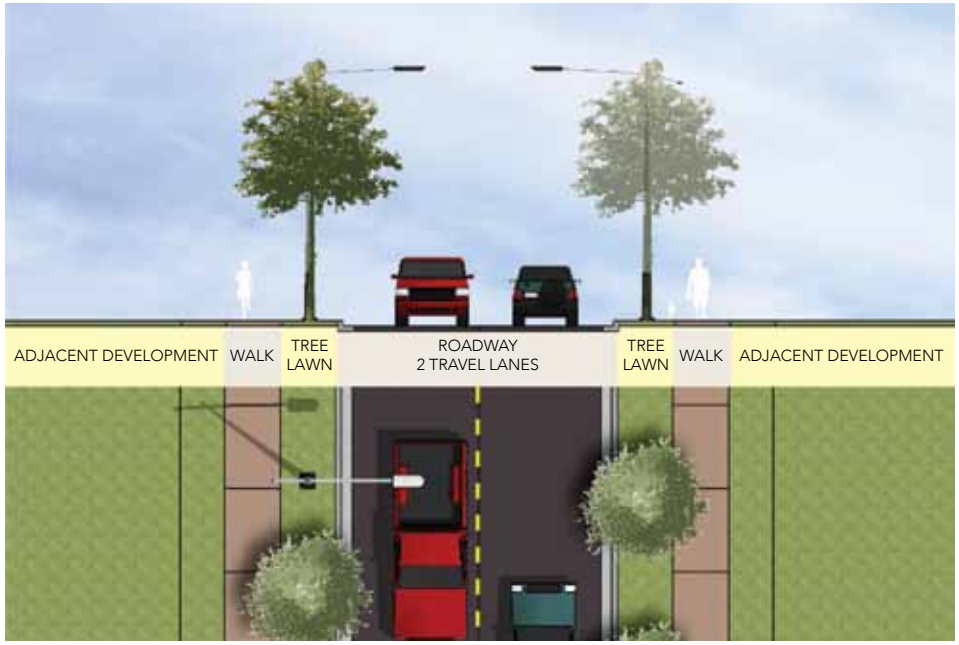

Figure 72: Proposed urban roadways- Cross section and plan view of proposed roadway character.

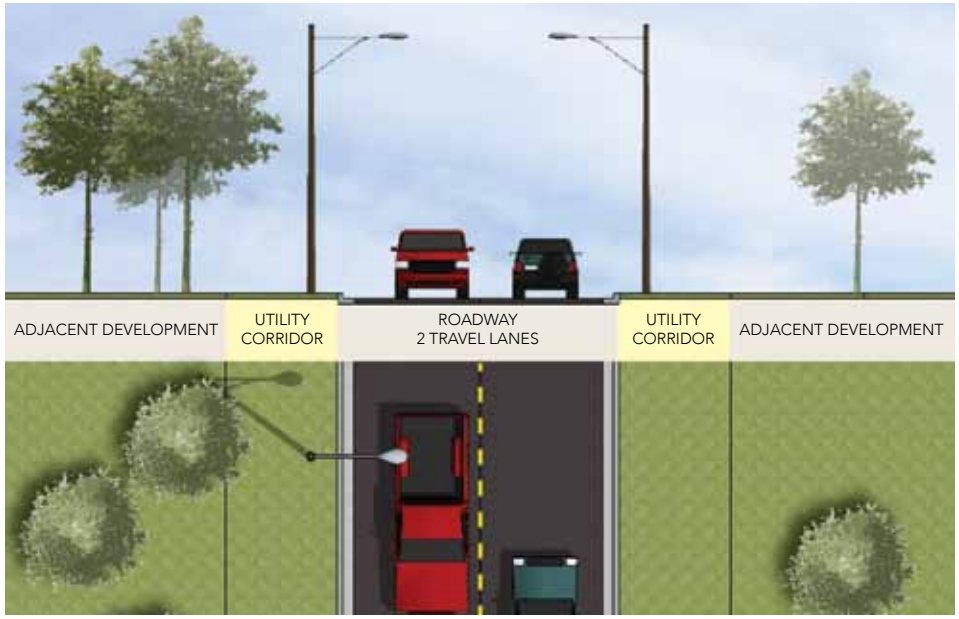

Figure 73: Proposed industrial roadways- Cross section and plan view of proposed roadway character.

Road 49. Additional routing could be directed to County Road 150 E which extends north to US 30 and Sturdy Road.

Extension of Industrial Drive

Since the existing segment of Industrial Drive stops at the Norfolk Southern rail line and is the only point of ingress and egress for the Montdale Industrial Park, it is recommended that this road corridor be extended south to Division Road. By extending this road south the Montdale Industrial Park traffic can be better dispersed throughout the transportation system.

Extension of Montdale Park Drive

Currently Montdale Park Drive ends at the NIPSCO property just west of County Road 325 E. By reconfiguring existing drive ways and surface parking this road corridor can be extended to the east to connect to County Road 325 E. By allowing for this extension traffic will be able to enter and exit the Montdale Industrial Park along County Road 325 E. This extension project paired with the Industrial Drive extension will provide much needed access to the area.

Additional Proposed Roads

South of the Norfolk Southern Rail line are several large blocks of developable land. While many of these parcels have Division Road frontage, the large blocks could be divided to produce more developable parcels. By introducing an east-west road connecting State Road 49 and County Road 325 E and an additional roadway connecting County Road 325 E to County Road 450 E, additional parcels would be developed, many of which would have road frontage. This roadway could also be used by heavy truck traffic from the industrial developments to State Road 49 without requiring them to travel along Division Road which is bordered by residential development to the South.

ACCESS MANAGEMENT CONSIDERATIONS

Access management is the systematic control of location, spacing, design and operation of driveways, median openings, interchanges and street connections to a roadway. By implementing access management tools, a safer, calmer transportation system can be created. Access management seeks to limit and consolidate access along major roadways, while promoting a supporting street system and unified access and circulation system for development. The result is a roadway that functions safely and efficiently for its useful life, and a more attractive network of corridors. During the transportation planning component of this study, a variety of intersections and road corridors were analyzed to determine the existing level of service. While the existing alignment and location of the road corridors and intersections can be modified to accommodate the projected development expansion, several new roads, intersections and driveways will be needed as parcels are developed. These new transportation amenities should include access management solutions in order to create a safe, efficient transportation system. A variety of access management solutions can be utilized within new development and are discussed in the following sections.

Raised medians: Raised medians provide several positive traffic flows, safety and aesthetic benefits. They physically separate opposing traffic streams, and they limit the locations where conflicting movements can be made across those main traffic streams. Raised medians provide a location for deceleration and storage of left turning vehicles

that removes them from the through traffic stream. They also provide a refuge for pedestrians crossing the street.

Signal spacing: Signalized intersections often determine the level of service and quality of overall roadway operations. New and proposed traffic signals should be placed and timed accordingly so that traffic can move through each signal at an appropriate speed. Figure 53 identifies the potential traffic signals that will be needed over the study's thirty year time frame, but the signal placement within this study area should be looked at as a whole so that the entire site can function together to reduce congested intersections.

Non-Signalized Intersections and Curb Cuts: Non-signalized spacing of cross streets also greatly affects the safety and efficiency of a roadway. Separating non-signalized connections simplifies the Drive workload and helps reduce the risk of collisions. Where possible, development should utilize signalized intersections or roundabouts to minimize the potential conflicts between vehicles. If needed, non-signalized intersections should be placed appropriately. Throughout the study area additional curb cuts for parking and business entries should be consolidated so that an efficient flow of traffic is achieved.

Left Turn Lanes: Left turn lanes are an important access management measure because they allow left turning vehicles to be separated from the through traffic. This helps to reduce delays and traffic backups that cause lane changing and rear end collisions. In areas of new development, left turns lane could be incorporated along City and County roads so that traffic entering development sites does not impede the general circulation pattern.

Roundabouts: Roundabouts can be used in the study area to allow for efficient traffic flow while also controlling lower speeds near key retail development components. By introducing roundabouts near prime development, an efficient transportation network is provided while also focusing vehicle attention in key areas.

Frontage and Backage Roads: Frontage and backage roads help to relieve congestion on corridors in two ways. They allow for the consolidation of driveways, thereby removing conflicts on the main road and they reduce traffic volumes on the main road. Frontage and backage roads should be used to reduce the demand on City and County roadways by adjacent development.

INTEGRATION OF MULTIMODAL FACILITIES

While the transportation system is primarily made up of roads and intersections The City of Valparaiso, and Porter County have worked to plan for and implement a system that is available to all users. The specific recommendations for the incorporation of multi-modal facilities are discussed in Chapter Eight, but it is important to remember the needs of all users need to be incorporated when designing and constructing the recommendations mentioned previously.

It is recommended that the principles promoted in the Complete Street movement which is currently being encouraged by NIRPC, Valparaiso and Porter County be continued and enforced when possible. Complete streets ideals are meant to ensure that all roadways are designed and operated with all users in mind- including bicyclists, public transportation and riders, and pedestrians of all ages and abilities.

RAIL CORRIDORS

Within the study area there are a total of three rail corridors and thirteen at grade rail crossings. The frequency, use and location of these corridors vary and pose a different set of opportunities and constraints. Since each corridor and crossing is different general recommendations are difficult to apply. Below are recommendations related to each rail corridor and the associated crossings. As development pressure increases in the study area, work must be done to study the rail lines and intersections more closely to determine the specific needs of the area.

Canadian National Railroad/ Grand Trunk Railroad: Extending east-west the Canadian National Railroad corridor has only three at grade crossing. The intersection of the rail line and US 2 contains a set of crossing signals but no additional safety mechanisms. It is not feasible to relocate this rail corridor, or to change the location of the crossing. Instead, it is recommended that as development increases, and the State Road 2 road corridor is upgraded and widened that this rail crossing be upgraded to a design that satisfies the current design guidelines and safety measures.

At this time it does not appear that any existing rail spurs extend away from the rail corridor. In looking at the proposed land use plan, no additional rail spurs are recommended to accommodate future development.

Chicago, Ft. Wayne & Eastern Rail Road (Rail America): Extending east-west the Rail America corridor runs parallel to US 30 and is approximately 100 feet to the south of the roadway.

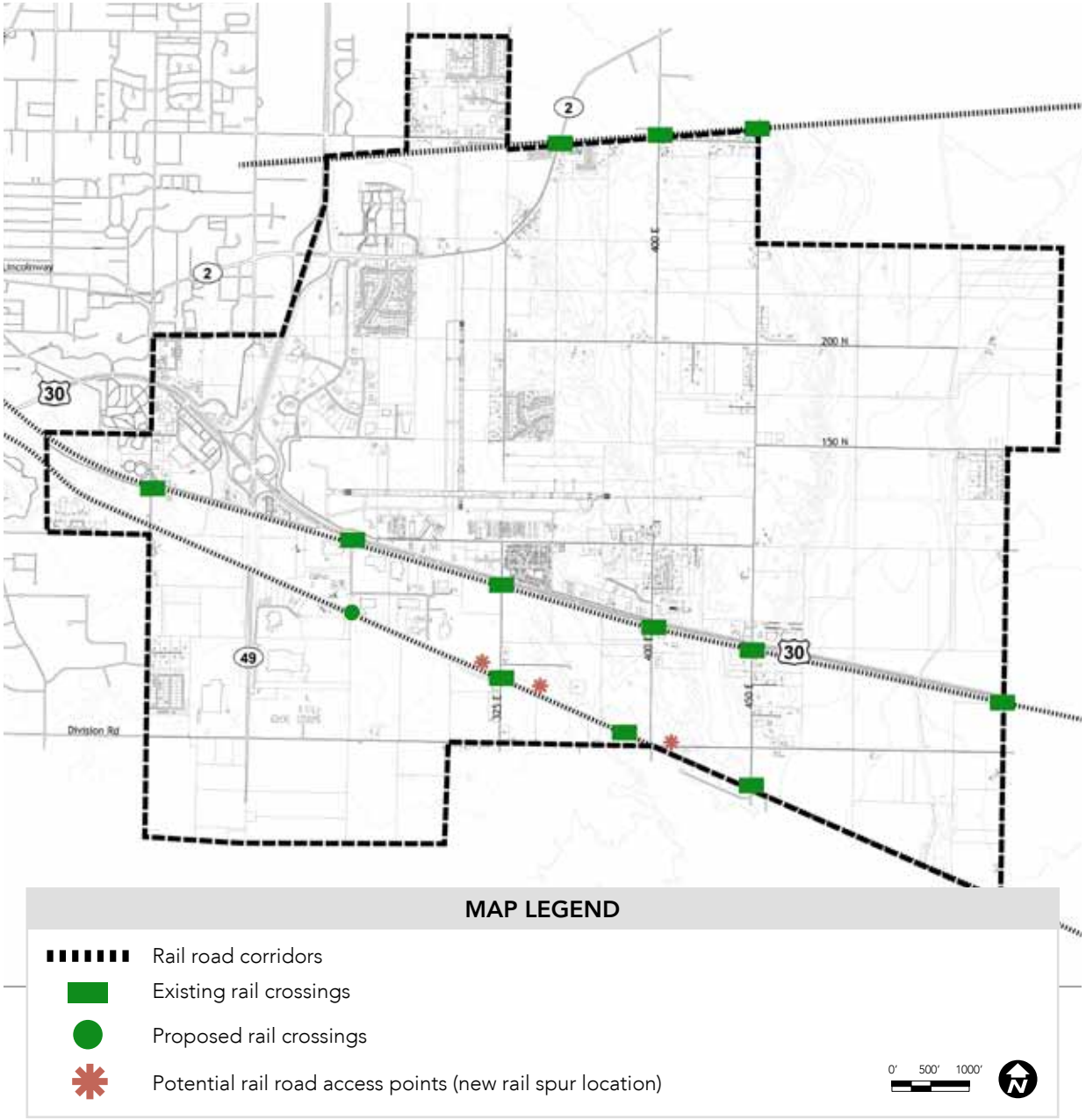

Figure 74: Existing transportation system with existing and proposed rail crossings and potential rail access points.

This rail corridor contains at grade crossings at Industrial Drive, Montdale Drive/ County Road 325E, County Road 400 E, County Road 450 E and County Road 575 E.

This rail line is immediately south of US 30 and is the corridor that poses the most constraints to development. While there is no available property to relocate the corridor, or adjust the design of the crossings, this rail crossing is recommended to be upgraded to a design that satisfies the current design guidelines and safety measures. In addition, it is recommended that new road corridors, identified in Figure 70 be constructed south of US 30 to provide additional ingress and egress opportunities for the area. These proposed roads, as outlined previously, would allow for traffic to continue moving through the area when the rail corridor is in use.

At this time it does not appear that any existing rail spurs extend away from the rail corridor. In looking at the proposed land use plan, no additional rail spurs are recommended to accommodate future development.

Norfolk Southern Railroad: Extending east-west the Norfolk Southern rail corridor runs parallel to US 30 and is approximately 1700 feet to the south of the Rail America corridor. This rail corridor creates at grade crossings at Montdale Drive/ County Road 325E, County Road 400 E, County Road 450 E and County Road 575 E.

Currently this rail line does not inhibit traffic, but in order to accommodate the recommendations made previously in this chapter, this corridor would need the most modification in the future. The proposed road would allow Industrial Road to continue to the South, allow for additional access

Figure 75: Proposed separated rail crossing design solutions.

to the area, and would create a new rail crossing along the Norfolk Southern Line. Obtaining the approval to construct a new at grade crossing is sometimes difficult because of concerns for safety and transportation efficiency. Many times, in order to receive approval to construct a new crossing you will be required to eliminate two or more existing at grade crossings along the same rail corridor. The Norfolk Southern line does have the opportunity to reconstruct two existing crossings and modify them to be a separated crossing. As shown in Figure 74, there is the potential to acquire the necessary property needed to separate these crossings which would allow for vehicular traffic to pass over the rail corridor.

Separated rail crossings can be costly to design and construct and would require varying levels of review in order to implement. While separating these rail crossings would provide the most benefit to the study area these projects would be long term priorities. As development increases in the southern half of the study area, the existing at grade crossings should be upgraded when necessary to include the most recent design guidelines and safety mechanisms.

This rail line does appear to have existing rail spurs to various parcels in the study area. At this time it does not appear that the existing spurs are used, but as development pressure increases in the area, rail users are recommended to be located adjacent to the Norfolk Southern line.

The recommendations for the rail corridors are long term projects that will require thoughtful planning, designing and construction. While these initiatives and improvements may take several years to implement, communication with rail road administration can begin now. By developing and fostering relationships with the administrative staff and key decision makers with the impacted rail lines, the planning and design process could be streamlined in the future. In the short term efforts should be made to upgrade the Norfolk Southern rail crossings to a design that satisfies the current design guidelines and safety measures of the state and local municipalities.

Utilities & Infrastructure

CHAPTER SEVEN

"Utilities and infrastructure are costly to expand; as such, use and expansion of public services must be done to maximize efficiency. Investments in utilities and infrastructure should be seen as investments in directing and managing growth and maintaining fiscal responsibility."

- Utilities and Infrastructure Guiding Principle, Chapter Four

An area's utility infrastructure can serve as a key opportunity or constraint to development. If the infrastructure system is in place and has ample capacity for the future the infrastructure can be viewed as a key opportunity in terms of marketing developable land. However, if the infrastructure is aging, operating at capacity, or is not sufficient in the area, many developers will view it as a constraint due to the upfront development costs for constructing, replacing or upgrading the systems. As a part of this planning study the utility infrastructure has been viewed as a prime component to the success of the balanced development principles described in Chapter Four. By looking at the utility infrastructure on a system wide scale the future improvements can be tied to land use development and capital improvement projects more effectively.

