

Illiana Corridor: 2040 Comprehensive Regional Plan Analysis



Prepared by

NORTHWESTERN INDIANA REGIONAL PLANNING COMMISSION STAFF

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FINAL REPORT

Illiana Corridor: 2040 Comprehensive Regional Plan Analysis



Northwestern Indiana Regional Planning Commission

Tyson Warner	<i>Executive Director</i>
Steve Strains	<i>Deputy Director/Director of Planning</i>
Kathy Luther	<i>Director of Environmental Programs</i>

Contributing Staff:

Mitch Barloga	<i>Transportation Planning Manager/Active Transportation Planner</i>
Gabrielle Biciunas	<i>Long Range Planner</i>
Jack Eskin	<i>Regional Planner</i>
Gary Evers	<i>Transportation Projects Manager</i>
Joe Exl	<i>Senior Water Resources Planner</i>
Kevin Garcia	<i>Data Resources Planner</i>
Sarah Geinosky	<i>Geographic Information System Analyst</i>
Eman Ibrahim	<i>Planning Manager</i>
Belinda Petroskey	<i>Transit Planner</i>
Stephen Sostaric	<i>Regional Planner/Public Involvement & Communications Coordinator</i>
Scott Weber	<i>Transportation Engineer</i>

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Introduction

Plans to connect the south Chicago suburbs and Northwest Indiana with a limited access expressway have been on the table for serious discussion since the 1960's. In the late 1990's, a group of communities in this region came together to discuss strategies to build what they first called the "Illiana Expressway" which would run from Will County, Illinois east into central to southern Lake County, Indiana. Their efforts buoyed feasibility studies prepared by both the Illinois Department of Transportation (IDOT) in 2009, and followed in 2010 by the Indiana Department of Transportation (INDOT).

In June of 2010, both Governor Quinn of Illinois and Governor Daniels of Indiana signed a memorandum of understanding securing a working partnership between the two states for planning and developing the Illiana facility from I-55 south of Joliet, IL to I-65 south of Crown Point, IN. From here both states passed legislation to allow for a "public private partnership," or "P3" as a financial mechanism to allow the private sector to aid in the construction and maintenance of the facility. The consulting firm of Parsons Brinckerhoff (PB) was retained by both IDOT and INDOT to conduct the Illiana Corridor Study.

The consultant initiated the formal process to follow the National Environmental Policy Act (NEPA) guidelines. The NEPA process is split into two parts, or Tiers. Tier 1 involved the identification of transportation needs, the development and evaluation of alternatives for all modes, and the selection of a preferred alternative (or corridor) at a conceptual level of detail. The results of Tier 1 will set the stage for more in depth discussions and analysis in Tier 2, which will involve more detailed engineering and environmental studies for the preferred Tier One alternative. Many potential alternatives will be considered in the study as well as a "no build" alternative, and the study will strive to identify an alternative that provides the best balance of serving transportation needs, avoiding or minimizing environmental impacts, and incorporating community input and values.¹

An extensive public comment period commenced in advance of the Tier 1 study in mid-2011. This process concluded in January of 2013 with the recommendation of one build scenario, and a no-build alternative into the second tier of the project. As a result of the Tier 1 studies, IDOT and INDOT have secured federal approval for an approximate 2,000 foot-wide planning corridor. Tier 2 studies will aim to refine this corridor to the preferred 400-wide right-of-way required for the Illiana project.

Tier 2 also will shift the focus from the original broad 952 square-mile study area to the communities, landowners and access needs along the preferred corridor. Some of the engineering work will include interchange locations and layout, drainage studies, and determining overpass or underpass opportunities. During this process stakeholder outreach will

¹ Illiana Corridor Fact Sheet, Issue 1, May 2011

again take place with careful consideration of community needs including farm operations, emergency services, school routes and local land use planning. Tier 2 began in January of 2013, and is expected to be completed in spring of 2014.

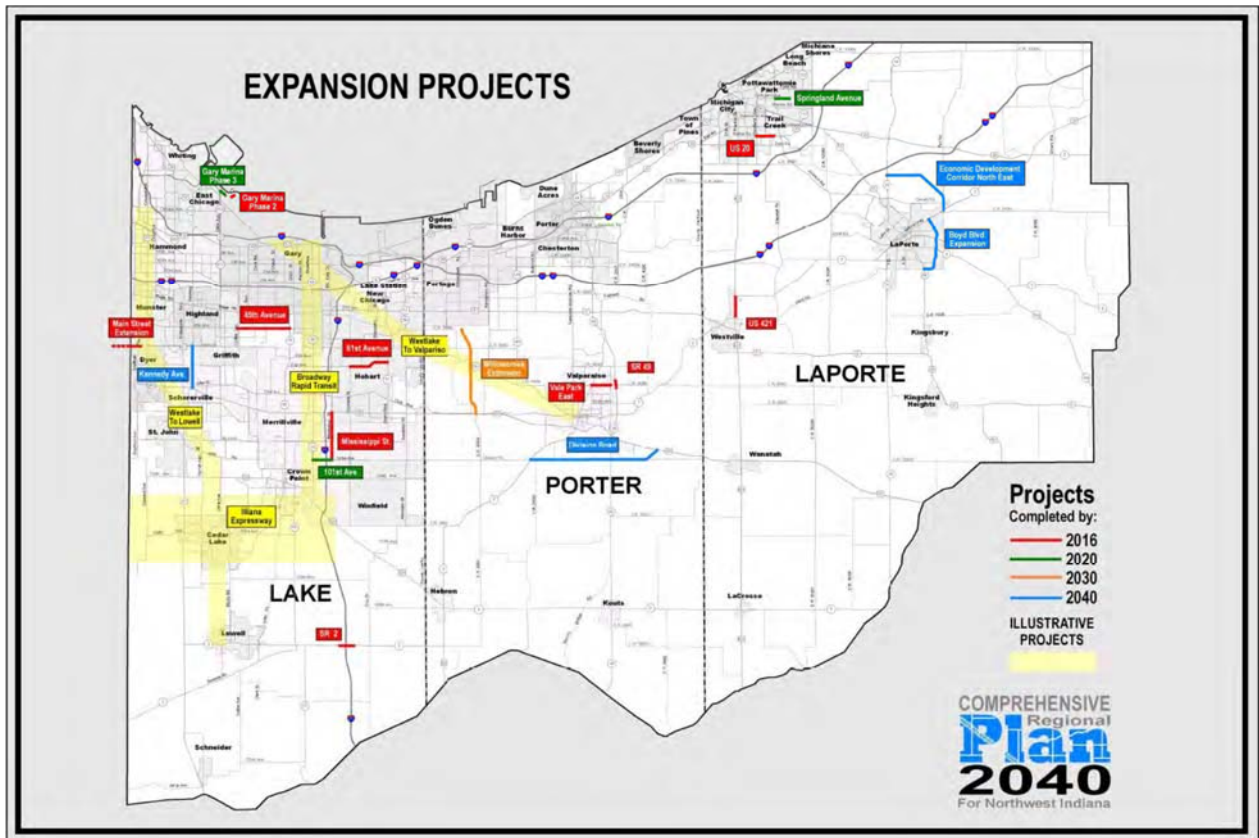
In order for the Tier 2 process to be completed, the Illiana Expressway must be approved as a *2040 Comprehensive Regional Plan (CRP)* major capital project. INDOT has made a formal request of the Northwestern Indiana Regional Planning Commission (NIRPC) to consider amending the CRP to include the Illiana Expressway as a fiscally constrained project. In advance of this decision, NIRPC held public hearings on the proposed CRP amendment, an amendment to the 2014-2017 Transportation Improvement Program (TIP), and the air quality conformity determination. This latter element being required to verify that the Illiana Expressway met federal air quality emission calculations. A public comment period for these proposals took place from October 14th to November 20th, and recommendations are expected to be forwarded from NIRPC's Transportation Policy Committee (TPC) on December 3rd, from the Pathway to 2040 Plan Implementation Committee on December 4th, and a final action is expected to be taken by the NIRPC Full Commission on December 12th.

The purpose of this report is primarily to provide both members of the TPC and NIRPC Commission a detailed analysis regarding the proposed Illiana Expressway and how the project lines up with goals and objectives as outlined in NIRPC's *2040 CRP*. The CRP has already identified the Illiana Expressway on the "Illustrative List" of projects (Figures 1 and 2) that are not in the fiscally constrained plan. The project is also mentioned as a "Bold Vision" at the back of the CRP document (Figure 3). Although mentioned in the plan, how the Illiana Expressway adheres with the goals and objectives of the CRP has not been outlined in detail until this report.