Just as in the design of the proposed transportation network, the long range utility plan recommendations and the proposed land use plan presented in this study are highly connected. The proposed land use plan was developed around existing centers of development, which are currently being served by city utilities. These systems are easily connected to and can be expanded when development opportunities arise. By using the existing utility infrastructure to guide future development, future infrastructure investments can be done in support or encouragement of new development or expansion projects.

The recommendations and future projections discussed in this chapter represent an integrated vision that will allow for an increase in development while maximizing efficiency and costs. The future recommendations described allow the City of Valparaiso and Porter County the opportunity to plan for proposed utility infrastructure within the framework of the long range land use and transportation plan as well as other capital improvement projects planned for in the area.

METHODOLOGY

In similar fashion to the transportation analysis exercise the existing utility system was analyzed to determine the approximate capacity of the infrastructure and the future potential of the system. A baseline of existing information was generated using existing aerial mapping and GIS information gathered depicting the existing and proposed development areas. Each area calculated was assigned a corresponding land use based on the proposed land use map discussed in Chapter Five.

Utility needs are impacted by development type and size, just as in transportation, and in order to make accurate predictions regarding the utility network, assumptions and projections needed to be made regarding the future development square footages. Using the existing zoning requirements for both the City and County, along with analysis of several existing building developments, a set of percentages that reflect the desired standards for each land use type. Table R identifies the assumed percentages for building square footage, site hardscape and accepted open space requirements. As specific zoning standards and design guidelines are developed for this area, and as development increases these required percentages may in fact need to be adjusted. By using the calculated site acreage and the assumed percentage standards a set of development square footages is generated that can be used to determine future building areas, site hardscapes and open space.

While the calculations described above, and included in Appendix 'B', can begin to describe the impacts to the existing transportation infrastructure it is based on a land use plan that is meant to cover the next 50-100 years. Projections of any type that look that far into the future can become unreasonable and hard to quantify. In order to predict utility needs more accurately the calculations were redone using the methodology presented in Chapter Three. During the market analysis portion of the study specific data was generated that identified the land uses and acreage that the area could expect to see within the next thirty years. These calculations were done using projected employment growth, assumed square feet per worker and assumed floor to area ratios (FAR).

In order to adjust the development predictions to a realistic thirty year time frame it was important to determine how the projected employment growth d shown in Table S was being distributed throughout the study area. As a part of this analysis it was assumed that the employment numbers shown would be dispersed proportionally throughout the study area, based on specific development type, site acreage and lot size. These representative development square footages, listed in Appendix 'B', were then used to complete analysis for the study area's utility infrastructure.

DEVELOPMENT STANDARDS			
Business Park		Medium Industrial	
Buildings	25%	Buildings	35%
Transportation	35%	Transportation	40%
Open Space	40%	Open Space	35%
Light Industrial		Heavy Industrial	
Buildings	30%	Buildings	35%
Transportation	35%	Transportation	40%
Open Space	35%	Open Space	35%

Table R: Development percentages used in transportation projections.

FUTURE JOB GROWTH AND LAND NEEDS FOR OFFICE, INDUSTRIAL AND RETAIL LAND USES IN PORTER COUNTY: 2009-2040		
LAND USE	2009 – 2040 PROJECTED EMPLOYMENT GROWTH # JOBS	2009 – 2040 LAND NEEDED[1] # ACRES
Office	4,094	94
Manufacturing	2,732	157
Warehouse	1,303	128
Retail	3,304	190
TOTAL	11,433	569

1 Land requirements based on the following employment densities and floor-area-ratios ("F.A.R."):
Office – 250 square feet per worker, and 0.25 F.A.R.
Manufacturing – 750 square feet per worker, and 0.30 F.A.R.
Warehouse – 1,500 square feet per worker, and 0.35 F.A.R.
Retail – 500 square feet per worker, and 0.20 F.A.R.

Sources: Northwestern Indiana Regional Planning Commission; Gruen Gruen + Associates.

Table S: Future job growth and land needs for office, industrial and retail land uses in Porter County

WASTEWATER INFRASTRUCTURE

The existing system for this area is part of the Valparaiso Utilities System (VCU) and currently collects flows through a system of gravity sewers which transport flows to the Sturdy Road Lift Station. The Sturdy Road Lift Station pumps sewage west through a 14" polyethylene force main with a capacity of approximately 3.5 million gallons per day (MGD). The 14" force main discharges flows into a mahole near the Horseprarie Road Lift Station which then pumps the flows to the Elden Kuehl Pollution Control Facility on Joliet Road. The Elden Kuehl Pollution Control Facility has a design average daily flow of 8.0 MGD and a peak flow capacity of 18.0 MGD.

The table below summarizes the estimated wastewater flows for the study area by development zone as shown in the Land Use Categories map of the study area included in Appendix 'B'. The estimates were based on the land use categories and areas within each development zone except for the airport, county jail, and the county fairgrounds. The county jail flow was calculated based on the number of inmates the jail can house because of the large number of people potentially located on this site compared to other commercial or light industrial sites. The fairgrounds and airport were based on a reduced area within the respective sites that was determined from aerial photographs to be similar to commercial or light industrial usage. This approach allowed the exclusion of large areas of these sites that generate little or no wastewater. Approximately 15 percent of the airport and approximately 25 percent of the fairgrounds were determined to be similar to commercial or light industrial usage and therefore used in the wastewater flow estimates. A summary of the calculations showing the land areas and wastewater flow per acre is included in Appendix 'C'.

	30 YEAR AVERAGE DAILY FLOWS (MGD)	FULLY DEVELOPED AVERAGE DAILY FLOW (MGD)
Development Zone 1	0.385	1.003
Development Zone 2	0.034	0.211
Development Zone 3	0.187	0.839
Development Zone 4	0.384	1.958
Development Zone 5	0.204	0.204
Development Zone 6	0.116	0.504
Development Zone 7	0.132	1.097
Development Zone 8	0.014	0.014
Totals:	**1.455**	**5.829**

Table T: Estimated water flows for the study area by development zone.

	WATER 30 YEAR PEAK FORECASTED DEMAND (MGD)	100 YEAR WATER FULLY DEVELOPED PEAK FORECASTED DEMAND (MGD)
Development Zone 1	1.813	4.722
Development Zone 2	0.158	0.991
Development Zone 3	0.878	3.949
Development Zone 4	1.806	9.213
Development Zone 5	0.959	0.959
Development Zone 6	0.544	2.370
Development Zone 7	0.622	5.160
Development Zone 8	0.066	0.066
Totals:	**6.846**	**27.431**

Table U: Estimated water for the study area by development zone.

As Table T shows, the total estimated wastewater flow from the study area is 1.455 MGD. Therefore the Sturdy Road Lift Station capacity is adequate through the 30 year period being considered in this plan. Wet weather flows and development outside the study area that flows to this lift station will reduce the available capacity but enough extra capacity is available that this should not be an issue in the foreseeable future.

The existing gravity sewer network appears to have been adequately sized to service the study area but does not extend into Development Zone 8. Since Development Zone 8 is shown as agriculture the lack of sanitary sewers in this area does not significantly impact the estimated wastewater flows or water demand and should not adversely impact the development of the study area.

Through the 2001 and 2007 expansions at the Elden Kuehl Pollution Control Facility (EKPCF), enough capacity currently exists to treat current and future flows from this study area. However, the EKPCF is located in the Lake Michigan watershed and therefore has stringent NPDES requirements governing its effluent. This restriction has led the VCU to continue consideration of a plan to build a new wastewater treatment facility in or near the industrial area on the southeast side of Valparaiso because this facility would be in the Kankakee watershed and therefore have less stringent restrictions on its effluent. This plan would reroute some existing flow and all future flow from the study area to the new plant and therefore make more capacity available at the EKPCF to other parts of the city for future development.

The Sturdy Road Lift Station is currently the limiting factor in the system to transport wastewater flows from the study area to the EKPCF. According to an April 2005 study the lift station has a capacity of 3.386 MGD. This is significantly more capacity than is currently required and more than enough for the 30 year capacity required for the study area. The service area for this lift station is estimated to generate 9.701 MGD at full development according to the same 2005 study.

We recommend the City continue to pursue the new treatment facility with enough capacity for the near-term needs and a design that is expandable to accommodate future development to take advantage of the more favorable NPDES requirements. Pretreatment of the industrial discharges as currently required by the VCU will still be critical to the success of this new wastewater treatment facility because most of the flow will be coming from industrial and commercial dischargers.

Traditionally the FAA strongly recommends against constructing these facilities in areas adjacent to aviation facilities due to the possibility of hazardous wildlife movement. In designing and constructing the new waste water treatment facility local municipalities should work in conjunction with representatives from the Porter County Regional Airport and the FAA to determine the most appropriate site and design. By fostering partnerships early, a new treatment facility in the study area will be an obtainable goal in the future.

WATER INFRASTRUCTURE

The potable water infrastructure analysis was based on the flows calculated for the wastewater analysis. The wastewater flows were assumed to be 85 percent of the potable water demand. This assumption was based upon national studies that have shown 85 percent to 90 percent of potable water used in municipal systems enters the sanitary sewer system. A peaking factor of 3.0 was determined for Valparaiso, Indiana based upon population. However, a peaking factor of 4.0 was used in calculations to estimate the peak demand flows for this area to account for the potential for a future water intensive industrial user to locate into the study area that would skew the national averages accounted for in the wastewater factors used to calculate wastewater flows. The peaking factor is the ratio of maximum flow to average daily flow in a water system and accounts for high water demand throughout a given day due to concurrent water consuming events such as manufacturing, fire flows, irrigation, etc.

The existing system for this area currently supplies water from wells located on the airport property. Water from the wells is treated at the water treatment facility located on Redbow Drive. The capacity of this treatment plant is 5.5 MGD and has a 2.0 MG ground level storage tank on site. The system currently has an average demand of 2.0 MGD and a peak demand of 5.0 MGD. The forecast water demand by development zone is shown below and based on the peaking factor of 4.0.

The distribution system is adequate to meet the needs of this study area and VCU has plans to construct additional water mains in the area to loop the systems according to a September 2010 memorandum. The memorandum provided results of modeling performed on the existing and proposed water mains to show the system capacity for fire flows in the area bounded by Redbow Drive on the north, Division Road on the south, Industrial Drive on the west and County Road 400 East on the east.

The current peak demand is nearing the capacity of the system supplying the Redbow Drive Treatment Facility. The system can be supplemented with flow from VCU's northern water system to manage excessive demand in the short term and the VCU is currently conducting a well field study to potentially replace the wells located on the airport property to meet current and future needs for an area that includes the area covered by this planning study. No determination has been made regarding the location of the new wells or the infrastructure that will be constructed to collect, treat, and distribute the water to meet the peak demands for this area at the 30 year development level and at full development.

Currently there are seven existing wellheads all located on the property of the Porter County Regional Airport and all are nearing the end of their useful life. Relocating these wells would require property acquisition and the construction of new water mains to transport the water to the Redbow Drive Treatment Facility. Property rights at the existing well locations near the Redbow Drive Treatment Facility and the age of existing equipment are also issues that must be resolved in the near-term.

We recommend the airport and the city work together to continue to utilize the existing well locations and that the city rehabilitate the wells to increase their capacity and extend their useful lives for at least the next twenty years. This solution is likely the quickest and least expensive way to increase supply for development in the short term and encourage developers to seriously consider this area while additional wells are constructed.

STORM WATER INFRASTRUCTURE

The study area is located on the Continental Divide between the Great Lakes watershed and the Mississippi River watershed. The western most areas are drained by Knode Creek, Sagers Run, and the Stimson Drain, all of which flow into Salt Creek and eventually into Lake Michigan. The majority of the study area is drained by Hotter Ditch, Koselke Ditch, Cain Ditch, and Crooked Creek. The three ditches all flow into Crooked Creek which flows south into the Kankakee River and eventually into the Mississippi River. The eastern most portion of the study area flows directly into Crooked Creek. All of these drainage ways have issues with capacity and storm water quality due to non-point source pollution. The City of Valparaiso and Porter County have projects planned along these drainage ways to improve the existing conditions and both municipalities will carefully review the design of new developments for conformance with their respective design standards to ensure the drainage issues are not exacerbated.

The Porter County Stormwater Design Manual requires the 100-year rainfall event be detained on site and released at a maximum release rate of 0.13 cubic feet per second (cfs) per acre with a maximum release rate of 2.0 cfs for any site within the study area. The county also requires the first flush, the initial runoff from a given catchment, be treated for each rain event and gives procedures for calculating the first flush and designing the storm water quality treatment process.

The City of Valparaiso requires that the 100-year rainfall event be detained and released at the pre-developed 2-year release rate. While the city does not have any specific written requirements for storm water quality, they will expect to see some sort of storm water quality Best Management Practices (BMPs) in the design of the development and will request such measures through the review process.

Both Porter County and the City of Valparaiso will require permanent drainage easements for access to the storm water infrastructure, an adequate overflow spillway, and will require erosion and sediment control measures during construction.

In order to deal with the area's storm water drainage requirements and future needs there are several design solutions that the City, County and independent developers can turn to. While some of the solutions mentioned below are meant for larger scale installations, many can be scaled appropriately to serve single sites, or a combination of sites and developments. Furthermore, any practices that infiltrate storm water runoff into the soil will have to consider the effects that practice may have on ground water quality and its impact on the well water system of the City of Valparaiso.

REGIONAL DETENTION BASINS

The construction of a regional detention basin along Koselke Ditch and/or Cain Ditch at the southern boundary of the study area, similar to Hotter Lagoon located on Hotter Ditch north of this study area, would benefit development by complying with the Porter County standards for storm water quantity and quality on a regional basis. In addition, a regional detention basin would limit the amount of storm water infrastructure required within individual developments. This will not only reduce the cost of the development's infrastructure, but will also reduce the land area required for storm water detention and treatment.

CHAINED LAKES/ BASINS/ DECELERATORS

At a larger scale, the study area can benefit from the incorporation of a series of linked infrastructure projects to contribute to a better integrated and thriving ecological system. Through the construction of a series of large and small detention basins a district wide amenity can be created while also providing a necessary piece of storm water infrastructure. The constructed storm water chain creates a living system that promotes infiltration and groundwater recharge, manages the rate of flow through the overall system, and contributes to the treatment of suspended soils and particulate-bound pollutants and supports healthy, native plant growth.

RAIN GARDENS

Rain gardens are planted areas that typically consist of deep rooted native plants in a shallow depression. These designed gardens are capable of collecting local storm water and contain it until it can infiltrate into the soil. Allowing for bio-retention in site design allows for recharging of groundwater supplies and naturally removes most contaminates in the runoff. Rain gardens also provide wildlife habitat and aesthetic enhancements to development. These projects are also reasonable to implement at virtually any site level.

BIOSWALES

Bioswales are linear storm water management elements that augment the conventional storm water management system. Swales along roadway pavement edges and parking lots are strategically planted with native plants to slow storm water runoff. By slowing the rate of runoff, soil erosion is minimized and the groundwater supply can be recharged with naturally filtered water. Bioswales can help reduce peak flows for storm events and have been shown to significantly decrease the costs of storm water infrastructure in both site development and roadway construction.

PERMEABLE PAVEMENTS

Permeable pavements are an alternative paving material that allows rainwater to pass through the pavement surface. Similar to rain gardens and bioswales, the storm water percolates into the soil. The use of permeable pavements can also reduce the need and size for large detention facilities found in traditional site development requirements. Permeable pavement solutions can be easily incorporated into parking lot design, walkways, public alleys and low traffic streets.

There are many other strategies that the City of Valparaiso and Porter County can implement to decrease the demand on the area's water, wastewater and storm water facilities. Design elements could include green roofs and walls, strategic daylighting strategies, use of rain water in irrigation systems, use of grey water to flush toilets and use of geothermal or solar wind energy to reduce public utility demands.

While many of the aforementioned solutions can be integrated into development design, there is the possibility that some developments cannot feasibly implement these sustainable solutions. Due to concerns for topography, groundwater contamination, cost and construction feasibility some development sites will require the use of traditional detention basins in order to meet the requirements in the City and County storm water management regulations. While the traditional detention basin design does provide the adequate flow attenuation it is important to regulate the location and design in the area adjacent to the airport. The FAA states that all on-airport storm water detention ponds should be designed for a maximum 48 hour detention period, and they should not contain permanent pools. The FAA strongly recommends that off-airport storm water management systems meet this same design within the 10,000 foot separation distance. It is recommended that development sites in the study area use traditional detention basins as a last resort in dealing with storm water runoff. For sites with no other storm water drainage options, the design, location, construction and maintenance of these basins should be reviewed and regulated per the FAA's recommendations.

In addition, the sustainable storm water strategies, along with the traditional detention basin, could all incorporate a diverse mix of plantings to ensure that the elements would operate correctly. Traditionally, the design of the planting mixes is used to increase the wildlife habitat in the area. However in the instance of an airport the FAA recommends a separation distance of 10,000 feet at airports serving turbine-powered aircraft between any wildlife attractant and the airport's AOA. Virtually all of the master plan study area is within the 10,000 foot separation distance from the airport, making plant selection and placement key to the success of these strategies in the area.

ADDITIONAL UTILITIES

In discussions with representatives from Frontier Communications, NIPSCO and Kankakee Valley REMC it appears that gas, electric and fiber utilities are all available within the study area and do have additional capacity availability for future needs. As development occurs and progresses throughout the study area additional discussions will be needed with representatives from each distribution/supply company on the most effective and efficient means of connection will be.

Multi-modal Connections

CHAPTER EIGHT

"Communities should provide a range of facilities for all modes of transportation which accommodate people of all ages and economic status. This interconnected system should include transit facilities to support those who cannot operate private automobiles because of physical, social, or economic condition as well as bicycle and pedestrian facilities which benefit public health and the environment through reduced vehicle miles traveled."

- Multi-modal Connections Guiding Principle, Chapter Four

Like many communities, Porter County and the City of Valparaiso have developed transportation systems primarily for the automobile leaving significant gaps and obstacles for other modes of travel. Going forward, transportation decisions should be made on the basis of improved access and mobility for all users, including the elderly, those who can't afford to own and maintain an automobile, and those who choose not to. Successful multi-modal connections will occur when transportation choices are increased and streets are created for all users, land use planning and transportation are integrated, and a framework of multi-modal corridors has been established. Multi-modal connections are critical to achieving the vision of strengthened economic potential, appearance, and function of the airport zone.

Currently, Porter County, the City of Valparaiso, and NIRPC all encourage the construction of and upgrade to complete streets. Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely travel along and across a complete street. In addition to merely accommodating users, safe facilities may encourage people to try new modes of transportation and complete streets can become appealing public spaces, attracting development and encouraging economic activity. Unfortunately however, funding limitations make it impossible to upgrade all roadways in the study area to complete streets. It is for this reason the plan recommends a network of multi-modal corridors and connections, providing access to major destinations within the study area.

Multi-modal facilities should be considered with all roadway upgrade and reconstruction projects, specifically upgrades to Division Road and State Road 2. Additionally, sidewalks, multi-use paths, and bike lanes should be included in new development, where appropriate, and added to existing roadways when funding is sufficient.

As part of the larger transportation network, the multi-modal system must utilize public right-of-way to connect employment centers, commercial districts, residential neighborhoods, and other significant locations. Consequently, multi-modal facilities, be they shared-use paths, bike lanes, or dedicated transit facilities, are most commonly located adjacent to vehicle travel lanes. Because of this inherent connection, all multi-modal facility decisions should foster a cooperative relationship between recreational and roadway traffic. Appropriate signage must be employed to ensure the safe and efficient movement of all modes of transportation.

PROPOSED PEDESTRIAN ROUTES

Creating a balanced and connected multi-modal system will require retro-fitting existing corridors where possible and requiring appropriate facilities in new development. In terms of pedestrian amenities, facilities are recommended to be added to State Road 2, Evans Avenue between Silhavy Road and County Road 450 E, County Road 450 E between Evans Avenue and County Road 100 N, County Road 100 N between County Road 450 E and County Road 325 E, County Road 325 E between County Road 100 N and Division Road, and Division Road between County Road 325 E and County Road 100 E.

The future Dunes Kankakee Trail will also run north-south through the study area and provide an additional pedestrian and bicycle amenity. The preliminary trail alignment will travel along Silhavy Road, jog around the interchange at US 30 and State Road 49, and then run along State Road 49 heading south.

In addition, sidewalks and/or shared-use paths should be included in all new development. Sidewalks should be installed to connect building entrances to the larger pedestrian network. Parking areas should also be connected to building entrances using sidewalks and paths.

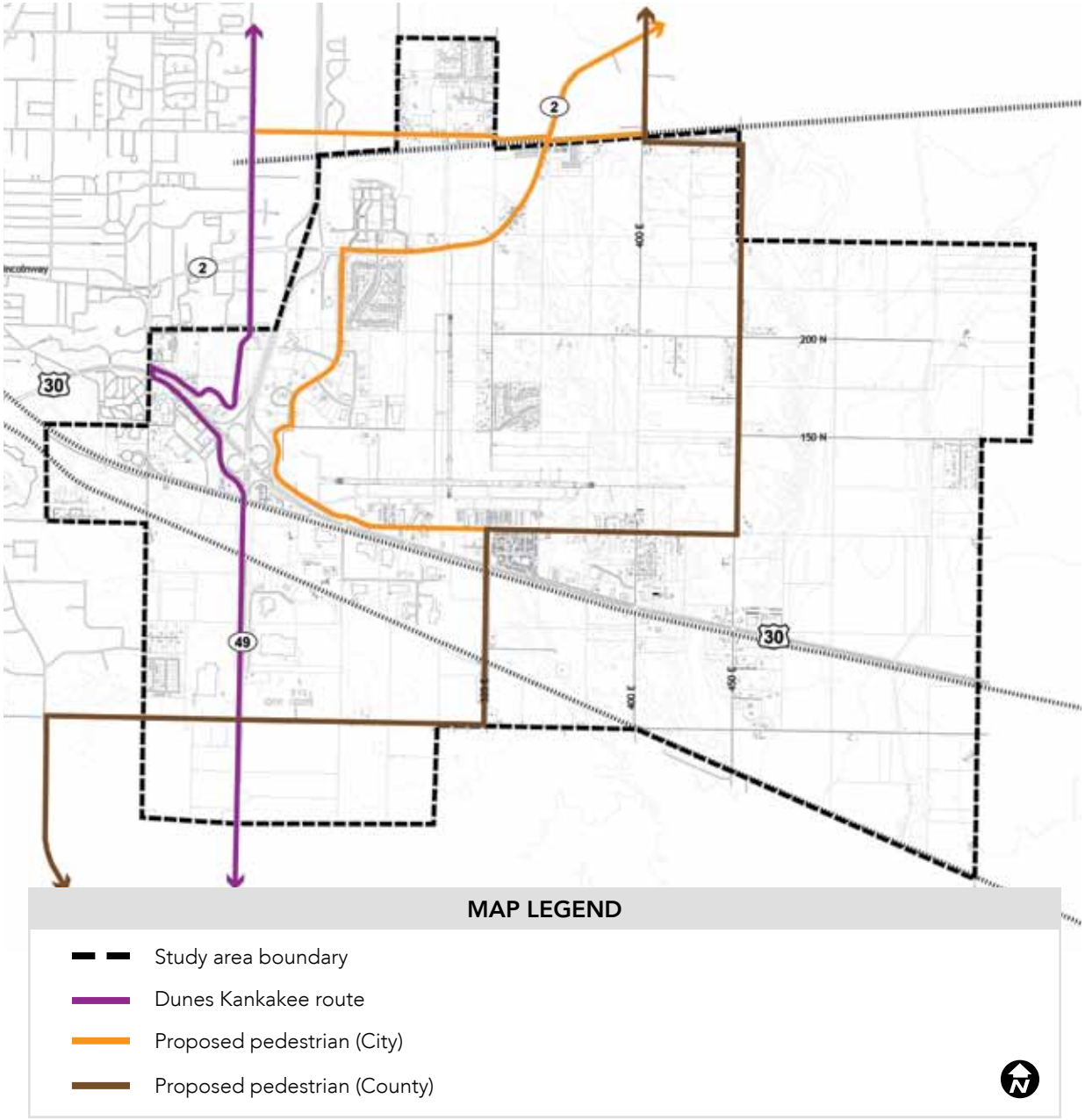

Figure 76: Proposed pedestrian routes within the study area boundaries.

Pedestrian amenities are intended to provide safe access to destinations along major corridors, connections between neighborhoods, and links to transit, recreational, and institutional uses. Pedestrian amenities are most commonly in the form of sidewalks and multi-use or shared-use paths. Sidewalks are recommended in locations where the right-of-way is narrow or on-street bicycle facilities are located. Multi-use paths are recommended in locations with sufficiently wide right-of-way and where on-street bicycle facilities are not provided. Multi-use paths are also recommended in off-street locations such as trails and greenways.

All pedestrian amenities should be in compliance with American Disabilities Act (ADA) standards and accessible to all users. Furthermore, pedestrian facilities should be buffered from vehicle travel ways with a planted separation zone where the right-of-way allows, or with low walls or bollards where there is not enough right-of-way for a planted zone.

PROPOSED BICYCLE ROUTES

The bicycle recommendations of this plan correspond with the City of Valparaiso *Pathways & Greenways Master Plan* and the Porter County *Land Use & Thoroughfare Plan*. Bike lanes (five-foot minimum width) are recommended along Evans Avenue, State Road 2, Eastport Centre Drive, County Road 100 N, Montdale Drive/ County Road 325 E, Comford Road, and County Road 150 E. County Road 450 E, between Evans Avenue and County Road 100 N, is recommended to include a shared bikeway. Shared bikeways include pavement markings to signal drivers that bicycles may be present in the shared travel lane.

Given adequate, safe, and convenient facilities, bicycle transportation can be a viable alternative to automobile travel, especially when combined with public transportation for longer trips. The intent is to develop a regional network of dedicated and continuous bicycle facilities, providing the same level of access to destinations as is experienced by automobile travelers. Additionally, private development can include bicycle facilities and associated amenities such as bike racks and showers to make bicycle transportation more feasible.

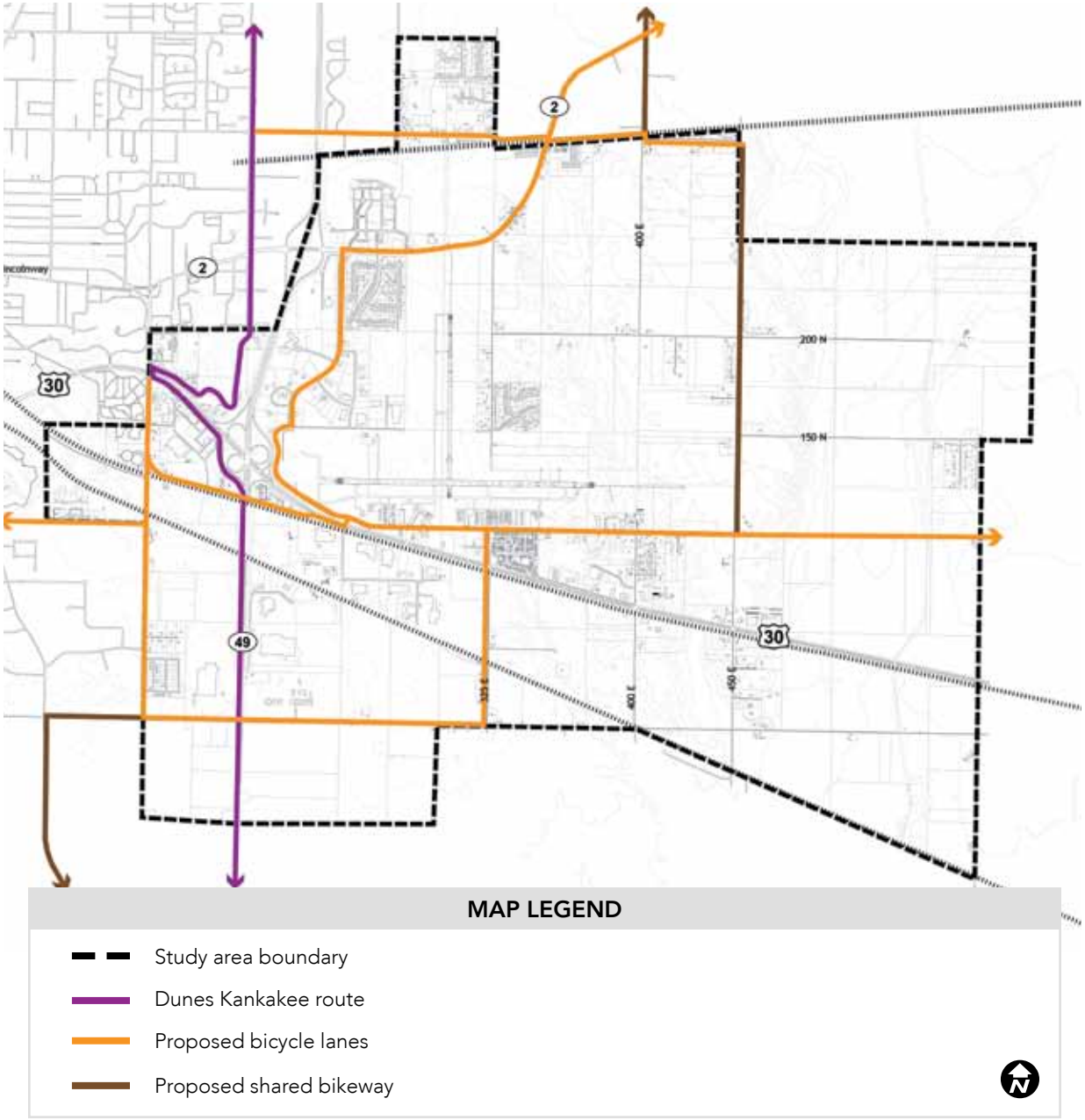

Figure 77: Proposed bicycle routes within the study area boundaries.

Bicycle facility type will vary depending on the corridor traffic volume and speed but may be in the form of multi-use path, dedicated bike lane, or shared bikeway. In general, higher traffic volumes and speeds should be balanced with a wider separation zone between the bicycle way and the vehicular travel way. Signage and driver awareness of bicycle facilities is crucial. In areas of high conflict, such as where vehicle turn lanes cross a bicycle facility, colored pavement markings can increase driver awareness and bicyclist safety.

MASS TRANSIT AND BUS ROUTES

The Valparaiso bus system, the V-Line, currently serves the City of Valparaiso and includes a portion of the Airport Zone with the primary destinations being Walmart, Ivy Tech, and Porter's Vale shopping center. It is recommended that as development continues in the Airport Zone, transit demand be analyzed and existing routes be amended or new routes created to accommodate such demand.

ChicaGoDASH is an express bus service that operates between Valparaiso and Chicago. It is run by the City of Valparaiso and the Valparaiso Redevelopment Commission with financial support from NIRPC. Currently the Valparaiso stop is located at Village Station and stops at three locations within downtown Chicago.

PROPOSED CONNECTIONS

The Porter County Regional Airport terminal represents a unique opportunity to establish a multi-modal transportation connection in the heart of the study area. The terminal could be used as a transfer point between various modes of travel or between V-Line and ChicaGoDASH routes. A study should be conducted to examine feasibility of extending or modifying V-Line and ChicaGoDASH routes to include stops at the airport terminal. The terminal could serve as a park and ride location for ChicaGoDASH.

Additional facilities to be included at the airport terminal could include a taxi stand, long-term parking, bike parking, route and schedule information, staffed passenger assistance, restrooms, and weather protection.

In addition to route expansion, increased amenities can greatly improve the transit experience. Transit users are essentially pedestrians and as such, transit systems and pedestrian amenities must be integrated. Adequate pedestrian access and safe pedestrian crossings should be provided at all transit stops and all stops should meet ADA requirements.

At significantly used bus stops, shelters should be installed to provide protection from the weather; this includes a roof/canopy and curb side screening to minimize road spray. Benches and bike racks may be incorporated into shelter design and the shelters themselves can be used as canvases for public art and information. All stops should be clearly identified with signage and route information. This signage can be incorporated with an overall signage and wayfinding system for the airport development zone.

FUTURE ACCOMMODATIONS

Specific transit systems and routes are not included as part of this planning initiative. Instead, it is important to recognize the increasing pressure put on vehicular transportation systems and limited budgets to maintain them. For this reason, the goal was to accommodate existing route expansion and the possible creation of future transit systems, such as a light rail line to Chicago in conjunction with the multi-modal connections recommended above.

Landscape & Natural Features

CHAPTER NINE

"A healthy environment supports social well-being, sustains economic development, and protects against flooding and other natural events.

The continuity and sustainability of quality natural systems and ecologically sensitive lands (definitions) should be ensured when developing new land."

- Landscape & Natural Features Guiding Principle, Chapter Four

There are numerous benefits to incorporating and protecting landscape and environmental features into the community. Landscaping can make areas pleasing to the eye, can transform open spaces into warm and inviting gathering places, and can create visual focal points within a view shed. In addition, landscape components can increase property values and leave a resident or visitor with a lasting visual image of an area.

As discussed in Chapter Three, one of the key recommendations was that property owners and private developers be encouraged to invest in common areas and highly visible entry treatments that would provide a sense of quality to the area. These proposed landscape systems are not purely aesthetic but rather preform a major role in supporting social well-being, sustaining economic development and protecting against natural events.

The local municipalities have shown that landscape investment and protection is a high priority and it is recommended that this initiative be continued. Landscape treatments and natural feature preservation can take on many forms and happen in any number of ways. This chapter has identified specific applications that can easily be applied to the study area and any future development opportunities.

LANDSCAPE AS AESTHETICS

Landscape treatments can and should be used to further enhance development sites where possible. The guidelines set forth in both the City and County landscaping guidelines are intended to be used to increase the aesthetic quality of development and at times to serve specific functions such as buffering adjacent land uses or protecting sensitive landscape features.

When it comes to landscape treatments in close proximity to the airport property, it is recommended that these standards be utilized to the utmost potential throughout the site. However considerations for the type and location of landscape enhancements must be consistent with FAA Advisory Circular 150/5200-33B *Hazardous Wildlife Attractants On Or Near Airports*, included in Appendix 'D', when a site is adjacent to airport property or within the runway protections zones. As a part of this plan, landscape treatments are envisioned for right-of-way areas on the outside of the roadway, as well as in any medians that are proposed as a part of future road development. In addition, it is envisioned that within the prime development areas street trees and ornamental plantings would be accommodated within both public areas and on private developments.

Throughout the study area, efforts should be made to utilize landscape treatments to buffer existing developments that might be in conflict with future land uses. Residential areas located throughout the area should be buffered by a series of shade, ornamental and evergreen tree plantings and additional ornamental shrubs where necessary. These wide buffer yards will be used to mitigate potential noise and aesthetic constraints that come with industrial development.


1


2


3

1. ORNAMENTAL PLANTINGS ALONG STREETSCAPES
2. GATEWAY PLANTINGS AT KEY SITES
3. HIGH LANDSCAPE STANDARDS FOR NEW DEVELOPMENT
4. SCREENING/ BUFFER YARDS BETWEEN LAND USES
5. TREE LINED STREETS ALONG NEW ROADS

Figure 78: Illustrative graphics of proposed business park adjacent to US 2.