Figure 1: Illustrative CRP Expansion Projects

Illustrative List of Projects	
Projects that are not included in the fiscally-constrained conforming plan:	
Broadway Rapid Transit	GPTC/Sierra Club
Westlake Commuter Lines	NICTD
Illiana Expressway	INDOT

Figure 2: CRP Expansion Projects Map



Analysis Prologue

The *2040 Comprehensive Regional Plan* employed a selection process in 2010-2011 for projects that proposed to add capacity to the region's road network. All proposed projects that fit this description – such as add-lanes or new roads – went through the selection process for inclusion in the *2040 CRP*, which was subsequently adopted in June of 2011. The scoring process began with two prerequisites: the project must be compatible with the adopted Complete Streets Policy to the most practicable extent possible, and must be recommended by the Congestion Management Process. The scoring system included potential points in the categories of mobility, transportation and land use, safety, environment, and quality of life.

Due to the potential impact of the Illiana Expressway, each of these categories has been expanded upon in detail beyond the original intent of the scoring system for purposes of this analysis. Each category, and related policy recommendations, pulls in associated goals and objectives from the CRP, and then assigns them the following based on compatibility with the plan:

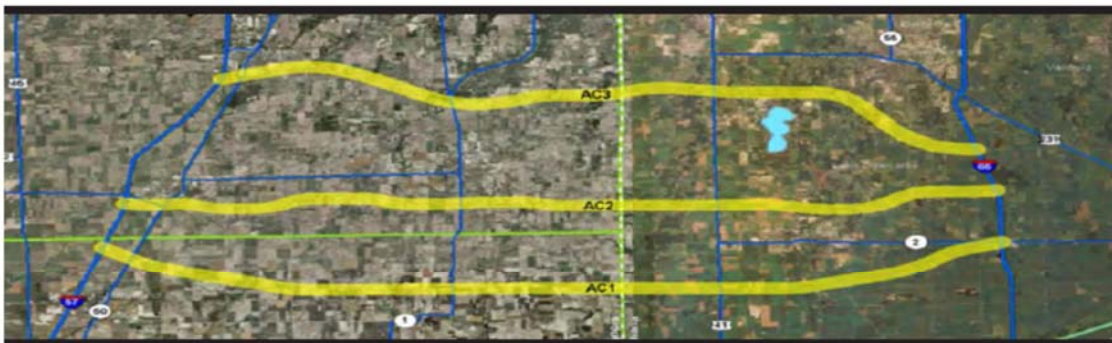
- **Consistent:** The impacts and goals of the project are in line with the priorities of this specific policy recommendation.
- **Inconsistent:** The impacts and goals of the project are in conflict with the priorities of this specific policy recommendation.
- **Mixed:** The impacts and goals of the project simultaneously satisfy and conflict with the varying priorities of this specific policy recommendation.
- **Uncertain:** The consistency (or inconsistency) of the project with the priorities of this specific policy recommendation cannot be determined until certain events unfold or clearer relationships have been identified. This also includes insufficient data available to offer a clear assignment.
- **Neutral:** Project has no apparent impact on stated goal and/or objective.

Figure 3: Bold Vision CRP Description

Illiana Expressway

The Illiana Expressway Corridor has been a component of long-range plans for the region since the early 1900s. The road was first envisioned by Chicago architect and planner Daniel Burnham as a link in an outer ring of highways encircling the Chicago region. Also known as the South Suburban Expressway, the corridor has shifted southward over the years as the Chicago metropolitan area has expanded and available right-of-way has become more limited. Traffic volumes have increased on competing routes, resulting in congestion and delay that impact not only passenger travel, but also result in significant economic impacts to industries that depend on the ability to move freight within and through the region. This proposed facility would be approximately 35 to 40 miles in length, connecting Interstate 55 in Illinois with Interstate 65 in Indiana.

In 2009, a feasibility study on this proposal was completed by Cambridge Systematics for three potential alignments of the segment between I-65 and Interstate 57. The study established the purpose and need and estimated the costs, proceeds and preliminary impacts. In 2010, the Illinois Department of Transportation, in cooperation with the Indiana Department of Transportation, hired Parsons Brinkerhoff to study the environmental impacts. The study would include detailed alternatives analysis and complete the National Environmental Policy Act, clearing the way for federal funding for land acquisition. There is no assurance that it would be built. This project appears on the "Illustrative List" of projects that are not in the fiscally constrained plan.



COMPREHENSIVE
Regional
Plan
2040

For Northwest Indiana

I. Project Prerequisites

A. Complete Streets

- ❖ **CRP Goal:** Increased mobility, accessibility, and transportation options for people and freight.
- *Objective: Improve the non-motorized transportation network by building Complete Streets that accommodate bicycles, pedestrians and transit users*
- **Impact of Illiana: Uncertain**

In May of 2010, the NIRPC Commission adopted a Complete Streets Policy (CSP) and Guidelines for transportation projects directly programmed with funds attributable to NIRPC. Generally, the CSP sets out to “encourage incorporation of Complete Streets facilities to the most practicable extent as proposed by the project sponsor.” These facilities are aimed at providing safe and efficient access of all intended users of a particular transportation corridor. This includes motorized and non-motorized transportation, and transit options.

There remain opportunities for the facility to incorporate non-motorized elements throughout the project’s proposed scope. Chief amongst these are providing for existing and proposed trails that would bisect the corridor. An example would include box culverts where abandoned railroad corridors exist. Another practice would be allowing extra clearance over roadways where the facility traverses for future sidewalk and/or trail development to occur. NIRPC’s 2010 *Ped, Pedal and Paddle Plan* includes two priority trail corridors that would have to cross under the proposed facility.

In addition, the proposed right-of-way width for the Illiana Expressway has been estimated at 400 feet. Spatially, this allows for sufficient room to incorporate a parallel multi-use paved trail for non-motorized traffic at either the north or south edge of said ROW. Installing a trail along an interstate is not uncommon and has worked successfully in the Seattle vicinity along I-90, and the Martha Curtis Trail along I-66 in the Washington D.C. metro area.

Creating a separated, non-motorized facility would help connect to a number of planned trail corridors in Lake and Will Counties, and link several communities along the route.

NIRPC does recognize INDOT’s outreach with local stakeholders regarding Complete Streets design elements within the proposed project right-of-way, as well as potential trail extensions and connections. We encourage continued dialogue in this area.

B. Congestion Management Process

- **Impact of the Illiana: Consistent**

A Congestion Management Process (CMP) is required by the Federal Government for all Transportation Management Areas (TMAs). NIRPC’s planning area of Lake, Porter, and LaPorte Counties is a TMA, and is therefore required to have a CMP. NIRPC’s CMP was developed as part of the 2040 *Comprehensive Regional Plan* (CRP), and all projects in the CRP had to pass the

Congestion Management Process to be included in the plan. For the Illiana Expressway to be amended into the CRP, it must pass NIRPC's CMP as well.

Congestion Management Process Methodology

The Congestion Management Process developed for the CRP consists of four steps. First, congested corridors are identified.² Second, demand management strategies, such as carpooling and telecommuting promotion, are considered and analyzed for each corridor to determine their feasibility and potential for reducing congestion. Third, if demand management strategies are not deemed sufficient to reduce congestion, then other "supply-side" improvements such as public transit, signal retiming, and intelligent transportation systems are considered and analyzed. If these strategies appear to be sufficient to reduce congestion to acceptable levels³, then no capacity expansion is needed. Fourth, and finally, if the alternatives do not appear sufficient to reduce congestion, then capacity expansion is allowable. The Illiana project would expand roadway capacity and therefore needed to be analyzed through the NIRPC Congestion Management Process. If the project is to be eligible for consideration for inclusion in the 2040 CRP, it would have to first show that alternative congestion management strategies would not be sufficient to relieve congestion on the studied corridors.

According to the Purpose and Need statement⁴ for the Tier I Illiana Corridor Study, the Illiana project is designed to improve regional mobility, travel times, and access to jobs; alleviate local system congestion and improve local system mobility, and address a lack of east-west connectivity in the study area; and accommodate demands for increasing freight transportation both regionally and nationally. To evaluate the Illiana project given these stated goals, staff concluded that an analysis of all major east-west routes in Lake County would be appropriate to analyze. The routes studied are I-80/94, US 30, US 231, and SR 2 in addition to the B3 alignment of the Illiana corridor. See Figure 3 for a map of the routes studied.⁵

For the CMP analysis, two scenarios were developed, with the above corridors analyzed for each scenario:

Baseline ("No Build") Scenario – The 2040 road network from the CRP was modeled;

² A list of congested corridors can be found in Appendix C of the 2040 CRP on pages C-28 and C-29. Maps of current (2008) and future (2040) congestion are found on pages II-18 and II-19.