LANDSCAPE AS GATEWAYS

In Texas, it is the bluebells along the Interstates, it is the lush roadside native landscape in the Pacific Northwest, or in Chicago, it is the incredible plant displays along Michigan Avenue. Landscape at a broad or small repetitive scale provides color and texture that man-built structures cannot. Landscape, in simple large-scale application, can take leftover places and transform them magically into power messages about a place.

Throughout the area, gateways are proposed to create noticeable entrances to the City. The recently completed *US 30 Corridor Plan* has identified four areas are to be treated as gateways to various locations within the City. While the treatment is different at each location, the consistent feature is aesthetic landscaping treatments that complement the surroundings. One of the largest gateways proposed is at the intersection of State Road 49 and US 30. The plan calls for artistic treatments to be applied to the State Road 49 overpass, and a monument sign to be located at Sturdy Road and US 30. Upon completion, both of these elements will not only serve as the front door to the City of Valparaiso, but will also become a main feature to the study area.

While the proposed gateways and accompanying landscape treatments serve the City as a whole, they do not necessarily promote the study area's prominent businesses or facilities. During several early steering committee meetings, the group identified that one of the main features, the existing Porter County Regional Airport, lacked a strong presence in the area and that perhaps some type of gateway could be created along US 30 to better showcase the facility and its connections to the adjacent community. It is recommended that a new entrance be created along US 30 that allows for direct access to the Porter County Regional Airport terminal. As discussed in Chapter Six, this new access point along US 30 would be signalized and constructed to meet all current regulations. It is also recommended that a small gateway feature and planting treatment be applied at the intersection to take full advantage of the new thoroughfare frontage. Within this area structure height will be limited, so by pairing a small gateway structure with a large application of seasonal plantings, the airport will be easily identified as an amenity to the area.

Figure 79: Illustrative graphics of new Porter County Regional Airport gateway along US 30.

LANDSCAPE AS NATURAL FEATURES

Woodlands, wetlands and open fields provide a mature sense of permanence and local civic character to an area seeking identity. Innumerable studies have demonstrated that rich natural features contribute significantly to the economic and environmental health of neighborhoods. Areas within Porter County and Valparaiso are no different. While there are no protected habitats within the study area, there are areas with natural features; lakes, ponds, creeks, woodlands and agricultural lands. These areas provide critical ecosystem services that directly benefit the community. These areas serve as aesthetic, economic and cultural amenities and provide numerous functional assets.

Local jurisdictions agree that these natural features enhance the area and should be maintained and preserved. Specific language regarding the natural area protection is currently included in the landscape standards that govern the area. These standards are meant to enhance and protect the natural environment from the pressures of development. It is recommended that these standards remain in place.

In addition the proposed features such as stormwater wetlands and mitigation areas, dry detention basins, buffer plantings and street corridor plantings will also provide the community with similar benefits. These proposed features would not need protection, but instead a set of guidelines that dictate what can and should be planted to develop the area appropriately.

It is strongly recommended that the study area encourage the use of sustainable treatments and planting options where possible. Sustainable building materials can decrease the amount of storm water runoff, reduce the urban heat island effect and can maximize energy conservation. Native and non-invasive plants can be used to filter storm water, reduce long term maintenance needs on the site and aid in the effectiveness of natural systems.

1. EXISTING LAKES
2. UNPROGRAMMED LANDSCAPE AND OPEN SPACE
3. CONSTRUCTED DETENTION BASINS
4. CONSTRUCTED WETLANDS FOR WATER TREATMENT
5. CONSERVE WOODLAND AND FORESTS

Figure 80: Illustrative graphics identifying use of landscape elements as natural features.

LANDSCAPE AS INFRASTRUCTURE

Pathways and greenways provide many positive impacts for both individuals and communities by providing alternative means of transportation while also serving the area's recreation needs. The City of Valparaiso and Porter County are both committed to procuring, implementing and maintaining an integrated network of bicycle and pedestrian facilities for the purpose of offering transportation alternatives throughout the region. While transportation alternatives are important, it is also key to think of these paths and greenways as integral components of the community's quality of life. As identified in the Valparaiso Pathways and Greenways Plan, paths and greenways can provide a variety of benefits to the community including:

- Enhancing the community image, sense of pride and visitors' impression
- Promoting healthier lifestyle through exercise and leisure recreation
- Improving and stabilizing natural environments and natural areas

In addition to the less tangible benefits, paths and pathways provide vital links between neighborhoods and community facilities provide linear parks in areas where large green spaces are not feasible and increase the tourism and economic development potential of the area.

In order to capitalize on the work that is already underway, it is recommended that the work presented in the 2005 *Pathways and Greenways Master Plan* and the 2002 *Porter County Land Use and Throughfare Plan* plans be continued related to on street bicycle lanes, pedestrian sidewalks and shared use paths. It is also recommended that in areas of new development that are not serviced by the multi-modal routes discussed in Chapter Eight, that a series of recreational trails/paths be developed using the design guidelines presented in the *Valparaiso Pathways and Greenways Plan*.

As identified in Chapter Seven, it is recommended that a variety of utilities be upgraded and expanded to service the area in the future. These proposed utility corridors can double as a base for a series of paths and greenways within the study area. By utilizing the design guidelines established in the *Valparaiso Pathways and Greenways Plan* these corridors can accommodate pathways approximately 10' to 12' in width, or if preferred can be designed to be wide enough for utility maintenance vehicles. As shown in on the following page, easement pathways can be used in traditional utility corridors, drainage easements or conservation areas.

In addition, paths and greenways can be constructed in a variety of community open space scenarios. As identified Chapter Ten, community parks and open space are expected to be added to this area as development pressure increases. When designing and constructing these open spaces it is important to remember that these open spaces can serve as vital connections between neighborhoods and businesses. By utilizing the design guidelines established in the *Valparaiso Pathways and Greenways Plan* these open spaces can accommodate a series of 10' to 12' wide trails that can be constructed of either asphalt of compacted aggregate. As shown on the following page, open space pathways can be used in traditional community parks, buffer zones or environmentally sensitive areas.

1. REQUIRED SIDEWALKS CREATE PEDESTRIAN PATHS FOR ALL USERS
2. SHARED USE PATHS THROUGH EASEMENTS AND OPEN SPACE PROVIDE OPPORTUNITIES FOR LINEAR PARKS
3. DEDICATED TRAIL ALONG EASEMENT OR ABANDONED ROAD CORRIDOR
4. SHARED USE PATHS THROUGH COMMUNITY OPEN SPACE
5. TRAILS USED AS TRANSPORTATION ROUTES OR RECREATIONAL OPPORTUNITIES
6. WOODLAND TRAILS THROUGH EXISITNG LANDSCAPE
7. DEDICATED PATHS ALONG DETENTION BASINS OF EXISITNG LAKES

While decorative and functional landscape treatments are highly recommended throughout the study area special care should be made to select the correct species of material for this area. Site development with a close proximity to the airport is subject to review regarding the appropriateness of plant material and the possibility of encouraging wildlife habitat that could conflict with aviation operations. FAA Advisory Circular (AC) 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, included in Appendix 'D' dated August 28, 2007 contains both recommendations and requirements related to the topic. Specific plant materials that produce little to no fruit or flower would be ideal for these areas to minimize the amount of wildlife in the area. The existing plant pallet in the area should be reviewed and used as a guide for further development.

The implementation of these landscape applications will vary depending on the project or program and its proximity to certain airport facilities. While it is hard to pinpoint specific steps related to landscapes and natural systems at this time, it is encouraged that local jurisdictions work with local community groups, educational facilities and private developers to create a series of aesthetic and functional landscape treatments in the area. These organizations should also work together to maintain existing installations and to promote the benefits of these systems to the community.

Community Amenities

CHAPTER TEN

"Community amenities will be developed to maintain a safe environment to live and work, provide active and passive recreation opportunities which contribute to a healthy lifestyle, and encourage high quality education at all levels.

Equity in accessibility and affordability should be present across the spectrum of community amenities and housing options."

- Community Amenities Guiding Principle, Chapter Four

Porter County and the City of Valparaiso understand the importance of creating places within the community where people can gather and recreate. In addition, they understand that a strong network of public services is needed to keep the community's residents and visitors safe and contribute to the overall quality of life. As discussed in Chapter Three, having a vibrant and safe community set the County, City and our study area apart from other developable land. While existing community amenities are well balanced and serve the greater population it is important to keep in mind the projected needs of the area. When looking at the potential thirty year time span of this study, it became clear that a variety of community amenities would need to be enhanced, expanded, and maintained in order to meet the demand of new development. Public services, public parks, public and private schools, hospitals and health care, and a multitude of community gathering places are traditionally put in place as community needs change. With the project influx of development in the study area, it is important to plan for these amenity facilities and services proactively.

PUBLIC SERVICES

When planning for future development the highest priority should be put on planning for adequate public services. Police, Fire and emergency service are what monitor the community's safety and welfare. As development increases in and around a community, the needs of the area can become more geographically dispersed which could create difficulty in providing equal service levels in all areas.

As seen in Figure 81, the study area is currently served by three police stations and seven fire stations which also provide emergency response services. While many of the facilities are located outside of the study area's boundaries, there currently is one police and one fire service facility within the boundaries. Currently, police facilities are located at the County correctional facility, with fire protection being provided out of the Porter County Regional Airport. To date, these facilities and those outside of the study area can adequately service the region. However, as the demand for police, fire and emergency medical services rises along with growth of the community, the local municipalities need to explore the possibilities of growing the force, locating and developing additional facilities and additional funding allocations to maintain increased levels of service.

It is recommended that as development increases in the study area, and the City and County overall, that additional studies be conducted to determine that the existing facilities are providing acceptable response times and levels of service to the community.

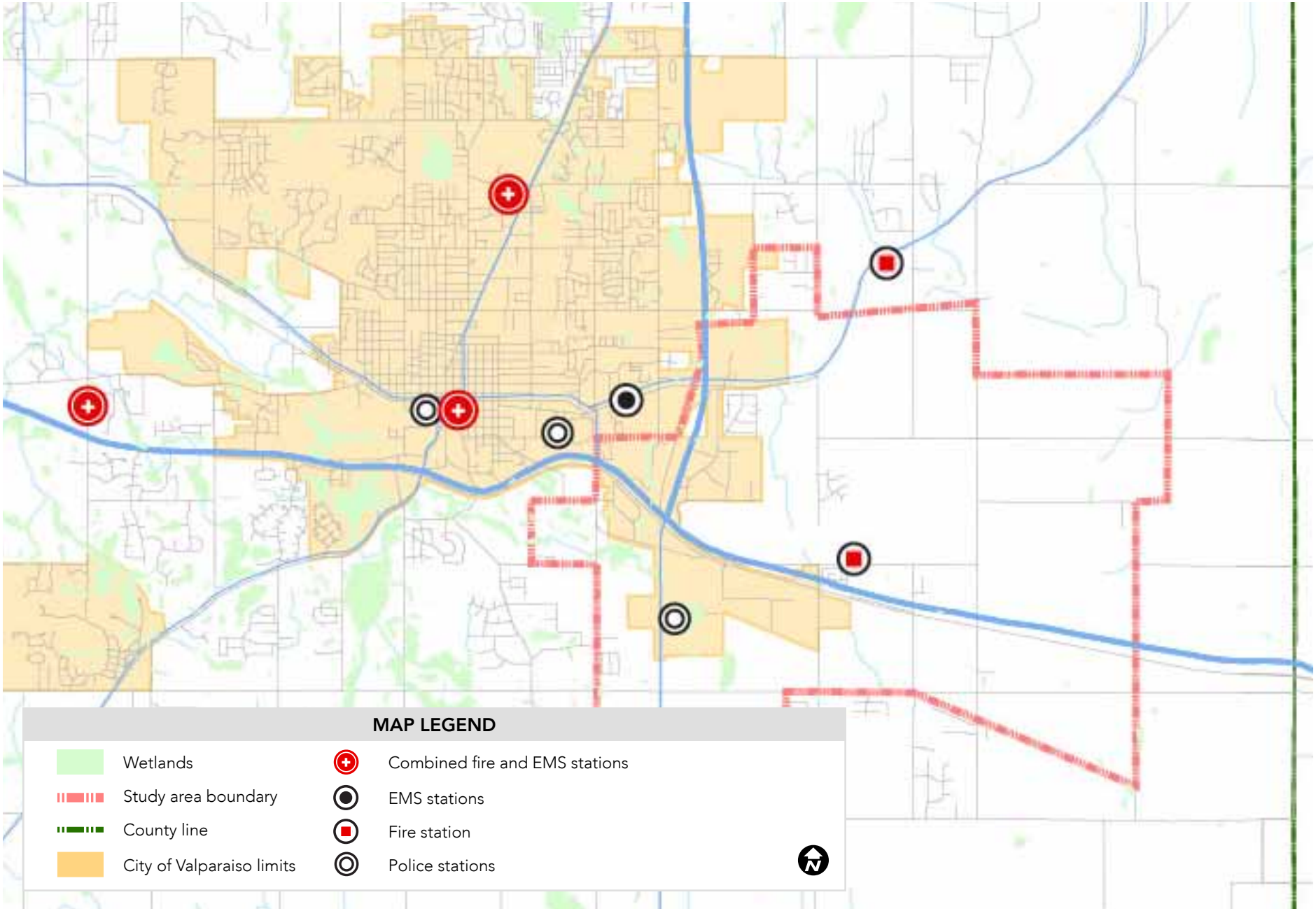

Figure 81: Existing public service facilities in and around the study area.

PUBLIC PARKS

Studies have shown that people with greater access to parks and outdoor recreational amenities are healthier and more active. These benefits are often the ultimate reason for creating parks and green space. In addition to the personal health and well-being of residents and visitors, development sites near or adjacent to community open spaces are often seen as more appealing to business owners and developers.

As shown in Figure 82, the City of Valparaiso and Porter County maintain several parks ranging in size and classification. Traditionally park facilities have an assigned service area depending on the size and classification given to the facility. Service areas range from less than a ¼ mile distance to a 3 mile distance and sometimes greater. The majority of the City of Valparaiso's residents are within a reasonable distance to a park facility, but when looking towards the future the system could become unbalanced leaving many residents and workers without a facility in close proximity.

In crafting the proposed land use plan, areas of growth East of State Road 49 are currently underserved by recreation facilities. While there is currently a minimal need for facilities in the area, as development increases, the needs of the area should be studied in order to determine if additional facilities are warranted.

The existing Park Master Plans do indicate an interest in acquiring new park facilities; however the areas of interest are outside of the study area. Therefore, in order to plan accordingly for the future, the forthcoming Park and Recreation Department Five Year Master Plans should be updated to include this area and the recommendations of this plan as necessary.

In addition to city and county owned facilities, it is recommended that local jurisdictions work to include common public open space in new development standards. Currently landscaping standards due require a percentage of open space in each development site. While this required open space is important to the aesthetics of the area, the spaces are not typically used by the general public. By requiring new development to create and maintain common public open space in addition to the aesthetic landscape requirements, the needs of the community are still being met, with the financial burden being transferred to the private developer or business owner. These community open spaces can be designed in conjunction with the business parks development sites. Many of these community spaces can be easily incorporated into development areas by utilizing utility easements, public infrastructure, environmental buffers and aesthetic gateway features. After development these areas can be maintained by the development owners or could be transferred to the local municipalities for inclusion into the parks and recreation system.

It is recommended that the City of Valparaiso and Porter County continue to reinvest and maintain existing facilities. Additional initiatives, projects, and programs identified in the City and County Park Master Plans are also encouraged as they strengthen the existing framework for parks and open space.

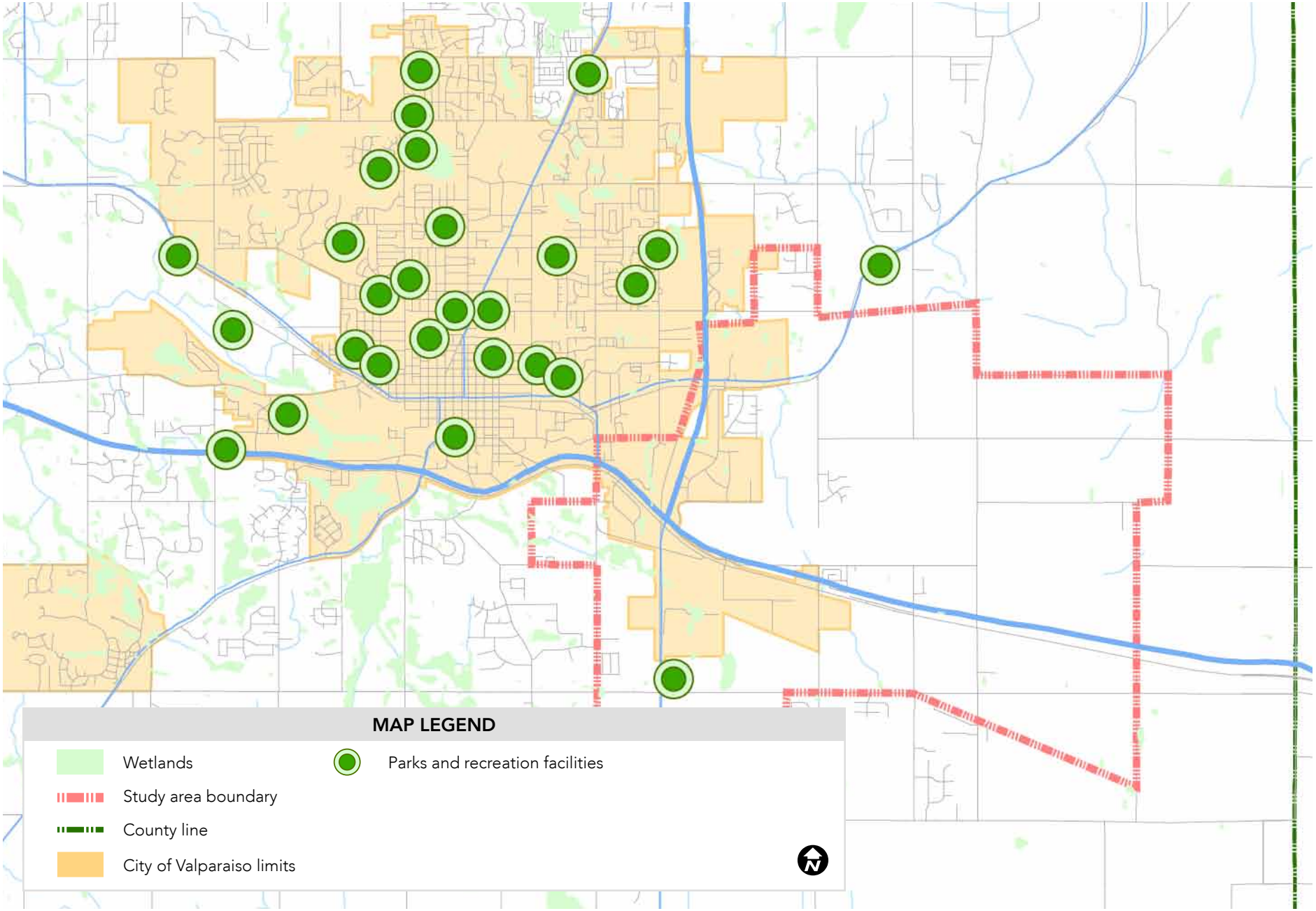

Figure 82: Existing public parks and recreation facilities in and around the study area.

SCHOOL SYSTEMS

Schools are established community facilities that are well integrated into the daily activities of residents. As seen in Figure 83, there are numerous K-12 school facilities surrounding the study area along with several higher education facilities located within or directly adjacent to the study area. Currently the school corporations can accommodate existing and future growth within the school systems without major facility improvements. Development and location of school facilities are traditionally based on population data and given that the recommended future land use plan does not propose additional residential developments, the impact to the existing school facilities is nominal.

While the capacity of school facilities was a key issue during review of the recommended land use plan, corporation funding was also a high priority. In the past, there have been issues with School Corporation funding being impacted by development incentive strategies such as tax increment financing districts. Moving forward, it is recommended that local jurisdictions continue to work with school corporations to create strategic agreements related to future development, funding implications and upgrade facilities.

In addition, it is recommended that existing training programs and partnerships continue and be strengthening to ensure that high school graduates leave the school system with a set of 21st Century job skills that they can use in future endeavors.

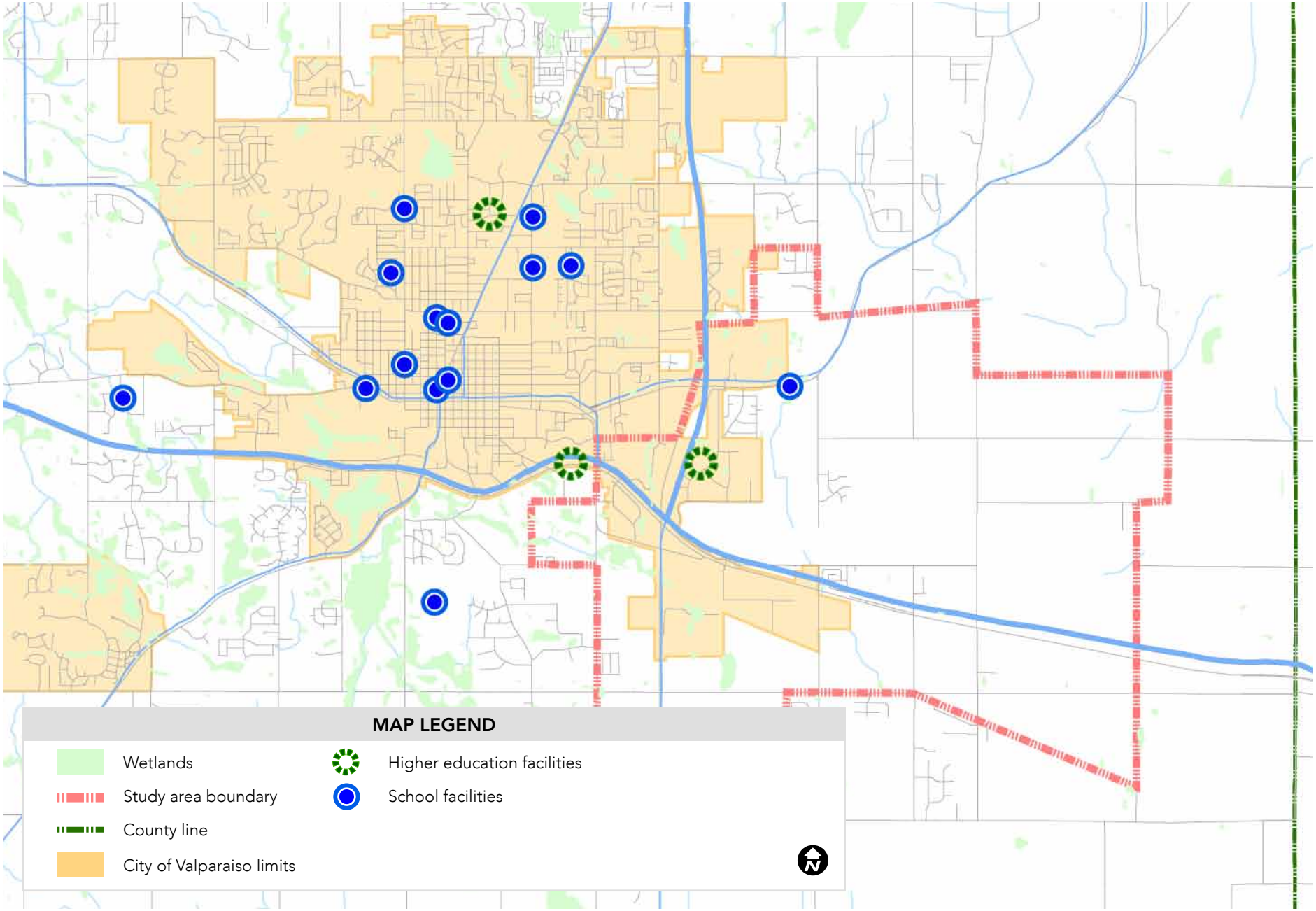

Figure 83: Existing education facilities in and around the study area.

HOSPITALS AND HEALTHCARE

Access to health care is vital to a community's quality of life. It is one of several deciding factors when potential new residents and employers are considering relocation. The City of Valparaiso and Porter County feature a number of medical facilities, from large regional size hospitals to small clinics as shown in Figure 84. While there are currently medical service providers and medical technology development located throughout the area, it is anticipated that the future development of such facilities will be concentrated near the new Porter County Regional Hospital at the intersection US 6 and SR 49.

Because of the projected medical development focus to the north, it is not anticipated that additional medical uses will locate in the project study area. Also, since the recommended future land use plan does not include any additional residential developments, it is not anticipated that the population in the area would warrant a separate facility.

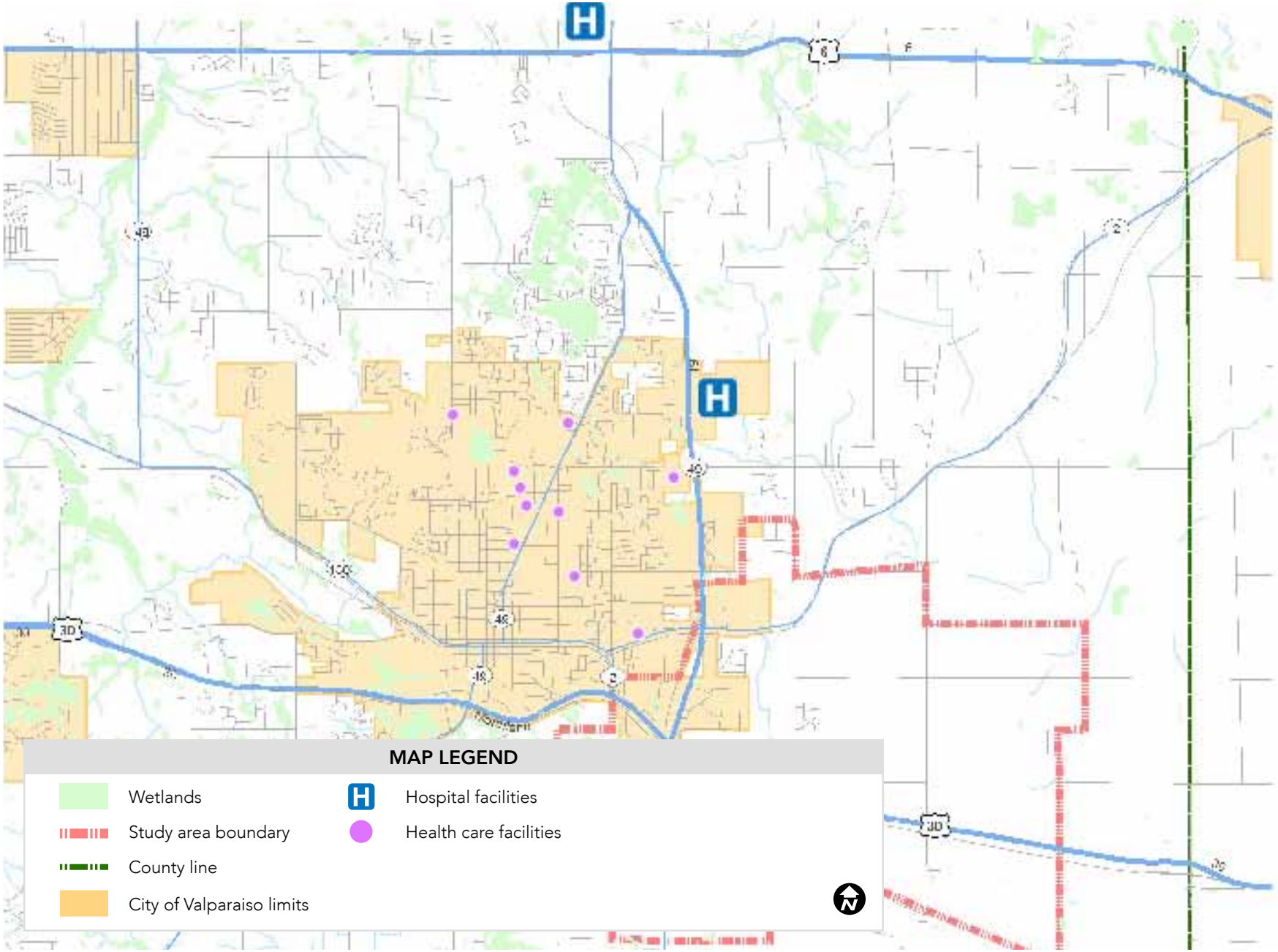

Figure 84: Existing hospital and health care facilities in and around the study area.

PUBLIC AMENITIES

Increasing the quality of life in an area combines the tangible facilities listed above along with several other elements that address the social, cultural, economic, and physical attributes of a community. The relationship between these elements creates a unique community fabric that influences the quality of life a resident or visitor will experience. To many citizens, a high quality of life is often associated with critical factors such as the interaction of people with their surroundings, including religious institutions, community centers, gathering places, civic pride, heritage, and local organizations. It is the balance of all these factors that shapes the quality of life for residents and visitors in a given community. As seen in Figure 85, the study area is surrounded by a rich fabric of universities, libraries, and museums all of which are strengthened by the tangible amenities mentioned previously. As development in the study area increases, it is recommended that these various amenities be encouraged, maintained and planned for accordingly in the future.

These community amenities described above are managed and maintained by a wide variety of government entities. Specific implementation steps related to the expansion of these community amenities cannot be identified at this time due to the unknown rate of development need in the future. However, it is clear that if development expands into the area that additional services and facilities will be needed. Therefore planning for growth, as well as coordinating between agencies, will be necessary to contribute to and improve community well-being.

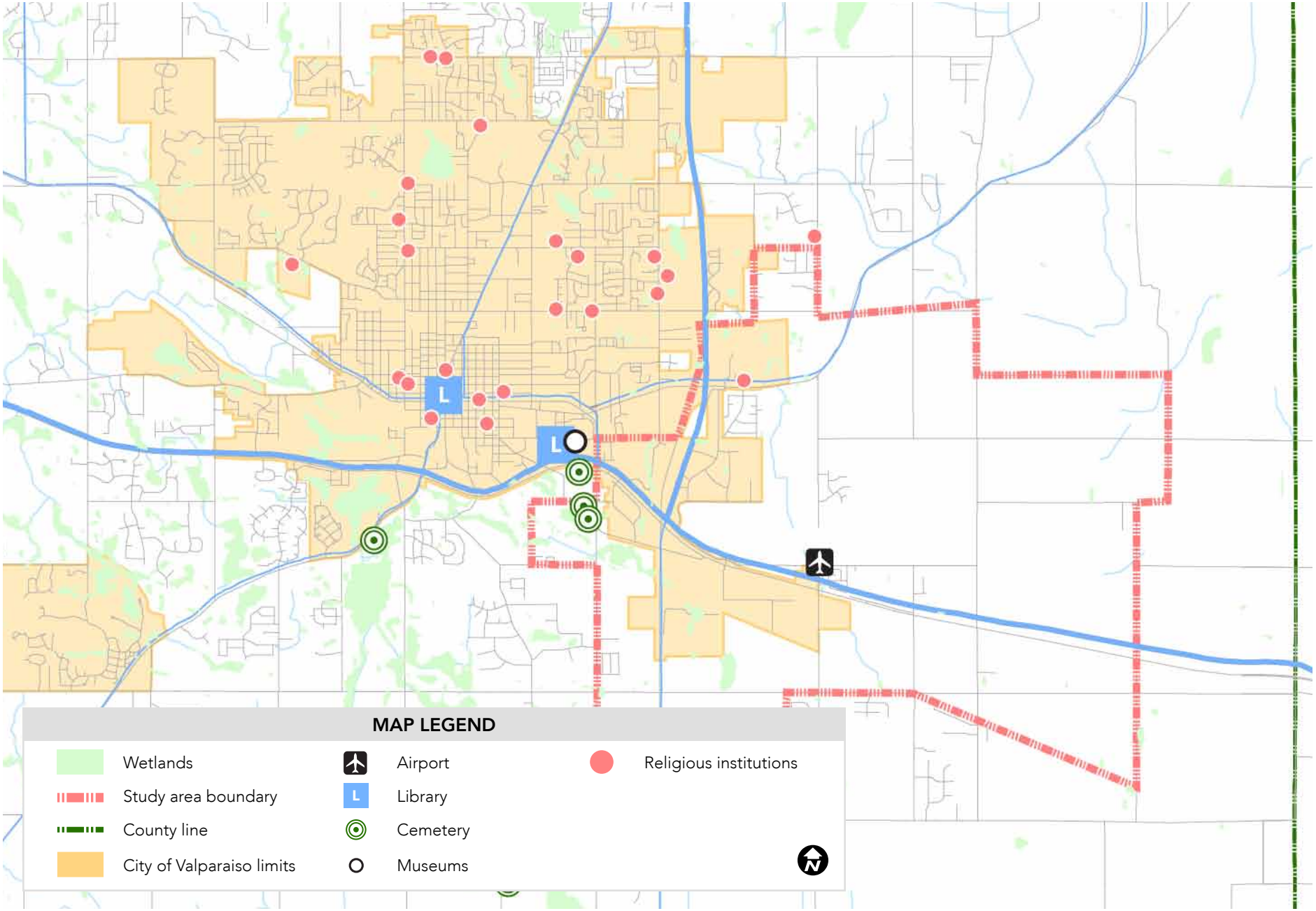

Figure 85: Existing public amenities and facilities in and around the study area.

Economic Development

CHAPTER ELEVEN

"The Porter County Airport Development Zone should strive to create opportunities to strengthen the economic base of the community by capitalizing on existing assets and further developing the competitive business climate of the area. Utilize the existing environmental and cultural resources to attract and retain skilled workers as well as targeting specific industry. This area can become a model of balanced development for the region."

- Economic Development Guiding Principle, Chapter Four

Wealth creation and job generation are important aspects for maintaining a healthy community. Although residents commuting to work do bring a portion of their income home to spend in the local community, it is the capture of the entire value-add (purchases of goods, suppliers, labor, property tax, income tax, transportation costs, and spin-off spending) process for goods and services that generate the largest return for communities in terms of job generation, higher incomes and tax revenues. This value-add capture means locating the actual businesses and job generators within the community. Currently Porter County exports more labor that it imports. Currently over 60 percent of the County's resident labor force are employed outside of the County. Although total employment is important, job creation within the airport area will help capture additional value-add with a higher benefit to the local economy.

Current economic development demand within the Valparaiso area is from businesses which are outgrowing their existing facilities and may not be able to be accommodated elsewhere within the region. The average office space in the area is around 5,000 square feet with industrial spaces around 25,000 square feet. As businesses grow and expand, the supply of space for expansion becomes a concern. Although expansion opportunities are limited within the Valparaiso area, the overall region does offer other competing alternatives including the Merrillville and Portage areas. These areas currently offer shovel-ready opportunities as well as available utilities.

Although local demand for general aviation airport facilities remains limited amongst economic development prospects, the airport area does offer some unique advantages in terms of available land and access to both air and rail transportation. The current airport does have capacity for larger cargo flights and Class I rail on the southern edge of the study area, and offers opportunities for businesses; mainly industrial operations, which are dependent on bulk freight movement. Disadvantages of the study area are available land is often not under control of an economic development authority, utility access is limited and the study area is not in close proximity to a major interstate highway.