³ "Acceptable" in this case refers to a "level of service" of "A" or "B". Level of service represents system performance, with "A" being the highest level and "F" being the lowest.

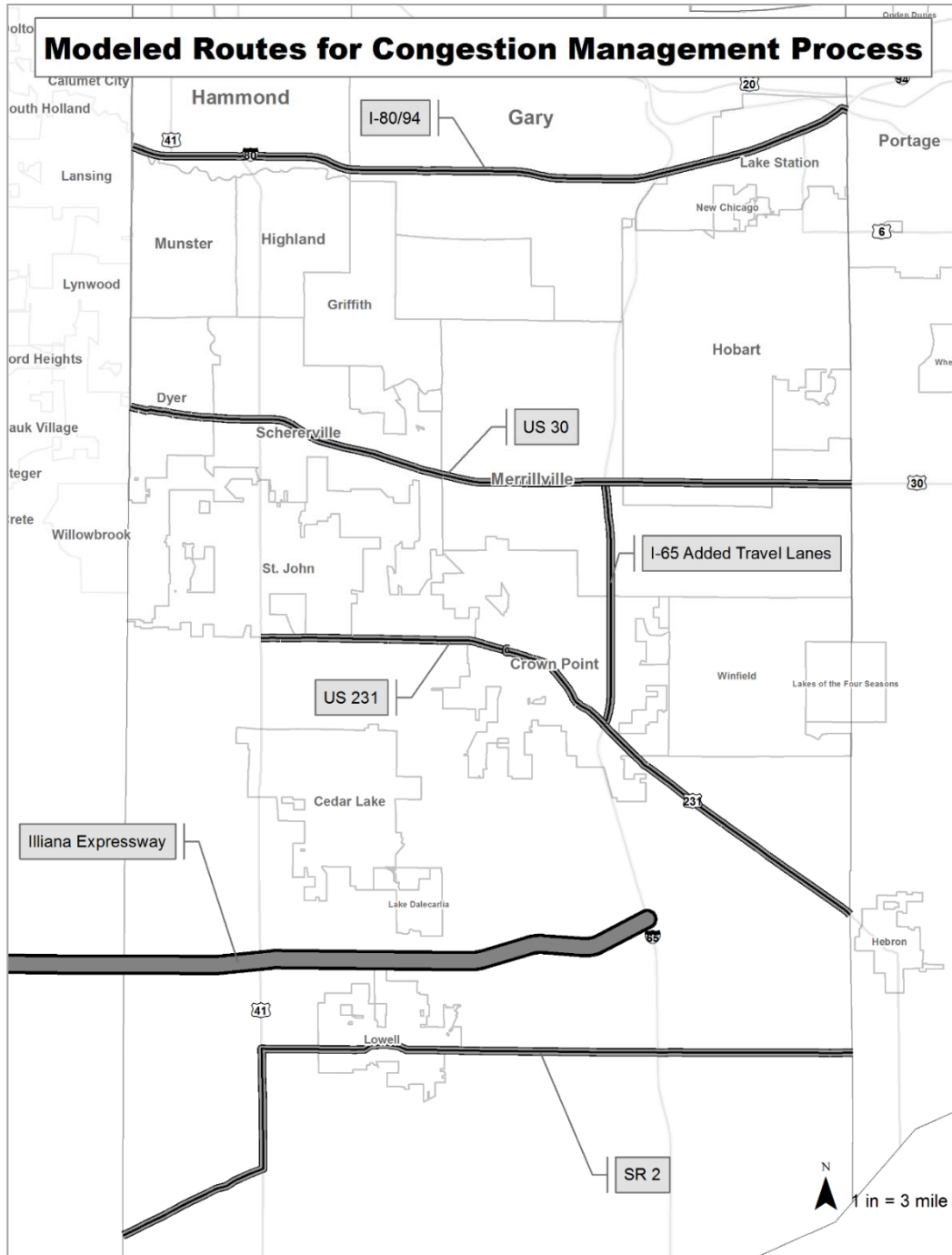
⁴ p. 2-1 and 2-2 of Alternatives Evaluation Report – Tier I Illiana Corridor Study, February 2013.

⁵ The I-65 Added Travel Lanes project was modeled for a separate analysis; while it appears on the map, it was not included in the Illiana project's CMP analysis.

Illiana (“Build”) Scenario – The 2040 road network from the CRP was modeled, with the addition of the Illiana Expressway.

Two performance measures, volume-capacity ratios and average speed as a percentage of posted speed, were selected to determine congestion on the analyzed corridors, which is consistent with the Congestion Management Process established for the CRP.

Figure 4: CMP Modeled Routes



Congestion Management Process Results:⁶

- **Step 1:** Identify Congested Corridors
Each of the selected east-west corridors was determined to be congested.
- **Step 2:** Select and Analyze Demand Management Strategies
Demand management strategies were selected for each of the corridors and analyzed. The results indicated that none of the demand management strategies would likely reduce congestion to acceptable levels.
- **Step 3:** Select and Analyze Supply-side Alternatives
Supply-side strategies were selected for each of the corridors and analyzed. Results indicated that supply-side strategies plus demand management strategies would not be sufficient to reduce congestion on the corridors. Capacity expansion alternatives would therefore be allowable, following NIRPC's Congestion Management Process.
- **Step 4:** Analyze the Proposed Capacity Expansion Project
The Illiana project, as modeled, showed improvement compared to the alternatives in both volume/capacity ratios and average speed/posted speed, the two measures of congestion used in this analysis. It was recommended that the Illiana pass the Congestion Management Process.

On November 19th, 2013, the results for the Congestion Management Process for the Illiana and I-65 Added Travel Lanes Projects were presented to NIRPC's Transportation Policy Committee. The committee took action and approved staff's analysis on the CMP. Both projects passed. *The Illiana project is therefore found to be consistent with the 2040 Comprehensive Regional Plan's Congestion Management Process.*

⁶ See NIRPC's *Congestion Management Process, Results and Analysis for the Illiana and I-65 Added Travel Lanes Projects*, located at www.nirpc.org, for more details on the results reported here.

II. Mobility

A. Improve Accessibility for Persons with Disabilities, Elderly, Young and Low-Income Populations

- ❖ **CRP Goal:** Improve system accessibility for people with special transportation needs

- **Impact of the Illiana: Neutral**

Based on spatial analysis, the Illiana is identified as neutral with the CRP's goal of improving access for those with special transportation needs, such as the elderly, the young, persons with disabilities, and people with low incomes. There is not a significant concentration of these groups adjacent to the planned Illiana Expressway, but the project has a regional impact that could still serve these populations who live and work throughout the region.

Methodology

The elderly are defined as people over the age of 65, and youth are defined as people under the age of 18. Analysis for elderly and youth populations was done by aggregating 2010 census blocks that were adjacent to the planning boundary and averaging the number of people that fit the definition.

Disability data was last collected by the Census in 2000. More recent data is being collected through the American Community Survey, but data has not been released below the county level. Given this, disability information for this analysis is based on the 2000 Census.

Income is based on the 2011 American Community Survey (5-year) at the census tract level and county level. At the tract level, the American Community Survey can have too small of a sample size. To make sure none of the relevant census tracts would have this problem, we calculated coefficients of variation in order to make sure the sample size was good enough to use in this analysis, and encountered no problems.

In all situations, in order to determine a significant concentration, averages for both Lake County, Indiana and the tri-county region were used.

The Elderly and the Young

Table 1: Population Age Cohorts

Area	Total Population	Population Under 18	Percent Under 18	Population Over 65	Percent Over 65
Adjacent to Illiana	2160	496	22.96%	284	13.15%
1/4 Mile from Illiana	2613	609	23.31%	343	13.13%
Lake County	496005	127273	25.66%	65870	13.28%
NIRPC Region	771815	192576	24.95%	102110	13.23%

Table 1 above explains the age ranges within the proposed Illiana Expressway corridor, and for the balance of Lake County and the NIRPC region. The table shows that while there is not a significant concentration around the study area, the greater region's larger number of elderly and youth could use this road.

Persons with Disabilities

Table 2: Disability Population

Area	Total Populations (2000 Tracts)	Population with a Disability	Percent Disabled
Adjacent to Illiana	11013	1360	12.35%
Lake County	484564	88638	18.29%
NIRPC Region	787975	128922	16.36%

Data from 2000 shows that there is no significant concentration of persons with disabilities adjacent or close to the planning boundary of the corridor. However given the lack of recent data it is hard to say with certainty that there haven't been any significant changes since 2000. Given this it is unknown how the Illiana would impact road travel for those with disabilities.

Low-Income Populations

Table 3: Mean Household Income

Area	Mean Household Income
Adjacent to Illiana	\$66,734.00
Lake County	\$61,607.00
NIRPC Region	\$64,032.00

While the area adjacent to the Illiana has a higher mean household income than both Lake County and the rest of the region, the Illiana could serve low-income populations throughout the region.

B. Improve Internal Connectivity of the Transportation Network

- ❖ **CRP Goal:** Increased mobility, accessibility, and transportation options for people and freight
 - *Objective: Integrate local, regional and national transportation systems to facilitate movement of people and freight between modes.*
 - **Impact of the Illiana: Consistent**

The Illiana expressway will enhance the interstate highway system in the Northeast Illinois/Northwest Indiana region by making a physical connection between three north-south interstate highways. If constructed, the facility will become part of the Interstate Highway

System and the National Highway System (NHS). It will function as the only east-west state highway between US 30 and SR 2, a distance of 18 miles. With three access points in Indiana, the new expressway will offer a new choice for travel between southern Lake County (Indiana) and Will County (Illinois).

The facility will serve existing and proposed intermodal facilities in western Will County. Additionally, if the proposed South Suburban Airport is constructed, the new expressway will provide direct access to that facility. Finally, the expressway will provide an additional evacuation route in the event of an incident at either of the two nuclear power plants in the area, located in Braidwood, IL and Morris, IL, within proximity of the planned interchange with I-55.

- *Objective: Reduce congestion on major freight and passenger routes*
- **Impact of the Illiana: Consistent**

Figure II-11, on page II-19 of Chapter 2 of the *2040 Comprehensive Regional Plan*, shows projected 2040 Levels of Service⁷ (LOS) at LOS F on five of the six roadways entering Illinois between US 30 and SR 2. US 30 and SR 2 are among those that we project will be functioning at this level—which represent gridlock or near gridlock conditions. Additional congested links include SR 2 from I-65 to SR 55 (LOS F) and from downtown Lowell to US 41 (LOS E).

The expressway offers the potential of congestion relief by providing an additional east-west highway facility. Involving the entire NW Indiana – Chicago Southland region, a net reduction of over 50,000 vehicle miles of travel on a daily basis was reported based on the Illiana travel model. Within the project corridor area, there appears to be some positive impact on the projected 2040 levels of congestion on existing roadways, such as US 30 and SR 2, but not nearly as significant as the aggregate regional levels.

For further clarification on freight, please refer to larger discussion in Section III.

- *Objective: Improve the internal connectivity of the transportation network.*
- **Impact of the Illiana: Consistent**

The Indiana portion of the Illiana expressway project, as proposed, will add multiple new connections with multiple, high-functioning roadways in Indiana and Illinois. In Indiana, the expressway will have access points at I-65 (Interstate), SR 55 (Major Collector), and US 41 (Other Principal Arterial).

⁷ Levels of service is defined ranging from A through F, with F being gridlock and A free-flowing

C. Improve Regional Priority Linkage

- ❖ **CRP Goal:** A globally competitive, diversified economy that protects and enhances our natural environment.
- *Objective: Use/expansion of transportation and other infrastructure advantages*
- ❖ **Impact of the Illiana: Consistent**

Regarding economic impact, the proposed Illiana Expressway will help expand the region's transportation options, most especially regarding freight traffic. Of particular interest is the connection to existing and proposed international multi-modal facilities in western Will County, and as described in further detail in the Freight discussion in Section III of this report. Improving the flow of commerce with additional routes will serve to enhance NW Indiana's globally competitive location.

Beyond linking to prime economic centers, the Illiana Expressway will directly connect three major interstates and up to six state highways. This alone will afford significant improvements in regional linkages in the south Chicago suburbs and NW Indiana. The result will be improved access throughout the entire bi-state region.

D. Improve Network Wayfinding

- ❖ **CRP Goal:** Increased mobility, accessibility, and transportation options for people and freight
- *Objective: Enhance navigability through improved wayfinding and signage*
- **Impact of the Illiana: Consistent**

The Illiana Expressway will be incorporating, by law, all necessary signage as required under the Manual on Uniform Traffic Control Devices, or MUTCD. Connecting roadways, such as I-65, State Road 55 and U.S. 41 will also be incorporating signage aiding drivers to connect to the facility.

Apart from traditional wayfinding as required under MUTCD, NIRPC encourages additional signage to highlight environmental and historic features encountered along the roadway. This would include watershed boundaries, water bodies and streams, parklands and historic downtowns or districts.

E. Improve Efficiency and Attractiveness of Public Transit

The Illiana is designed as an interstate limited access facility. It is not intended to link livable centers or address transit needs. For a transit system to be efficient it needs people and destinations. There are neither in the project area.

Attractiveness of public transit must be related to the ease of access, frequency of service, multiple destinations, safety of the system, and comfortable surroundings. The Illiana will have no effect on public transit due to the lack of people, jobs, services, and other destinations in the project area.

- ❖ **CRP Goal:** Livable urban, suburban and rural centers
 - *Objective:* Expand access to public transit and promote transit-supportive land use patterns
 - **Impact of the Illiana: Neutral**
- ❖ **CRP Goal:** Revitalized urban core
 - *Objective:* Rebuild and improve existing infrastructure systems including public transportation
 - **Impact of the Illiana: Neutral**

The proposed project is located in a rural area and will not impact existing infrastructure and public transit in the urban areas. The plan supports concentrating public resources in already developed area
- ❖ **CRP Goal:** Increased mobility, accessibility and transportation options for people and freight
 - *Objective:* Improve the internal connectivity of the transportation network
 - **Impact of the Illiana: Neutral**

The proposed project has no impact on the internal connectivity of the network that supports public transit.
 - *Objective:* Enhance connectivity between housing, jobs, services, and educational facilities
 - **Impact of the Illiana: Neutral**
 - *Objective:* Increase access to and improve the reliability of public mass transit
 - **Impact of the Illiana: Neutral**

The Illiana corridor is not planned to be served by public transit as there are no concentrations of people and no common destinations.
 - *Objective:* Encourage land use policy that supports efficient mass transit and non-motorized travel that is accessible to persons with disabilities.
 - **Impact of the Illiana: Neutral**

The proposed project will not support or foster improved mass transit. Non-motorized travel options are still under consideration and are encouraged during the design phase.

Section Summary

The Illiana has no impact on the provision of public transportation and accessibility in either the project area or in the urbanized areas of Northwest Indiana.

F. Provide Safe and Accessible Pedestrian and Bicycle Environment

- ❖ **CRP Goal:** A safe and secure transportation system
 - *Objective: Improve the safety of non-motorized transportation through education, enforcement, engineering, design and construction*
- ❖ **CRP Goal:** Increased mobility, accessibility, and transportation options for people and freight
 - *Objective: Improve the non-motorized transportation network by building Complete Streets that accommodate bicycles, pedestrians and transit users*
- **Impact of the Illiana: Uncertain on both objectives**

Many of these recommendations can be gleaned from the Complete Streets section mentioned at the beginning of this document. ***As a summary, pedestrian and bicycle transportation movements need to be maintained with new bridge constructions over roadways for existing and/or future sidewalk and trail developments. Furthermore, a parallel multi-use trail facility should be incorporated along the entire length of the expressway corridor.*** Since the specific plans have yet to be developed, an opportunity exists for the inclusion of these design elements into the final project scope.

G. Use Intelligent Transportation Systems to Improve Safety

- ❖ **CRP Goal: A safe and secure transportation system**
 - *Objective: Utilize technology, including Intelligent Transportation Systems and other strategies, to improve transportation safety.*
- **Impact of the Illiana: Consistent**

The project's proposed utilization of electronic toll collection, video cameras, and other ITS technology to promote the smoother and more efficient flow of traffic as well as better incident response will improve safety. These systems not only serve to keep traffic flowing more consistently, but also to reroute traffic around potential problem areas, alleviating congestion which can raise the chances of crashes occurring. Additionally, by improving response to incidents, the assistance provided when crashes *do* occur will be more efficient and effective for both the people and property involved.