Based upon an analysis of existing plans and studies as well as discussions with economic development entities for the City of Valparaiso and Porter County, we have formulated the following goals to guide economic development within the study area:

ECONOMIC DEVELOPMENT GOALS

Recommendations for economic development within the study area focus around the following major goals:

- A focus on development of shovel-ready economic development sites to remain competitive in an age of short development durations and quick site selection decision-making by businesses;
- Continuing support for business expansion by offering site alternatives for expansion and local relocation;
- Offering locational incentives for start-up high-wage technology focused businesses utilizing local public/university partnership;
- Targeting high-wage manufacturing operations to take advantage of proximate rail access and the decreasing land availability in the northern portion of the county;

The following recommendations are specific programs, policies and projects to accomplish to improve the job and wealth generation of the area based upon the overall economic development goals.

CERTIFIED TECHNOLOGY PARK

A Certified Technology Park (CTP) is a vehicle for local recapture of state sales and income tax to fund business services and provide infrastructure for businesses within the certified technology park allocation area. The Indiana program allows for a recapture of up to $5 million in sales and income taxes over the life of the fund. These funds are to be reinvested within the park to enhance the attraction of high-technology businesses. These investments can be in infrastructure, marketing or related business support programs.

The plan has identified that infrastructure development, especially in terms of utilities and transportation, are key investments necessary for the development of the area. Limitations of current wastewater sewer infrastructure are limitations to certain industrial development. In other cases water and sewer infrastructure, as well as improved transportation access, must be provided to make sites within the area competitive from a business attraction or expansion standpoint.

The CTP program can provide for a recapture of state sales and income taxes a well as local option income taxes within the area that would otherwise not flow into local coffers for infrastructure investment. Since the inception of the CTP program, over 19 CTPs across Indiana have been designated. CTPs within the Northwest Indiana region include Crown Point and Hammond, both of whom have expired (a CTP is only certified for a four-year period). Crown Point is currently working to recertify their CTP. The CTP programs in Crown Point and Hammond captured over $936,000 and $2.1 million in revenue respectively.

Two components necessary for a successful CTP designation are predicated on two major criteria:

- Targeting business activity and job creation in high technology activities such as advanced computing, advanced materials, biotechnology, electronic device technology, engineering or laboratory testing related product development, technology relating to assessment or prevention of health or environmental threats, medical device technology, product research and development and advanced vehicle technology. The formation and potential recertification of a CTP must include an increase in business activity and job creation.
- A partner organization such as an institution of higher education must participate and make a certain level of support or commitment of certain facilities, services, activities or funding. These can include job training programs, incubator space and services, technology transfer, or other similar services.

The CTP program is administered by the Indiana Economic Development Corporation (IEDC). A major portion of the CTP program is a partnership with one or more higher education institutions to help stimulate technology transfer as well as assist with business services. Partnerships with local institutions such as Ivy Tech and Valparaiso University would be beneficial to local economic development potential. Specific steps for forming a CTP include:

- Establishing boundaries for the park. We recommend boundaries include areas within the current airport study area.
- Developing a strategy for economic development growth within the area that specifically targets high-technology business. The business development plan must demonstrate a clear strategy for long-term job creation and business activity growth.
- Developing a partnership between the airport authority, the City of Valparaiso, Porter County and local higher education institutions to help fund establishment of the park.

The CTP program will require the participation of a variety of stakeholders including the following:

- Valparaiso and/or Porter County Redevelopment Commissions – The CTP program requires that the redevelopment commission create the area and be the receiver of the captured funds.
- Institution of higher learning such as Ivy Tech and/or Valparaiso University who can provide business support services, direct funding, technology transfer or other services to the technology park. For example, the Hammond CTP includes an outreach of Purdue University-Calumet who support a technology incubator program within the CTP area.
- Valparaiso Economic Development Corporation/Porter County Economic Development Agencies
- Indiana Economic Development Corporation

SECURING SHOVEL-READY SITES

Oftentimes relocating or expanding businesses have tight timeframes for ramping up new operations. This short ramp up time means that communities that are not able to provide immediately developable sites are not even considered as potential candidates even if they have the ready labor force and other amenities a business may prefer. Communities often find the need to secure shovel ready sites on a speculative basis in order to immediately respond to today's high demand prospects. It is important for the City and the County to establish target sites to develop as shovel-ready for the purpose of responding quickly to economic development prospects.

Establishing shovel ready sites creates a marketing advantage for the airport area in business attraction. In addition, certified shovel-ready sites are prioritized for marketing by regional and state economic development agencies. As communities become more focused on creating shovel-ready sites, those sites available for economic development that do not meet these criteria become less competitive from a business attraction standpoint.

Securing property through fee-simple ownership or development options is an important requirement for a certified shovel-ready site. Encouraging development within the airport area will require the City and County to take a more active role in direct real estate procurement or developing relationships with friendly landowners who will agree to participate in a site shovel-ready program and agree to marketable property values. Chapter Two of this report includes an analysis of property that fits the criteria for suitable development. In relation to securing shovel ready sites, the analysis done in Chapter Two was combined with the proposed land use plan discussed in Chapter Five. The outcome was a targeted map, shown in Figure 86, that illustrates areas suitable for development and/or redevelopment. These lands were then put into two categories to illustrate the development priority, "Primary and Secondary Development Opportunities". Areas designated as "Primary Development Opportunities" are those that contain or have access to the majority of the criteria described in Chapter Two. In addition they are areas that were identified as development areas within the proposed land use map. Areas designated as "Secondary Development Opportunities" are those lands that are shown on the land use plan as development areas, but would require considerable capital improvements to make them "shovel ready". Many of these areas designated as "secondary development" do not have adequate utility and transportation infrastructure. These properties should be targeted for participation in the shovel-ready program.

The Indiana Economic Development Corporation (IEDC) has a state certified shovel-ready program in which qualifying sites are given marketing priority when the state engages potential prospects. These sites are also highlighted in the state's site selection database. To qualify a site as shovel-ready, the following actions must be performed:

- Secure site ownership or development options as well as conducting a 50 year title search
- Conduct an ALTA survey of the site
- Conduct a Phase I environmental assessment of the site
- Conduct an IDEM approved wetlands delineation
- Extend water and sewer infrastructure to the site with capacities clearly defined
- Provide transportation access to the site
- Provide electricity infrastructure to the site with capacity clearly defined
- Extend natural gas infrastructure to the site with capacity clearly defined
- Extend high speed data infrastructure to the site with capacity clearly defined

The shovel-ready program will require the participation of the following stakeholders:

- City of Valparaiso Utilities
- Valparaiso Economic Development Corporation
- Porter County economic development agencies
- City or county agencies that will participate in land acquisition (airport authority, redevelopment commissions)
- NIPSCO
- Kankakee Valley REMC
- Frontier Communications
- Indiana Economic Development Corporation

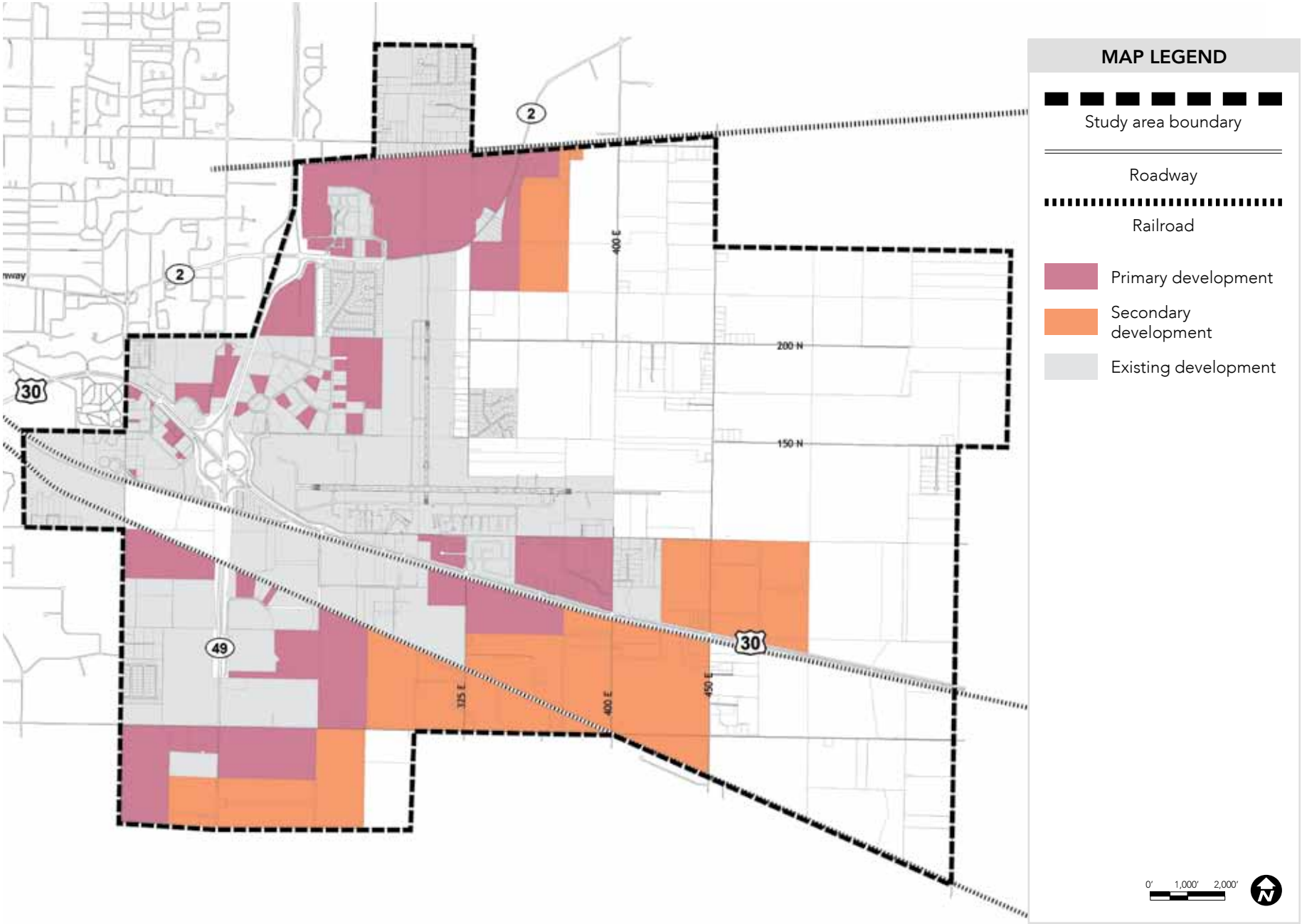

Figure 86: Development sites and shovel ready priorities map.

TAX-INCREMENT FINANCING DISTRICTS

Tax-increment financing (TIF) is a mechanism to temporarily capture tax revenue from property tax to be reinvested within a district for improving infrastructure to attract and retain business. TIF works by establishing a baseline for assessed valuation when the district is created. Taxes created by that initial valuation still go to the existing taxing districts and general funds. As property values increase within the district, the initial taxes generated from that increased valuation (increment) are diverted to a special fund. That fund can then be used for infrastructure investment, real estate acquisition, bond financing or other services for the support of the district.

TIF has the benefit of making infrastructure development for economic development within the airport area self-financed. Instead of outlays from general funds, TIF financing can be used to pay for these infrastructure costs. TIF is also not an increase in taxation as it is diverting new taxes from new investment into a special fund to pay for investment within the TIF district. Existing taxes paid at the time the TIF district is established continue to flow to the taxing districts they are owed to. The practice of TIF shows that the increased targeted infrastructure investment that TIF districts allow for develop increased overall assessed valuation of real and personal property within the TIF area. When the TIF district expires, the taxes from this increased valuation flow to the appropriate taxing districts. TIF also has the affect of risk re-allocation when it comes to economic development. Instead of taxpayers being directly responsible for the burden of infrastructure development, TIF allows for most infrastructure development to be financed through development bonds. This shifts the risk of development to the bondholders.

As with any financing mechanism there are some drawbacks. TIF assumes that all new investment is the result of the TIF district and would not occur naturally. Because of this no new taxation generated from the new assessed valuations is paid to the original taxing districts until the TIF district expires. Some taxing districts, such as schools, argue this "short-changes" their coffers. It is important for redevelopment commissions to recognize that increased development increases the cost of services that other taxing districts provide (such as education, public services, utilities, etc). When a TIF is in place, these districts will not enjoy the additional tax revenue to pay for these additional service costs. Indiana law does allow for TIF districts to compensate these units for services provided to the district. Also bonding through TIF does often carry more risk to the investor, and as such, carry higher interest rates than general obligation bonds. It is important to note that TIF bonds can also be taxpayer guaranteed, which does reduce the interest rate, but also transfers risk back to the taxpayer.

The following steps are necessary for formation of a TIF district:

- Porter County must create a Redevelopment Commission to have authority to create economic development/redevelopment districts and TIF allocation areas. (During the review of this document the Porter County Redevelopment Commission gained the authority necessary to complete these steps.)
- Have the area established as an economic development or redevelopment district by both the City and County redevelopment commissions through an inter-governmental cooperative agreement.
- Develop a plan for redevelopment or economic development of the area.
- The City of Valparaiso and Porter County Commissioners must adopt a declaratory resolution establishing findings to create an economic development area or findings of "need for redevelopment" to create a redevelopment area.

In order to establish the TIF allocation area participation would be needed from Valparaiso and Porter County Redevelopment Commissions, Valparaiso Plan Commission, Porter County Plan Commission, Valparaiso Common Council, and the Porter County Commissioners

A joint TIF district established between the Valparaiso Redevelopment Commission and the Porter County Redevelopment Commission would produce a less complicated allocation area to help finance the extension of services and infrastructure improvements within the study area. IC 36-7-25-4 allows for the joint undertaking of redevelopment or economic development projects in contiguous areas.

BRANDING PROGRAMS

Typically economic developers get "one shot" at getting the attention of site selectors, consultants, and businesses that make decisions on the location of businesses. Developing a "brand" for an area can help unite a marketing message and help make the area more attractive.

Branding is not just a unique logo or tagline, but the collective of perceptions, messages and mechanisms for delivering the message about a product. The product is the Valparaiso community, and namely the attractiveness of the airport area for business location. Effective branding explains why the product (the airport area) is beneficial, it speaks to the target audience, it resonates with stakeholders, and is unique.

A district branding program would not only integrate with an overall wayfinding program for the community, but would provide for differentiation of the sites and demonstrate the City's and County's commitment to development of the area. The marketing program would target specific industries/businesses that would benefit from the available sites/amenities and proximity to airport infrastructure. Steps to creating this program would be:

- Develop overall brand image
- Integrate brand with gateways/signature streets/wayfinding program
- Develop marketing materials in conjunction with local economic development agencies
- Integrate direct mailing/electronic marketing at target businesses/industries.

Participation from the following stakeholders is needed:

- Valparaiso Economic Development Corporation
- Porter County economic development agencies
- Porter County Airport Authority
- City of Valparaiso
- Porter County

TARGETED-INDUSTRY MARKETING PROGRAM

Certain types of businesses are attracted to an airport area because of the accessibility of location, air services or prestige of operating in these locations. Although a general aviation airport, Porter County Regional Airport does have amenities to support operations that many municipal GA airports do not. Typical businesses attracted to the airport areas are:

- Air operations support services
- Logistics
- Warehousing
- High-tech businesses that create products with a high value to weight ratio

A target industry analysis should be completed for the region to best understand the comparative advantage in attracting these types of businesses, but the proximity of US 30, State Road 49, I-80/94 and I-65 as well as immediate airport access do indicate potential locational advantages for high value low weight product industries such as:

- Optical instruments and lenses manufacturing – primarily engaged in the manufacturing of optical instruments such as binoculars, microscopes, telescopes, prisms, and lenses, coating and polishing lenses and mounting lenses.
- Communications equipment – Engaged in the manufacturing or wholesaling of telephone equipment, radio and broadcast television equipment, wireless communications equipment and other communications equipment.
- Electrical Distribution – Engaged in the manufacturing of power, distribution and specialty transformers, electric motors, generators, and motor generator sets, switchgear and switchboard apparatus, relays, and industrial controls.
- Specialty chemical products – Engaged in the manufacturing of relatively high valued chemicals with diverse end product markets. Chemicals are characterized by their innovative aspects. Products include electronic chemicals, industrial gases, adhesives and sealants, coatings, industrial cleaning chemicals and catalysts.
- Navigational, measuring, electro-medical and control instruments – Engaged in manufacturing navigational, measuring, electro-medical and control instruments. Examples of products include aeronautical instruments, appliance regulators and controls, laboratory analytical instruments, navigation and guidance systems, and physical properties testing equipment.
- Air Cargo Carriers (unscheduled) – engaged in providing transportation of cargo without transporting passengers with no regular routes and regular schedules.
- Specialty Fabricated Metal Products – engaged in employing cutting, hammering and/or fastening of metal pieces into end products. Specialty fabrication is typically for highly customized metal work with high value that is typically not mass produced.
- Pharmaceutical Wholesaling – engaged in the merchant wholesale distribution of biological and medical products; botanical products; botanical drugs and herbs; and pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions and suspensions.

It is important to note that the value of an airport does decrease substantially in terms of locational value without cargo services available. The ability of an airport to foster cargo services is important in improving the locational value for these above industries. Freight activity is also greater in airports with international and/or long-distance services. Without offering cargo services, GA airports are much more limited in locational advantages and typically only are attractive to the following types of industries:

- Aerial surveying
- Product delivery – for businesses that operate their own aircraft and/or charters
- Charter transportation
- Transporting supply contracts – utilities and construction, flight training schools, sky diving, etc.
- Agricultural spraying
- Law Enforcement
- Air ambulance
- Organ harvest transportation
- Air angel flights
- Recreational flying

For the above businesses the ability of the airport to handle corporate jets and provide reliable services in all weather and all hours are important in terms of the business location factor.