III. Freight

Matching CRP Goals

In the *2040 Comprehensive Regional Plan*, six policy goals were made for freight development in Northwest Indiana:

i. Freight Corridor Planning and Cargo-Oriented Development

- ❖ **CRP Goal:** Identify and prioritize land along existing rail lines and truck routes for freight-related development. Many of these are brownfield sites or underutilized land, which could be brought back to productive use to the benefit of the community and region.

➤ **Impact of the Illiana: Inconsistent**

By building such a significant truck route in the southern part of the region, investment in future warehousing and distribution centers will be encouraged to occur on undeveloped greenfield sites in the south, which would potentially direct investment in cargo-oriented development away from existing corridors in the north. If this were to occur, it would negatively impact the economic revitalization, infill development, and brownfield redevelopment goals of the CRP. This is not to say that all freight infrastructure and warehousing development occurring outside of the urbanized area is in violation of this goal, and that both infill and greenfield cargo-oriented development could not happen simultaneously. Rather it is that the Illiana project represents a massive freight infrastructure investment in a non-urbanized area that greatly outweighs any of the current freight infrastructure investments happening in the urbanized northern part of the region, making the Illiana's impact out of balance with the urban reinvestment priorities of this goal. If there was a greater balance between the Illiana Expressway project and comparable freight infrastructure improvements in the northern part of the region, the project would not stand as such a departure from the priorities of this CRP Goal.

ii. Highway-Rail Grade Crossings

- ❖ **CRP Goal:** Remediate highway-rail grade crossing issues, like traffic congestion and safety, through grade separation.
- **Impact of the Illiana: Uncertain**

The Illiana Corridor represents a new facility that is completely grade-separated, providing new options for trucks currently on arterial roads in the study area to avoid at-grade crossings. The construction of the Illiana does not immediately affect the traffic flow of trains or trucks at most of the region's at-grade crossings, because most of them are located in the region's northern cities, far away from the Illiana study area. Since many of these trains or trucks serve lakefront industries, they are not likely to be shifted southward by a new expressway.

Two Class I railroads do run through the Illiana study area, the Norfolk Southern and the CSX, but these lines collectively only carry 14 trains a day.⁸ With freight train frequency increasing nationally, however, that number could rise, but since the proposed structure for the Illiana Expressway would be entirely grade-separated, the new highway would not directly come into conflict with those railroads. On the other hand, if the Illiana spurs new development within its study area, the nearby roads that do intersect these railroads could see an increase in automobile and truck traffic through existing rail crossings, potentially creating new dangerous intersections. To jump ahead of this issue, the Indiana Department of Transportation has the opportunity to identify future crossings that could experience development-related traffic increases, and implement grade separation projects at those sites. The “greenfield” character of the Illiana corridor would likely mean that any grade separation projects pursued in the area (as part of the project) would likely be less expensive and easier to execute than crossings in already-developed areas. ***In other words, by pursuing grade separation projects in the Illiana Corridor on the front end, INDOT could prevent future problems by addressing them in the present, when project costs are lower.***

iii. Support Development of Intermodal and Multimodal Freight Facilities and the Logistics Industry

- ❖ **CRP Goal:** To use our transportation network as efficiently as possible, by developing intermodal and multi-modal freight facilities, where cargo is transferred between modes, maximizing the efficiency and utility of each mode of transportation. Increased intermodalism has the potential to take trucks off the roads, improve highway safety, and reduce the environmental impacts of goods movement.

- **Impact of the Illiana: Mixed**

To this CRP Goal, the Illiana creates impacts that are both positive and negative. By building a pathway to the intermodal facilities in Will County, the project is promoting intermodalism and multi-modalism. However, this benefit is reaped on the Illinois side, not the Indiana side, because by expanding the amount of highway miles in Indiana through this project, the amount of trucks on the road and vehicle miles traveled in Indiana will naturally be encouraged to increase, which is incongruent with this goal’s aim ‘to take trucks off the road.’ Similarly, while the construction of a new grade-separated expressway certainly poses the potential to improve highway safety among trucks in the region, the construction of a new 11 mile right of way through South Lake County also poses potential negative environmental impacts to existing open space and conservation land in the corridor.

⁸ Federal Railroad Administration: Office of Safety Analysis, Public Crossing Records.
<http://tinyurl.com/l92gr54>

Would the Illiana increase the intermodal capabilities of the INland Logistics Port in Kingsbury (LaPorte County)? INland, which is served by the CSX and CSSB railroads, almost 10 miles to the south of Interstate 80, currently stands as the most significant intermodal infrastructure in Northwest Indiana. If the Illiana were extended through Porter and LaPorte counties to the INland Logistics Port, the project would become more beneficial for operators using that facility, but that would involve adding over 30 additional miles of highway, which is not part of the project proposal.

Lastly, with this new highway link crossing two Class I railroads in South Lake County, there also exists the possibility for new intermodal/multimodal facilities within the project area. For a more detailed analysis of prioritized logistics facility location, please consult Freight Goal 1 and Land Quality Section V, D.

iv. Encourage Freight Supportive Land Use Planning and Zoning

- ❖ **CRP Goal:** Promote integrated land use and transportation planning between communities and freight-related development, so as to ensure that freight infrastructure is appropriately located and operates efficiently, without compromising community livability and environment.

➤ **Impact of the Illiana: Uncertain**

The overall impact of the Illiana on this CRP Goal depends entirely on how the project is implemented. If the Illiana is developed with good context-sensitive practices, such as buffers, open space requirements, limited access points, growth control ordinances, low impact design, context sensitive lighting, and green building techniques, then the project will be in harmony with this Goal. Incorporating these best practices, however, would take coordination among many entities, as INDOT has no control over land use decisions on development outside of their right-of-way.

What potential impacts on livability and environment would be created by drawing trucks and vehicle miles traveled (VMT) further south? From one point of view, doing so would improve livability in many of the region's northern communities, where heavy freight infrastructure can pose some negative impacts on nearby communities. From another point of view, the Illiana could be seen as simply drawing the negative environmental impacts of freight further south, rather than truly remediating those impacts as a whole, and that freight-related economic development in the project area would serve as a net negative environmentally.

v. Improve Extra Heavy Duty Truck Route

- ❖ **CRP Goal:** Enhance and maintain the extra heavy duty truck route (US 12 & 20) that serves as the designated highway for industrial freight between South Bend and Hammond. Enhancing the road's infrastructure and capacity should also be balanced with improvement of the communities and land use along the corridor.

➤ **Impact of the Illiana: Neutral**

The Extra Heavy Duty Truck Route (EHDTR) is designated by the Indiana General Assembly, and built to support trucks weighing up to 134,000 pounds. It is intended to connect Indiana's industries (steel, etc.) with partner facilities across the Illinois and Michigan boundary lines (automobile manufacturers, etc.). Since the Illiana project area is far away from the service area of the EHDTR, since the lakefront industries that the EHDTR serves do not appear to be moving south, and since the Illiana will not be built to consistently serve trucks with weight levels of those on the EHDTR, its development cannot be seen as having any relation to this northern road. Over the last decade, INDOT has relinquished much of the EHDTR to the communities that it passes through, and so the road would no longer pool from the same funding source as the Illiana. In turn, the Illiana can be seen as having little to no impact on the Extra Heavy Duty Truck Route.

vi. Support rail and maritime policies that encourage mode shift and reduce truck volumes

- ❖ **CRP Goal:** Increase investment in and development of alternative shipping modes, like rail and maritime, to encourage a mode shift for freight, and reduce truck volumes.

➤ **Impact of the Illiana: Inconsistent**

By increasing the capacity of the highway system to handle greater truck volumes in Northwest Indiana, the Illiana Expressway project achieves the opposite of a mode shift. As stated under Goal iv above, the expressway would enhance the potential for modal shift on the Illinois side, but not on the Indiana side. Other potential projects, like the Port of Indiana's "Short Sea Shipping" initiative, and the Indiana Rail Plan's short-haul intermodal rail corridor (between Chicago and Louisville), stand as opportunities for driving this modal shift. The development of a short line railroad along the Illiana corridor would also help achieve this mode shift, and provide another valuable connection between Illinois' western railroads (BNSF and UP) and Indiana's eastern railroads (NS and CSX), though it would no doubt be an expensive solution. The investment in and the development of the Illiana Expressway, instead of projects like these, can be seen as a commitment to the status quo of shipping freight predominantly by trucks, rather than expanding the capacity of other modes to achieve greater multi-modality, which is the priority of the *2040 Comprehensive Regional Plan*. While NIRPC realizes that it is not economically viable to shift all types of freight carried by trucks to trains and ships, for some of the goods carried by trucks, a mode shift could be achieved through greater investment in rail and maritime infrastructure.

IV. LAND USE

Regional growth over the last few decades in Northwest Indiana has meant outward expansion. This pattern is part of a cycle where mature inner cities and towns build up and then decline as newer housing (often at a lower cost) is built in new communities or unincorporated areas. Low initial costs attract people out to the urban fringe and unincorporated areas, and once-thriving communities are left with vacant lots and a dwindling tax base, which are causing major issues in the inner cities.

The NIRPC population forecast according to the *Comprehensive Regional Plan's* vision is the addition of another 170,000 people by 2040. Lake County will capture the majority of this growth with an additional 126,945 people, which is 75 percent of the anticipated growth. Based on evaluation of the existing regional land inventory in the *2040 Plan*, the supply of land within the municipalities, where infrastructure exists, appears more than adequate to meet the growth needs through the year 2040. The major land use issue facing the region is how to effectively manage and direct new growth.

In comparing the *2040 CRP* Growth and Conservation Goals and objectives to the "Illiana Strategies" that were developed and presented by the Illiana Land Use Technical Task Force, it is apparent that the Illiana project is facing some challenges in satisfying specific *2040 Plan* goals and objectives. The likelihood of meeting *2040* goals and objectives using these "Illiana Strategies" is assessed and discussed below.

It must be emphasized that INDOT does not control land use in the Illiana Corridor area, and thus cannot make land use decisions which are privy to local jurisdictions. NIRPC will continue to assist said entities in local land use planning decisions which are consistent to *2040 CRP* recommendations.

CRP Growth and Conservation Goals and Objectives

- ❖ **Goal: Livable urban, suburban and rural centers**
 - *Objectives:*
 - Encourage the compact mixing of uses- **Uncertain**
 - Encourage a diverse mix of housing types and affordability levels near job centers and transit routes- **Uncertain**
 - Facilitate the remediation and redevelopment of abandoned and underutilized land, including brownfields and greyfields- **Uncertain**
 - Promote community green infrastructure and access to public open space- **Uncertain**
 - Encourage Development around infrastructure- **Uncertain**

Relevant Strategies from the Illiana Land Use Task Force

1. *Municipal land use plans need to be updated to reflect potential growth impacts of Illiana.*
2. *Controls and promotes manageable development at interchanges*

3. *Support mixed use, commercial-residential development*

➤ **Impact of the Illiana: Uncertain**

Discussion

The Illiana Strategy above regarding municipal land use plans is appropriate, based on trends with the building of a new highway and associated interchanges. Impacted land use will be pressured to shift from rural development to urban and outward development. However, the public input during the development of the *2040 CRP* clearly stated interest in restricting this outward expansion trend by focusing development in existing urban areas of the region. Revitalizing and renewing the region's centers and planning for growth with livable urban, suburban and rural centers will help break this cycle and help to protect and preserve the rural and natural areas of the region.

NIRPC established a hierarchy of urban Livable Centers to support community-based transportation and land use planning projects that bring vitality to downtown areas, neighborhoods, station areas, commercial cores, transit stops, and transit corridors. As a result of the Illiana Expressway, the region would be pressured with outward expansion, population growth and economic development in the southern part of Lake County.

The Illiana Strategies do not provide clear recommendations on how future development could be controlled, managed, or developed mixed use environments. ***These strategies need supplementary recommendations and policies to guarantee proper implementation is in place by local governments.***

❖ **CRP Goal: Revitalized urban core**

○ *Objectives:*

- Foster the development of livable, mixed-use downtowns- **Mixed**
- Facilitate the rehabilitation of neighborhoods and maintenance of high-quality and affordable housing- **Uncertain**
- Expand visual and physical access to Lake Michigan and other open space- **Neutral**
- Partner to protect threatened natural remnants [in the urban core]- **Consistent**
- Enhance community design and aesthetics- **Neutral**

Relevant Strategies from the Illiana Land Use Task Force

1. *Promote infill development near I-80 by diverting long-distance traffic to Illiana without excessive growth in Southern Lake Co.*
2. *Support mixed use, commercial-residential development*
3. *Coordination between county and municipalities is needed to minimize residential use on farm lands*

➤ **Impact of the Illiana: Mixed**

Discussion

Major employment and employment growth is expected to remain within and among established business locations and economic clusters in the northern portion of the region where they are supported by existing services, facilities and transportation access. If Northwest Indiana's population continues to migrate to areas outside the region's centers, the mature inner cities and towns will continue losing population and the vacancy rate will increase. As a result, commute lengths and times will become longer, major roads will become more congested because of increased travel demands, and increased vehicle emissions will degrade air quality, affecting the region's quality of life. There will also be increasing development pressure on the region's natural lands, farmland and forest lands.

When Infill development occurs within a built-up area, it is often on smaller sites and blocks rather than large tracts of land. Vacant lands within the Illiana project area are large tracts outside of cities and towns, which are often attractive as locations for big box development, industrial parks, or office parks. When subdivided into smaller tracts, these attract leapfrog commercial and residential areas and inhibit infill development. Infill development is a key strategy in the *2040 Plan* because it uses the infrastructure and community capacity for growth within the existing urbanized area and reduces development pressure on natural and agricultural lands.

Again, though the strategies developed by the Illiana Land Use Task Force would contribute to mitigating the potential negative land use impacts brought about by a new transportation highway corridor, the exact mechanisms by which this can be accomplished have not been articulated or adopted. Increasing mobility in the overall region does create the potential opportunity to make the region's livable centers accessible to a larger population, which could result in enhanced local economic development opportunities within those communities, including the urban core communities. But this is potentially offset by the pull brought by the project for development along the highway corridor rather than within the communities potentially served. ***Infill and adaptive reuse strategies would promote the preservation of historic and cultural resources within existing communities. These strategies should be utilized to enhance livable centers and limit greenfield development in this corridor.***

- ❖ **CRP Goal:** Managed growth that protects farmland, environmentally sensitive areas and important ecosystems
- *Related CRP Objectives are discussed in Section V, page 29*

Relevant Strategies from the Illiana Land Use Task Force

1. *Supports small balanced growth in the corridor*
2. *Provide adequate farming connections*
3. *Coordination between county and municipalities is needed to minimize residential use on farm lands*
4. *Eco-and Agri-tourism/business opportunities with new access*
5. *Coordination between county and municipalities is needed to minimize residential use on farm lands*

6. *Set priority to encourage new growth to occur within existing municipalities*
7. *Provide farmland preservation incentives*
8. *Use acre minimum for residents in agricultural zoned areas.*

Discussion

The Illiana Strategies related to this goal are rightly calling for growth control and best practices in rural areas. However, this implementation is up to local governments to make decisions regarding future growth. Yet again, ***the Illiana recommendations need additional strategies and policies to guarantee proper implementation by local governments.***

In Figure 4, the 2040 growth and revitalization vision map includes municipalities' comprehensive plans that are realized in the *Plan's* vision with a consideration of the Green Infrastructure Network. The following map shows the recommended area of future growth by 2040 within the Illiana study area. Community plans were considered in this vision map with a consideration of negative environmental impacts. These plans are not showing any projected growth along State Road 55 and the area between 55 and I-65 is all recommended in the vision map for preservation and green infrastructure. The proposed interchange by State Road 55 will promote future growth in the surrounding area that is not consistent with the 2040 Growth and Revitalization Vision.

Based on these findings, further options and strategies should be considered to alleviate potential negative land use impacts of the Illiana. NIRPC developed a land suitability assessment of the region's natural resources as one of the implementation tools. The purpose of the assessment is to provide insights as to where conservation is desirable and land is less suitable for development. The land suitability assessment is based on both natural and built environments by assessing and mapping all environmental assets in a single composite map. By looking at the Illiana project area, the map shows that the eastern part of the project area is classified as "unsuitable" for urban development, "very low priority" (close to municipalities with sewer and water supplies), and "least priority development area" (good land, but scattered).