Participation from the following stakeholders is needed:

- Valparaiso Economic Development Corporation
- Porter County economic development agencies
- Porter County Airport Authority
- City of Valparaiso
- Porter County

FOREIGN TRADE SUBZONE

Foreign Trade Zones or (FTZs) are secure areas located near ports of trade that are outside of areas typically controlled by US Customs and Border Patrol. Foreign and domestic merchandise may be moved into zones for operations and are typically exempt from payment of duties or tariffs until after the merchandise leaves the zone for domestic consumption. An advantage in reducing tariff and duties is that users may elect to pay for the goods based upon raw material or finished good costs, whichever may be more advantageous. Also tangible personal property is typically exempt from state and local sales taxes. It is important to note that zones must be secure and movement in and out of the zone must be restricted with perimeter fencing and other controls.

Advantages to the public include encouraging and expediting international trade, streamlining customs procedures for businesses within the zone, encouraging exports, encouraging retention of domestic activity and un-offshoring of manufacturing and wholesale trade and creation of jobs.

An additional benefit to the airport authority is an increase in demand for cargo operations.

There are currently 6 full FTZs in Indiana and 30 subzones. Full FTZs are located in:

- Indianapolis
- South Bend
- Portage/Burns Harbor
- Jeffersonville
- Evansville/Mount Vernon
- Fort Wayne

Due to the proximity of the Portage/Burns Harbor FTZ, the Porter County Regional A irport area could qualify as a subzone of this primary FTZ.

Establishment of a zone takes the following steps:

- The Foreign-Trade Zones Board must approve any applications for establishment and operations of an FTZ
- The zone must be located within 60 statute miles of the outer limits of a US Customs and Border Patrol port of entry (or 90 minute drive time)
- Conduct a cost/benefit analysis to determine whether or not the amount of foreign trade will constitute a general purpose zone or a subzone. An approved general purpose zone does have security and operating requirements that may be cost prohibitive if there is not enough need for zone services. Furthermore the application process can take 10 – 12 months for approval. A subzone can reduce overall operating costs.
- Submit an application through the City of Valparaiso, Porter County, Porter County Airport Authority or local economic development organization.

The Porter County Airport Authority, Valparaiso Economic Development Corporation, Porter County economic development agencies and Ports of Indiana are all stakeholders that would be required for establishment of an FTZ subzone.

Implementation

CHAPTER TWELVE

The I*n Plane View: A Clear Vision for the Future* is a policy document and development guide for future decision-making within three different jurisdictions; Porter County Regional Airport Authority, Porter County and the City of Valparaiso. The previous chapters within this document spell out the development vision of this area, policy direction for decisions and recommended actions. A key aspect of this plan is how it is implemented after it is adopted. In order to ensure success, this section of the plan states how the Porter County Regional Airport Authority, Porter County decision-makers and City of Valparaiso decision makers may best implement the Plan. In addition, for this Plan to function over time, each entity must jointly periodically review and update this plan in order to keep it responsive to significant trends or changes in the economic, physical, social or political conditions.

Each community will differ in their ability to implement the plan. Balancing community interests with individual property rights can be difficult, at times. Therefore, it will be incumbent upon Porter County and Valparaiso to choose the tools and approaches that will work best for them to implement the respective policies and recommendations contained herein.

Each chapter in this plan contains an overview of the recommendations and the policies necessary for that particular topic. At the end are a series of recommendations that need to be implemented. This plan, within its various chapters, has identified specific recommendations or action to carry out the Plan's goals and policies in a separate work program entitled Action Plan. The Action Plan identifies the actions, responsible parties or jurisdictional departments and timing. The main implementers/champions should continue to work together to administratively update this action plan on a periodic basis – every year or two years, as necessary. It's important that each implementer/champion report out to each of their respective jurisdictions yearly on the progress of implementation for this plan. This will allow minor adjustments in the plan to take place.

The remaining chapter is organized into five categories which guide the implementation of this plan. These categories include organization and management, policy and adoption, additional studies, collaboration and next steps. The policy and adoption will discuss the next steps that need to happen for this plan to be an effective guide to decision making. The additional studies component illustrates needed policy or design documents to implement specific recommendations set forth in this document.

- Administration
- Adoption
- Regulatory Change
- Special Studies
- Action Plan

ADMINISTRATION

The *In Plane View: A Clear Vision for the Future* will need to be implemented by three different jurisdictions including the Porter County Regional Airport Authority, Porter County Commissioners and the City of Valparaiso City Council. Just as these three jurisdictions have undertaken this study in a joint manner, they will need to be able to implement this plan both jointly as well as independently via other regulations and policies as permitted under Indiana State Law.

The implementation of this plan will fall onto the staff more than the legislative bodies, board, and commissions within each jurisdiction. Because this plan is within three different jurisdictions, at times competing interests regarding how to develop specific parcels of land might occur. It will be imperative for each of the entities to work together to resolve issues and find common ground. In most cases, the design standards will differ between the County, City and Airport. While this plan recommends the development of common standards for this study area, those will not be in place at the adoption of this plan. Therefore, if the City intends to annex the property at a later date but requiring their standards be used, the City should instead initiate annexation concurrently during the development plan review phase. If the property isn't annexed, then the County's standards will remain in effect. However, as noted above, it is imperative for all parties to try and reach a common design standard to promote economic development interests and minimze the additional process and time which can hinder economic development goals.

While the policy within this plan and the zoning regulations can set the stage for the development envisioned in this plan, neither the policy,

Recommendation: The creation of joint design standards for the study area. Until this is created the standards of the jurisdiction shall apply unless a property is annexed.

regulations or the private sector alone can achieve the desired plan results. Because of the competing interests, the broad partnership that has been established under this process will need to remain engaged to overcome conflicts.

Recommendation: Create an intergovernmental agreement that will guide the development within the study area.

INTERGOVERNMENTAL AGREEMENTS

A number of the plan recommendations will be best achieved through Intergovernmental Agreements between the City of Valparaiso, Porter County and other governmental entities. Porter County and the City of Valparaiso have entered into Intergovernmental Agreements previously. Once established, these agreements will continue to operate for as long as the agreement intended. For this plan, an intergovernmental agreement is recommend for changes in the future land use map and zoning. The Intergovernmental Agreement should address how changes will be made to the future land use map, review of development plans, and how zoning changes will occur. See Appendix 'E' for a sample Intergovernmental Agreement.

Recommendation: Create an on-going multi-jurisdictional implementation committee who focuses on working out design standards and other items related to the implementation of the plan.

PARTNERSHIPS

During the creation of this plan, several jurisdictions and partners have come together to create this plan. The future implementation of this plan requires the on-going relationships with various entities. Strong partnerships are needed to foster good communication and provide additional alliances in the implementation of some of the recommendations. The implementers/champions should present the recommendations of this plan formally to its partners. The following list indicates some critical partnerships that need to be maintained or strengthened.

- Porter County Regional Airport Authority
- City of Valparaiso (Mayor's Office, Engineering, Planning, Public Works, Economic Development), City and County Utility Departments
- Porter County (Commissioners, Planning, Survey, Highways)
- Valparaiso Chamber of Commerce
- NIRPC
- Local universities (Valparaiso University, Ivy Tech, Purdue North Central)
- Local school systems (continue existing training program in the area with K-12 school systems)

IMPLEMENTATION COMMITTEE

One of the implementation recommendations of this plan is the creation of an on-going multi-jurisdictional standing committee to ensure that this plan is implemented. This committee should be called the implementation committee and should be a smaller subset of the larger steering committee that created this plan. This committee should meet regularly to discuss implementation responsibilities as well as discuss development proposals and applications within the study area. For example if one of the jurisdictions receives an application for development, it could be brought to this technical steering committee to discuss the pro's and con's and how the development fits in with the direction of this plan. This committee could also assist the implementers/champions with the yearly report to each of their respective jurisdictions.

ADOPTION

Each jurisdiction will carry out the recommendations spelled out in the various

chapters throughout this document. These recommendations will be carried out through day to day policy decisions which will be made by Planning and Engineering staff, Plan Commission and City Council/County Commissioners. The Plan Commission will continually make decisions regarding development proposals, plan amendments and rezonings. For example the plan's policy is to limit residential development within the study area. Therefore, the plan's policy is that residential rezonings should not occur unless the rezone type is consistent with the future land use map. Future residential rezonings would be limited then and Plan Commission's would reject any rezoning request of such type. This type of policy decision is consistent with the intent of the Plan. The Plan serves to guide such policy decisions that will occur throughout the life of the plan.

In order to make this plan an official document of policy, adoption of the plan is needed. This plan should be adopted as part of the City's Comprehensive Plan and Transportation Plan document and the County's Comprehensive and Thoroughfare Plan. This adoption process should be consistent with IC-36-7-4-500 series and follow the following process:

- Adopt the planning study
- Amend existing County Comprehensive and Transportation Planning documents
- Include the recommendations in the current draft of the City of Valparaiso's updated Comprehensive Plan and Transportation Plan.

Once the plan is adopted it will need to be revised from time to time to ensure that it stays consistent and relevant to current conditions. It is best that the jurisdictions continue in the same joint manner it has to undertake the creation of this plan. The implementation committee should be used to monitor and update this plan. A plan update should occur at intervals of approximately every five years. The purpose of the plan update is to re-evaluate the goals, policies, and strategies contained within this Plan (noting those to change and those to remove), and to develop new policies if necessary to make sure that this Plan is being effective. The plan update process is further described below.

A separate process exists for amendments to the Plan. Each jurisdiction should perform amendments on a yearly or periodic basis as needed. This plan amendment should be at the recommendation of the implementation committee and the appropriate jurisdiction. Plan amendments may include revisions to one or more sections of this plan as a result of changes within the market, infrastructure, a specific issue/policy change or change in state law. Plan amendments may include changes to the land use plan map or may be as small as correcting text maps or errors. The process for making these amendments is described below.

Plan Update Process

This plan should be updated at least every five (5) years, unless otherwise directed by the appropriate Plan Commission or legislative body. It is intended that a comprehensive update of this plan take place at least every five years. This is important, especially since the entire build out of the land use plan is projected for more than 50 years. The jurisdictions' prime consideration in making a determination of when an update should be initiated should include what changes have occurred since the Plan was last updated. These changes maybe in such as the economy,

Recommendation: Each jurisdiction should adopt this plan as a matter of policy. This would typically be an amendment to the comprehensive plan for the jurisdiction.

Recommendation: Update the plan every five years, unless physical, economic, environmental or value system changes occur that require the plan to be updated sooner.

Recommendation: Create one set of design standards for the entire study area which will facilitate quicker processes and an environment of certainty for development.

the environment, airport operations, traffic congestion, jurisdictional priorities, projected growth or something else significant. The plan update should include a thorough review and evaluation of the vision and development policies contained within chapter 5 of the plan. Within that review, each development policy should be reviewed for achievement, in process or lack of relevancy. Policies that have been achieved or are not relevant should be changed or removed from the plan. New policies should be developed, if necessary, to accommodate any changes in conditions and ensure the plan is still effective. A plan update should also include a thorough review of the validity of all the information contained within the plan and should include extensive opportunities for involvement by the public, boards and commissions, elected and appointed officials, staff and other affected interests.

Plan Amendment Process

Plan amendments should be considered when the overall vision and development policies still remain. This process should be undertaken when changes are needed to specific parcels or a stretch of road that might be changed. An amendment should be considered only when it will not change the overall vision or development principals established. This plan will have been adopted as an amendment to the comprehensive plan, therefore the amendment process will need to adhere to the change to the comprehensive plan. The amendment would be in accordance to IC 36-7-4-500 series and occur as follows:

- Appropriate jurisdiction's Plan Commission would give notice for a public hearing for an amendment to the jurisdiction's Comprehensive Plan in accordance with IC 5-14-3 series.
- Hold a public meeting(s) and approve the amendment by certifying the Comprehensive Plan amendment to the appropriate jurisdiction's legislative body
- A resolution shall be adopted by the appropriate jurisdictional legislative bodies

REGULATORY CHANGES

Ordinances, standards and design guidelines are the primary tools for implementing land use and economic development policies. Each jurisdiction has developed its own standards which are implemented through their Unified Development Ordinances (UDO). Each jurisdiction will need to make changes in its development regulations consistent with the vision and development principles set forth in this plan. Each jurisdiction needs to review its development regulations and standards (including the UDO and possibly roadway standards) for consistency. For example the Plan recommends that the aviation surface standards, which would protect the airport from encroachment or endangering airport operations from adjacent development, be incorporated into the regulatory process. Therefore, each jurisdiction would need to update their UDO's and review process.

Each jurisdiction may need to review their base zoning against the new land use plan. In some cases there are conflicts between the base zoning districts and the land use plan whereas the base district does not support the future desired uses of the land use plan. Additionally, as part of Indiana's Shovel Ready program, the zoning is one criterion that needs to be in place to achieve that designation. Therefore, the jurisdiction should rezone the parcel to support this land use.

In some cases standards between the City, County,

and Airport will be different. Because this project is a joint initiative between these jurisdictions, one standard should be developed for the entire project area. Currently, the County has an overlay zone for the airport and both the City and County have traditional base zoning districts. Therefore, this plan recommends that an Airport Overlay Zone is updated for Porter County and created for the City of Valparaiso. Porter County would need to amend Chapter 3 within their Unified Development Ordinance to repeal and replace the existing overly with the new overlay. Valparaiso should amend chapters 1, 2, 3 and 11 of their Unified Development code to include this new overlay district within the framework of their existing ordinance.

As noted in Chapter 5, Land Use & Zoning, a two tiered overlay zone is recommended. (Airport Zone 1 would cover the area generally include the airport, and the entire area south of US 30 east of Sturdy Road, just north of county Road 100 S and just west of 500 east.) The standards developed for this zone should contain more performance based standards that will ensure new industry is clean and fits with the character described in this plan. The standards in this tier are intended to be less restrictive in the actual character of these buildings and focus more on the regulation of the use, infrastructure standards and community amenities (sidewalks, paths, signage, landscaping, etc.)

Zone 2 would be the rest of the areas north, west and east of the airport. This area would include areas east of Sturdy Road, south of State Road 2, west of County Road 600 East and just north of Norfolk and Southern Railroad. The standards developed for this zone should contain more form based zoning which focuses on the ability to create mixed use districts and ensure the character, look and feel of the development is consistent with the descriptions in this plan.

The implementation committee, described in the Administration Section of this Chapter, should be used to work through the detailed standards for this two-tiered overlay district. The committee will need to discuss and agree upon standards that will direct how development occurs. It is also recommended that the committee discuss certain incentives (increased density, less landscape, etc) that can be given to developers who suggest higher design of building, higher wages for jobs, etc. The committee should address the following standards for each tier.

- Landscape
- Lighting
- Architectural Features
- Signage
- Green Infrastructure Options and Standards
- Green Space/Open Space
- Sidewalk and Pathway Standards
- Density (floor area, minimum size, etc.)
- Height
- Location of Buildings
- Coordinated Development
- Roadway Standards

Additionally, as part of the update to each jurisdictions UDO's, standards should be developed to promote alternative forms of transportation and integrate complete streets principals.

Recommendation: A two-tiered overlay zone should be created for the study area and adopted into each jurisdiction's Unified Development Ordinance.

Recommendation: Detailed design plans are needed for study area to further implement this plan. These include study area stormwater management plan, study area utility master plan, urban design treatments for US 30 & SR 49, and update of each jurisdiction's thoroughfare plans.

SPECIAL STUDIES

The In Plane View: A Clear Vision for the Future plan provides a more detailed examination of the area in terms of land use, economic development and utilities, however the plan cannot go in depth into certain issues. Therefore, this plan establishes a foundation for the need of additional studies to implement key initiatives within this plan. For example, some policies recommend the construction of gateway features within the study area as well as the development of some streetscape enhancements. In order for those recommendations to be implemented, a design palette needs to be defined and adopted. This additional study is needed because it takes the recommendation from this plan and provides a level of detail that was not possible in this plan. Other studies identified have varying levels of priority, depending on the issues involved. Consequently, the various jurisdictions will initiate them at different timing intervals. The following additional studies to be completed include:

- Complete a long range Stormwater Management Plan
- Complete a long range Utility Master Plan
- Develop a detailed urban gateway design for both US 30 and State Road 49
- Update of the City & County's Thoroughfare Plan based on the identified recommendations in this plan

ACTION PLAN

The implementation matrix on the following pages summarizes the recommended steps and identifies priorities and time frames to guide each jurisdictions allocation of efforts and financial resources. These three categories of implementation actions are described in further detail in this chapter, along with key implementation tools and resources.

The following action steps from the Implementation Matrix should be the first steps in implementing the *In Plane View: A Clear Vision for the Future* plan.

For each action, there are a series of action steps identified which is the process that should be followed for implementation of that particular recommendation. Responsible party identifies who should be involved in the implementation from the specific departments to the legislative bodies.

There is no single dollar cost for implementing this plan. The *In Plane View: A Clear Vision for the Future* is in essence an ambitious long-range policy and design plan that will take between 30 and 75 years to fully implement, depending on market conditions. Assigning specific costs to such a broad ranging, long term effort would be highly speculative. Further, depending on some of the policy options chosen, costs could vary greatly. Funding considerations were not ignored, however. A number of suggestions and ideas were considered and the most relevant funding sources were identified. It should also be noted, that at the time this document was prepared the US Congress was working on a new Transportation Bill that would be only 21 months long. Therefore with the adoption of the bill additional funding could be available and

therefore this transportation funding would need to be coordinated with NIRPC. Additionally, the Indiana's new tax caps for Indiana are just being fully realized in terms of the impact on local budgets. At this time, the tax cap has hindered many local budgets and Porter County and Valpariso have been tightening their budgets. The priorities for these communities will be to continue to provide basic services and therefore, some of the timing of the implementation may be greater than what is recommended. Notwithstanding these fiscal issues, in terms of implementation, the champions of this plan should continue to advocate for the recommendations within this plan for them to be funded.