Figure 5: CRP Growth & Revitalization Vision

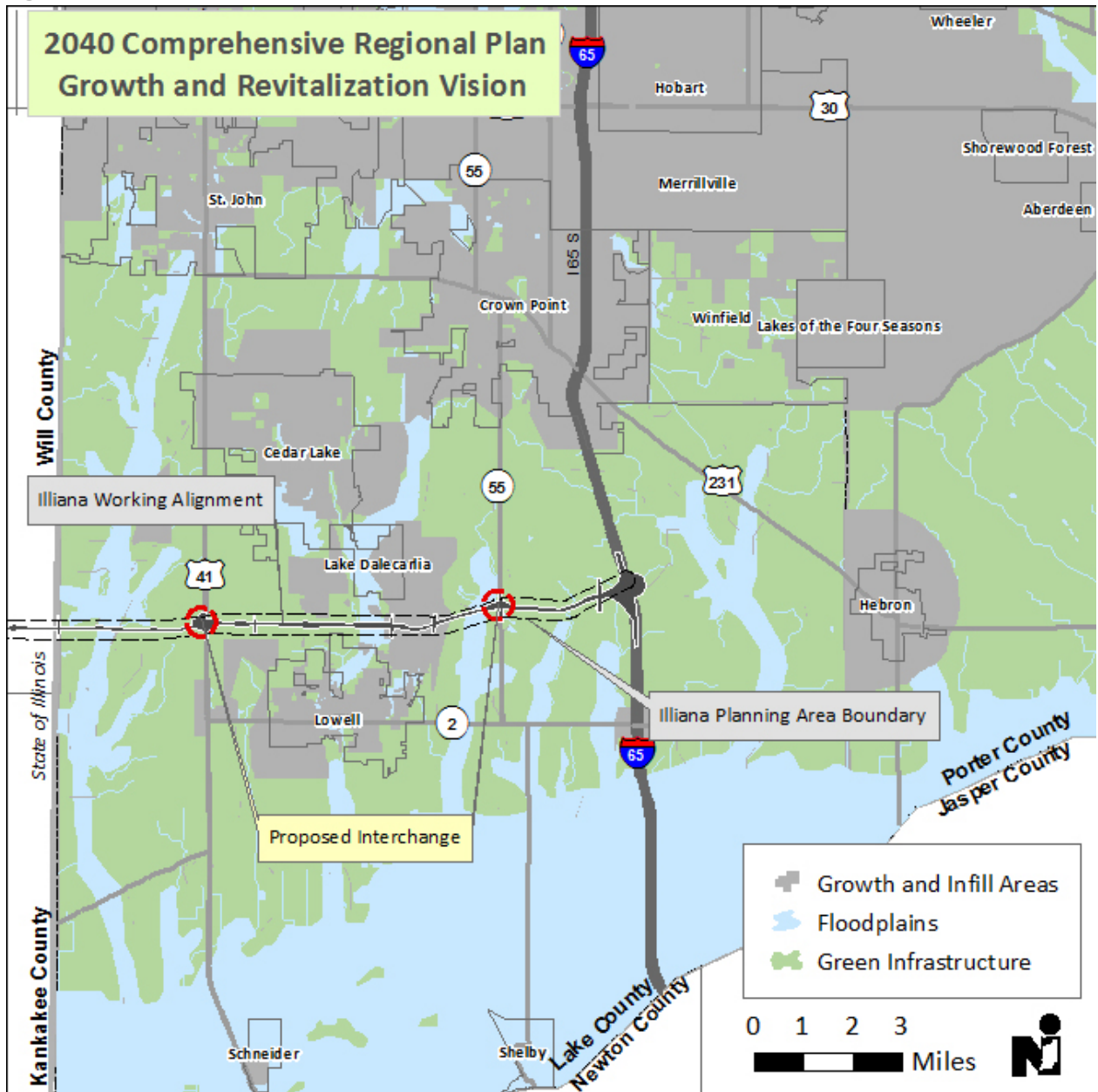
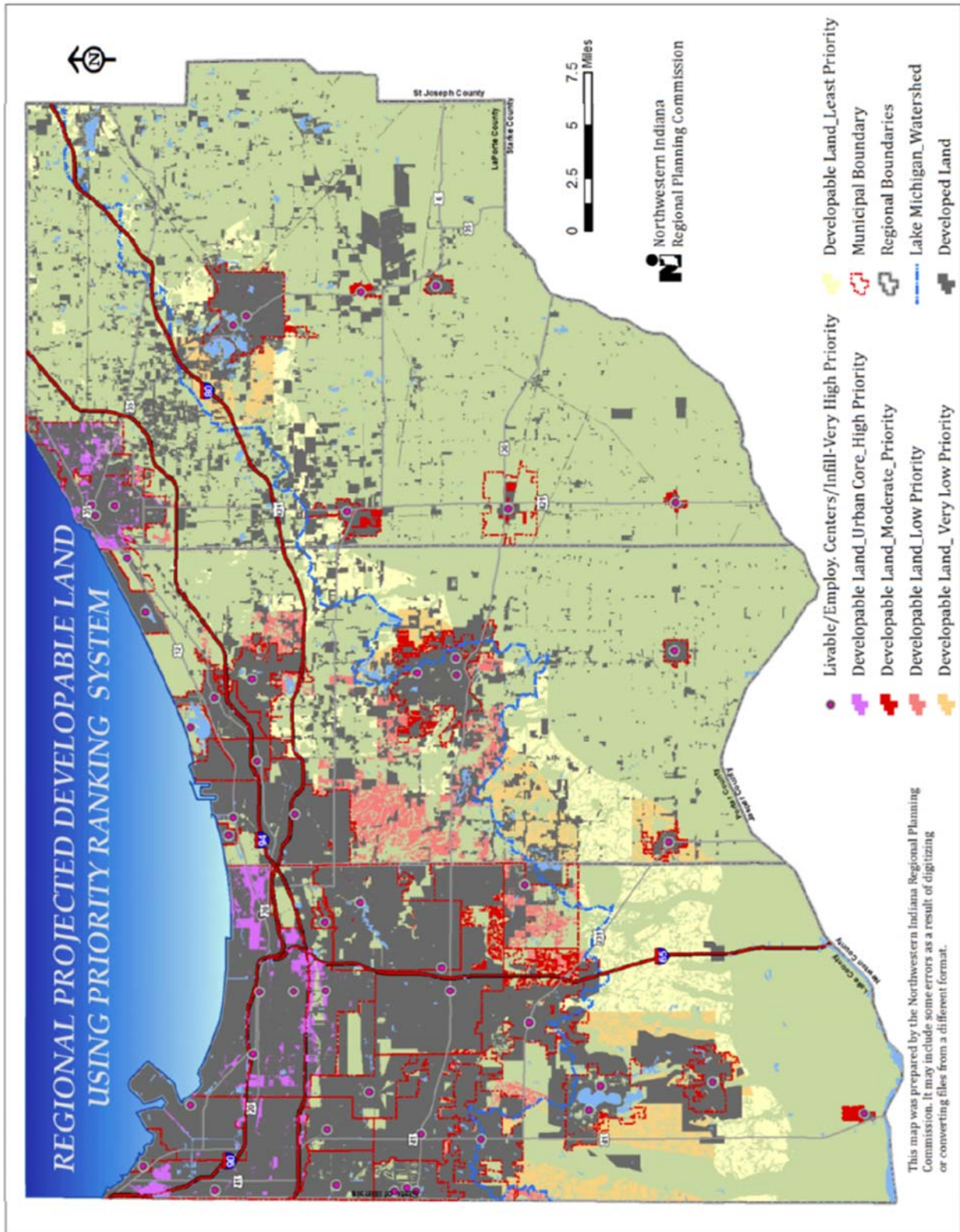


Figure 6: Developable Land Map



Planning has to be appropriately realized to manage potential growth in those areas. Without proper planning, development could migrate and spread into rural Lake County without the supporting infrastructure to handle it. Development in rural areas predictably creates conflicts with the surrounding agricultural land uses on high quality agricultural land in the rural parts of the region. ***Local land use decisions should consider policies and actions to protect natural resources and prime farmland. These decisions should include but are not limited to the following:***

- ***Restricting permitted land use to those uses that are compatible with rural resources in the rural areas, such as those related to farming and forestry.***
- ***Requiring low density development and discouraging development in the rural area by requiring large minimum lot sizes that maintain the rural character.***
- ***Restricting road access points and discouraging strip development by limiting access along rural roads.***

There is a demonstrated need to maintain long term agricultural production in northwest Indiana. To do this requires knowledge of the rural resource base, limitations on permitted uses in conflict with that base, effective recognition of environmental sensitivities, and a creative approach to accommodate various land uses. The entire Region will benefit if development is planned and implemented in a manner that makes best use of our natural resources without threatening their overall quality.