Finally the time indicates how quickly implementation should occur. Immediately means that it should be undertaken now, short term indicates the action step should be started in the next 2 to 5 years, mid-term indicates the action step should be started in the next 5 to 10 and long term indicates the action steps are approximately 10 years out.

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
ADMINISTRATION				
Adoption	1. Present draft plan to each jurisdiction plan commission and airport board. 2. Present draft plan to various jurisdiction appropriate departments and other boards and commissions. 3. Post plan on website for public comment and feedback. 4. Public meeting with each jurisdiction's Plan Commission and forward positive recommendation of amendment to Comprehensive Plan to legislative body. 5. Public meeting with each jurisdiction's legislative body for adoption of resolution.	Plan Steering Committee, Porter County Planning Staff, Valparaiso Planning Staff, Porter County Plan Commission, Valparaiso Plan Commission, Porter County Commissioners, Valparaiso City Council, Porter County Regional Airport Board	N/A	Immediate
Create Interlocal Agreement to Implement plan	1. Convene implementation committee to review the sample local agreement provided in the appendix of this plan. 2. Potentially hire a consultant to help facilitate process of developing agreement and elements. 3. Determine what elements, based on the sample agreement and this plan should be discussed by all parties. 4. Develop consensus building plan to discuss the interlocal agreement with City and County leadership officials. 5. Discuss and develop metrics for all identified elements. 6. Conduct small group meetings with City and Council leadership to build support of draft interlocal agreement 7. Finalize agreement and submit to approval process for all jurisdictions.	Convene implementation committee to review the sample local agreement provided in the appendix of this plan.		Short term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
ADMINISTRATION				
Create Overlay District	1. Convene implementation committee to discuss options including hiring a consultant with the creation of the overlay district 2. If necessary, hire consultant to facilitate process and develop plan 3. Identify elements from this plan to be included within overlay district. 4. Draft overlay district for each jurisdiction. 5. Review draft ordinance through joint entity public process.	Implementation Committee, Porter County Planning Staff, Valparaiso Planning Staff, Porter County Plan Commission, Valparaiso Plan Commission, Porter County Commissioners, Valparaiso City Council, Porter County Regional Airport Board	General Fund, CEDIT	Short term
Formulate a Capital Improvement Plan	1. Prepare RFP and hire consultant to assist with creation of CIP plan. 2. From all plans in appropriate jurisdiction identify all projects to be completed regarding funding from the general fund. 3. Program projects over 5 year time period so CIP becomes rolling plan. 4. Each year after completion of that year of CIP then projects should advance 1 year so that the 5th year should be added with new programmed projects.		General Fund, CEDIT	Short term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
ECONOMIC DEVELOPMENT				
Certified Technology Park	1. Re-affirm potential higher education partnerships 2. Identify technology park area 3. Determine service offerings to the CTP 4. Make application with IEDC	Valparaiso and/or Porter County Redevelopment Commissions(s) – The CTP program requires that the redevelopment commission create the area and be the receiver of the captured funds. Institution of higher learning such as Ivy Tech and/or Valparaiso University who can provide business support services, direct funding, technology transfer or other services to the technology park. For example, the Hammond CTP includes an outreach of Purdue University-Calumet who support a technology incubator program within the CTP area. Valparaiso Economic Development Corporation/Porter County Economic Development Agencies Indiana Economic Development Corporation	General Fund, Valparaiso Economic Development Corporation Funds, Tax Increment Financing District Fund	Short term
Establish a TIF district for the airport zone for financing infrastructure improvements for economic development	1. Determine allocation area/TIF boundary 2. Conduct a "Needs Analysis for Redevelopment Study or Economic Development Plan" (Airport Plan may qualify for part of this requirement) 3. Conduct fiscal analysis to determine potential TIF capacity 4. Pass joint resolutions from Redevelopment Commissions 5. Adopt TIF by jurisdictional body	Valparaiso and Porter County Redevelopment Commissions Valparaiso Plan Commission Porter County Plan Commission Valparaiso Common Council Porter County Commissioners	General Funds	Immediate

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
ECONOMIC DEVELOPMENT				
Securing Shovel-ready Sites and constructing Spec Structures	1. Determine primary focus area for shovel-ready site development and/or Spec Structures 2. Begin securing development options or ownership of property 3. Conduct environmental and utility studies as well as site surveys 4. Determine infrastructure needs and begin expanding infrastructure coverage to sites 5. Register sites with IEDC site selection database	City of Valparaiso Utilities Valparaiso Economic Development Corporation Porter County Economic Development Agencies City or county agencies that will participate in land acquisition (Airport Authority, Redevelopment Commissions) NIPSCO Kankakee Valley REMC Frontier Communications Indiana Economic Development Corporation	Tax Increment Financing District Funds, Certified Technology Park Funds	Mid term
Develop a framework of cooperation between the City of Valparaiso and Porter County for development within the airport study area on TIF and annexation	1. Develop City policy for annexation 2. Develop targeted plan for future municipal boundaries and thresholds for when annexation is triggered 3. Determine policies for extension of municipal utilities 4. Develop joint TIF program to eliminate issues with revenue sharing for financing projects regardless of city and county jurisdictions	Valparaiso and Porter County Redevelopment Commissions Valparaiso and Porter County Plan Commissions Valparaiso Common Council Porter County Commissioners	General Fund	Immediate

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
UTILITIES AND INFRASTRUCTURE				
Water Infrastructure				
Comprehensive study and evaluation on existing and future wells	1. Determine if consultant is needed or study can be completed in house. 2. Study existing conditions to determine the necessary maintenance requirements of existing wells and the need and optimal location of future wells. Provide options and recommendation in study. 3. Identify capital improvement costs for acquisition needs and construction of additional transport water mains to distribute water back to the treatment plant. 4. Incorporate cost into capital improvement program to budget or secure other funding. 5. Design & construct.	Valparaiso City Utilities, Mayor's Office, City Council, Airport Staff	General Funds, Tax Increment Financing District Fund, Certified Technology Park Funds	Short term
Replacement of the existing 2.0MG ground level water storage tank	1. Determine future capacity and sizing. 2. Determine location for new tank, if necessary. 3. Design the tank 4. Either program budget costs in capital improvement program or secure additional funding. 5. Construct.	Valparaiso City Utilities, Mayor's Office, City Council, Redevelopment Commission	Tax Increment Financing District Fund, Certified Technology Park Funds	Long term
Ongoing maintenance and replacement of Redbow Drive Treatment Facility equipment	1. Detailed inspection of Redbow facility to document what equipment needs to be replaced. 2. Prepare maintenance plan and replacement plan for 5 year increments. 3. Incorporate information into capital improvements program to adequately budget for it or secure additional funding for improvements. 4. Implement plan (construct, replace, etc.)	Valparaiso City Utilities, Mayor's Office, City Council, Redevelopment Commission	General Fund, Tax Increment Financing District Fund, Property owner assessment/ agreement, Certified Technology Park Funds	Mid to Long term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
UTILITIES AND INFRASTRUCTURE				
Water Infrastructure				
Construction of the following large diameter distribution water mains: CR 325 E from Montdale Drive to Division Road CR 450 E from Division Road to CR 150 N Division Road from Industrial Drive to CR 450 E Montdale Drive from Raystone Drive to CR 325 E Agricultural field (in line with CR 150 N/ Redbow Drive) from CR 450 E to Rigg Road Along the south right-of-way of SR 30 from CR 450 E to CR 325 E	1. Prepare RFP and hire consultant for design 2. Secure funding or program into capital improvements program for funding through general fund. 3. Design segments. 4. Property Acquisition, if necessary. 5. Construct.	Valparaiso City Utilities, Mayor's Office, City Council, Redevelopment Commission	General Fund, Tax Increment Financing District Fund Property owner assessment/ agreement, Certified Technology Park Funds	Mid to Long term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
UTILITIES AND INFRASTRUCTURE				
Wastewater Collection				
Service area and wastewater flows study	1. Prepare RFP and hire consultant to complete study. 2. Complete a build out analysis to determine future demand based on increments. 3. Determine projected demand. 4. Determine potential system requirements based on demand for horizon year. 5. Develop prioritized system improvements and develop project schedule for new plant. 6. Secure funding and/or program into capital improvements program for general fund. 7. Execution of individual projects through design and construction.	Valparaiso City Utilities, Valparaiso Department of Engineering, Mayor's Office, City Council, Redevelopment Commission	General Funds, Tax Increment Financing District Fund, Property owner assessment/ agreement, Certified Technology Park Funds	Short term
Evaluation of existing sanitary sewer depths	1. Depending on timing of the study, this could be completed with the above action step, if not the process would be as follows. 2. Prepare RFP and hire consultant to complete study. 3. Complete a build out analysis to determine future demand based on increments (focusing on northwest and southwest areas in study area.) 4. Determine projected demand on a parcel by parcel basis. 5. Determine potential system requirements based on demand for horizon development year. 6. Develop prioritized system improvements. 7. Secure funding and/or program into capital improvements	Valparaiso City Utilities, Valparaiso Department of Engineering, Mayor's Office, City Council, Redevelopment Commission	General Funds, Tax Increment Financing District Fund, Property owner assessment/ agreement, Certified Technology Park Funds	Mid term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
UTILITIES AND INFRASTRUCTURE				
Construction of additional sanitary sewer lines	1. Based on above capacity studies, determine what new lines are needed 2. Develop timing schedule for construction of new lines (based on anticipated development timing or shovel ready designation) 3. Develop RFP and hire consultant to design new sanitary lines 4. Prepare construction plans. 5. Incorporate information into capital improvements program to adequately budget for it or secure additional funding for improvements. 6. Develop RFP and bid project for construction and inspection.	Valparaiso City Utilities, Valparaiso Department of Engineering, Mayor's Office, City Council, Redevelopment Commission	General Fund, Tax Increment Financing District Fund Property owner assessment/agreement, Certified Technology Park Funds	As development requires
Stormwater Collection				
Implement a joint stormwater management program	1. Convene implementation committee to discuss options including hiring a consultant to prepare joint Stormwater Management Plan. 2. Work through joint implementation of Stormwater Management Plan during joint Interlocal Agreement. 3. Identify parameters that will be managed for stormwater. 4. Draft joint management plan and process. 5. Review draft ordinance through joint entity public process.	Valparaiso City Utilities, Valparaiso Department of Engineering, Mayor's Office, City Council, Redevelopment Commission, Porter County Commissioners, Porter County Surveyor, Porter County Drainage Board	General Fund	Short term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
UTILITIES AND INFRASTRUCTURE				
Conduct a Regional Stormwater Master Plan Study	1. Prepare RFP and hire consultant to complete study. 2. Complete a build out analysis to determine future demand based on increments. 3. Determine what other alternative methods for stormwater management and treatment the entities would accept. 4. Determine potential system requirements based on demand for horizon year to determine allowable acceptances and parameters. 5. Determine which elements will be required to be implemented by property owners. 6. Program into capital improvements program for general fund. 7. Execution of individual projects through design and construction.	Valparaiso City Utilities, Mayor's Office, City Council, Redevelopment Commission, Porter County Commissioners, Porter County Surveyor, Porter County Drainage Board	General Funds, Tax Increment Financing District Fund, Property owner assessment/ agreement, Certified Technology Park Funds	Mid term
Formulate a Capital Improvement Plan for stormwater management improvements.	1. Prepare RFP and hire consultant to assist with creation of CIP plan. 2. From Stormwater Master Plan identify all projects to be completed. 3. Program projects over 5 year time period so CIP becomes rolling plan. 4. Each year after completion of CIP then the 5th year should be added with new programmed projects.	Valparaiso City Utilities, Mayor's Office, City Council, Redevelopment Commission, Porter County Commissioners, Porter County Surveyor, Porter County Drainage Board	General Funds, Tax Increment Financing District Fund, Property owner assessment/ agreement, Certified Technology Park Funds	Short term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
Division Road (State Road 49 to County Road 325 E)	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether it requires federal, state or local funding. 3. If federal or state funding, work with NIRPC to include project in Transportation Improvement Plan. 4. Work with NIRPC to secure funding. 5. Issue RFP and hire consultant to design road improvements. Stormwater, multi-modal and pedestrian connections and aesthetic features, should be included with design. 6. Acquire property, if necessary. 7. Bid and construct two additional travel lanes (one in either direction), a shared use path and a pedestrian sidewalk.	City of Valparaiso Engineering Department, Porter County Highway Department, NIRPC Indiana Department of Transportation	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	As development requires
Murvihill Road	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether federal or state funding is necessary. 3. If federal or state funding is required, work with NIRPC to include project in Transportation Improvement Plan. 4. Issue RFP and hire consultant to design road improvements. Upgrade roadway to all weather pavement, provide curb and gutters, a shared use path and a pedestrian sidewalk. 5. Acquire property, if necessary. 6. Bid and construct improvements.	Indiana Department of Transportation City of Valparaiso Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Mid term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
State Road 2 (State Road 49 to Porters Vale)	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether it requires federal, state or local funding. 3. If federal or state funding, work with NIRPC to include project in Transportation Improvement Plan. 4. Work with NIRPC to secure funding. 5. Issue RFP and hire consultant to design road improvements. Stormwater, multi-modal and pedestrian connections and aesthetic features, should be included with design. 6. Acquire property, if necessary. 7. Bid and construct two additional travel lanes (one in either direction), a shared use path and a pedestrian sidewalk.	Indiana Department of Transportation City of Valparaiso Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	As development requires: Mid to Long Term
State Road 2 (Porters Vale to Rigg Road)	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether it requires federal, state or local funding. 3. If federal or state funding, work with NIRPC to include project in Transportation Improvement Plan. 4. Work with NIRPC to secure funding. 5. Issue RFP and hire consultant to design road improvements. Stormwater, multi-modal and pedestrian connections and aesthetic features, should be included with design. 6. Acquire property, if necessary. 7. 7. Bid and construct two additional travels lanes (one in either direction), a shared use path and a pedestrian sidewalk.	Indiana Department of Transportation City of Valparaiso Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	As development requires: Mid to Long Term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
State Road 2 (Rigg Road and Beyond)	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether it requires federal, state or local funding. 3. If federal or state funding, work with NIRPC to include project in Transportation Improvement Plan. 4. Work with NIRPC to secure funding. 5. Issue RFP and hire consultant to design road improvements. Upgrade roadway pavement, curb and gutters. Design a shared use path and a pedestrian sidewalk. 6. Acquire property, if necessary. 7. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	As development requires: Mid to Long term
Rigg Road Upgrades	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects and whether it requires federal, state or local funding. 3. If federal or state funding, work with NIRPC to include project in Transportation Improvement Plan. 4. Work with NIRPC to secure funding. 5. Issue RFP and hire consultant to design road improvements. Upgrade roadway to all weather pavement, and provide curb and gutters. 6. Acquire property, if necessary. 7. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Short term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
Industrial Drive Extension	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Extend Industrial Drive southward to Division Road. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Short term
New Traffic Signal	1. Identify project improvement in local capital improvement plan. 2. Prepare warrant study in accordance to INDOT standards. 3. Once traffic meets warrant standard then install new traffic signal and necessary intersection markings and signage at the following locations: • State Road 49 and Pratt Industries (A traffic signal has been added at State Road 49 and Bertholet Boulevard/ Barley Road.) • New roadway intersection east of Industrial Drive on US 30. • US 30 and County Road 325 E • US 30 and County Road 400 E • US 30 and County Road 450 E	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	As development requires: Mid to Long term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
State Road 49 and County Road 325 E connection	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Design of two travels lanes to provide and east-west connection between State Road 49 and County Road 325 E. Roadway will include all necessary stormwater management infrastructure. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Short term
Montdale Drive extension	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Design should extend Montdale Drive eastward to County Road 325 E. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Long term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
TRANSPORTATION SYSTEM				
County Road 325 E and County Road 450 E connection	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Design of two travel lanes to provide an east-west connection between County Road 325 E and County Road 450 E. Roadway will include all necessary stormwater management infrastructure. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Long term
County Road 325 E (Murvihill Road to Division Road)	6. Identify project improvement in local capital improvement plan. 7. Identify funding sources for projects. 8. Issue RFP and hire consultant to design road improvements. Upgrade roadway pavement, curb and gutters. Design a shared use path and a pedestrian sidewalk. 9. Acquire property, if necessary. 10. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Long term

IMPLEMENTATION MATRIX				
ACTION STEP	KEY STEPS	RESPONSIBLE PARTY	PRIMARY FUNDING SOURCE	TIMING
County Road 400 E Upgrades	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Division Road to US 30: Design of two additional travel lanes and all necessary stormwater infrastructure. US 30 to Murvihill Road: Upgrade roadway pavement, curb and gutters. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Long term
County Road 450 E Upgrades	1. Identify project improvement in local capital improvement plan. 2. Identify funding sources for projects. 3. Issue RFP and hire consultant to design road improvements. Upgrade roadway pavement, curb and gutters. For Murvihill Road to County Road 200 N: design a shared use path and a pedestrian sidewalk. 4. Acquire property, if necessary. 5. Bid and construct.	Indiana Department of Transportation City of Valparaiso- Engineering Department, Porter County Highway Department, NIRPC	General Fund, Property owner assessment/agreement, STP Funds, ARRA Funds (if available), TIGER, Transportation Enhancement Funds, Tax Increment Financing District Fund Certified Technology Park Funds	Long term