More discussion on the agricultural and environmental impacts of the Illiana is in Section V starting on the following page.

V. ENVIRONMENTAL INDICATORS

NIRPC reviewed potential environmental impacts associated with the Illiana B3 working alignment against environmental goals, objectives, and indicators included in the *2040 Comprehensive Regional Plan (CRP)*. The best available information of potential environmental impacts associated with the Illiana B3 working alignment is presented in the Tier 1 Final Environmental Impact Statement (EIS)⁹. Refined information will not be available until the Tier 2 EIS has been completed.

The Illiana planning process to date has demonstrated an effort to minimize environmental impacts. Given the scale of the project and its alignment, avoidance of all environmental impacts with its construction is practically impossible. While the Illiana planning team has identified and presented a variety of strategies including wildlife crossings and post-construction stormwater management practices to mitigate these impacts, Pg.3-239 of the Tier 1 Final EIS clearly states “Per state policies, IDOT and INDOT compliance with county and local regulations is voluntary, and no commitment to comply with local ordinances should be implied herein.” ***There are no assurances that voluntary environmental measures will be implemented.***

A. Land Conservation and Protection

- ❖ **CRP Goal:** Managed growth that protects farmland, environmentally sensitive areas and important ecosystems
 - *Objectives:*
 - Encourage the concentration of development around existing infrastructure- **Inconsistent**
 - Encourage redevelopment of infill sites within established centers - **Uncertain**
 - Promote compact development and smart growth through techniques such as transit-oriented development, traditional neighborhood development and conservation design - **Uncertain**
 - Foster the development of local food systems and a local food economy - **Mixed**
 - Preserve prime agricultural land and rural landscapes - **Inconsistent**
 - Encourage and plan for the protection and responsible use of shoreline areas - **Neutral**
 - Improve access to major regional parks and preserved open lands, including the Indiana Dunes - **Neutral**
 - **Impact of the Illiana: Inconsistent-Uncertain**
Construction of proposed Illiana Expressway is inconsistent with a number of the objectives included under this goal. There is also a level of uncertainty that centers on

⁹ Document can be located at http://www.illianacorridor.org/tier_1/t1_feis.aspx

secondary impacts from future land use associated with its construction that local municipalities will have to address.

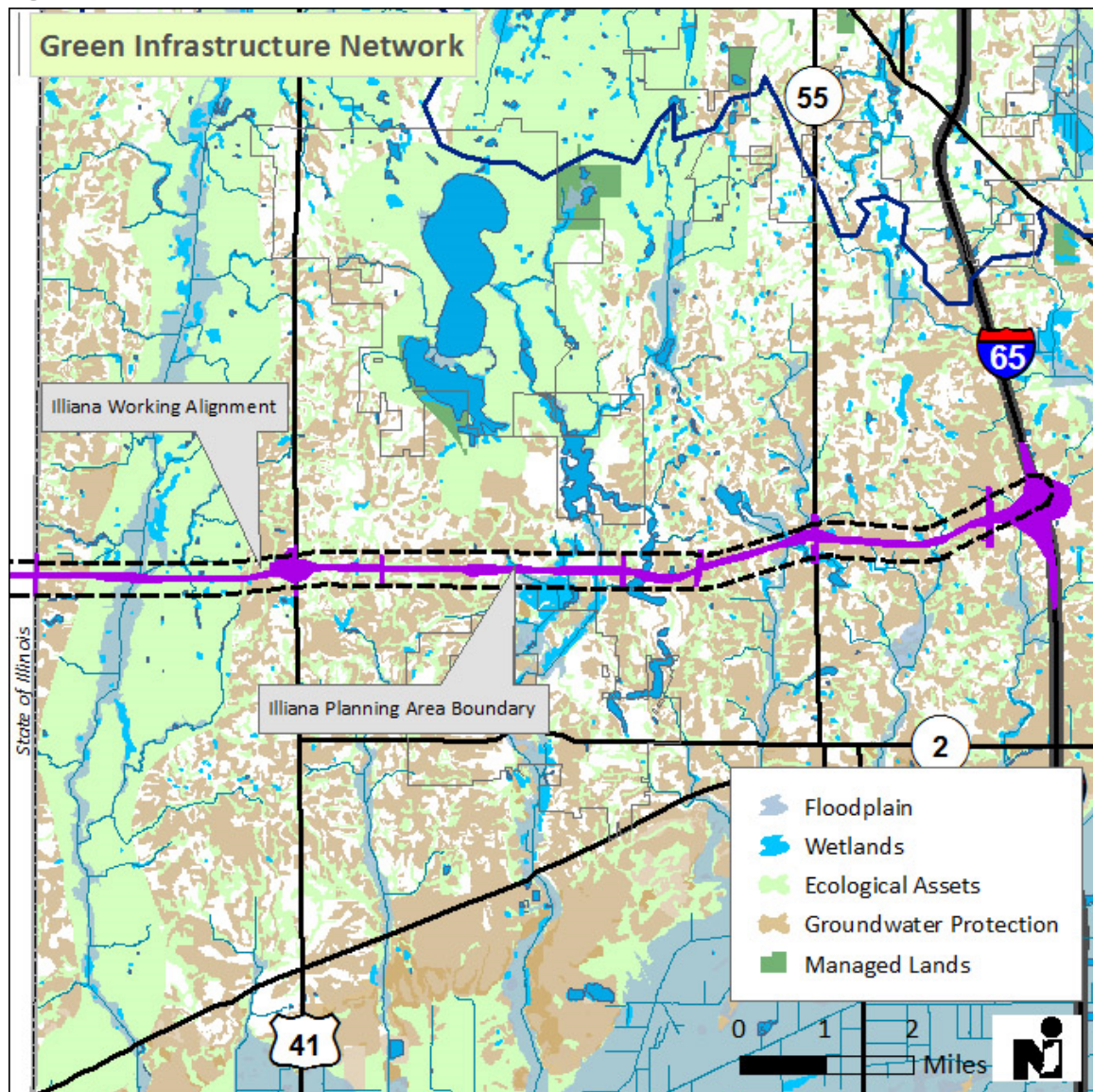
The Illiana Expressway severs two primary north/south corridors identified in the Northwest Indiana Green Infrastructure Network including West Creek and Cedar Creek. While opportunities have been identified by the Illiana planning team to mitigate corridor impacts, there is no assurance that these strategies will be implemented per state policies. ***Detailed information and financial and practical assurances on corridor connectivity mitigation practices would be recommended to increase confidence in the project's impact reduction.***

The project would be more consistent with regional and local plans such as the 2040 CRP, Greenways & Blueways Northwest Indiana Regional Plan, and 2012 Town of Cedar Lake Comprehensive Plan if it were to incorporate ecosystem based mitigation, including land acquisition for preservation and stream restoration within the West Creek and Cedar Creek riparian corridors. This approach is also highlighted in Eco-Logical, a program developed by the Federal Highway Administration and several other Federal agencies, which articulates a vision for an infrastructure development process that endorses ecosystem-based mitigation through integrating plans and data across agency and disciplinary boundaries.

A majority of the land use within Indiana's portion of the corridor is agricultural. Approximately 102 farm parcels covering 708 acres of farmland, 383 acres of which is considered prime, would be impacted by the project. Seven farmsteads would be relocated as a result. This is inconsistent with the objective of protecting prime farmland.

Because this project will reduce farmland, it has potential to reduce capacity for local food production. However, it also has capacity to increase access of local food growers to Chicago and Illinois markets. This contradiction earns a rating of mixed for local foods.

Figure 7: Green Infrastructure Network



B. Water Management and Protection

- ❖ **CRP Goal:** Reduced flooding risks and improved water quality
 - *Objectives:*
 - Achieve water quality standards and designated uses of our lakes and streams- **Inconsistent**
 - Promote stormwater best management practices including the development of green infrastructure and the reduction of impervious surfaces - **Uncertain**
 - Facilitate regional planning for adequate collection and treatment of wastewater and the elimination of the inappropriate use of septic systems - **Uncertain**
 - Promote the upgrading of aging water infrastructure - **Uncertain**

- Facilitate the development of a regional stormwater strategy - **Uncertain**
- Facilitate regional planning for water supply and demand - **Uncertain**
- Preserve floodplain and wetlands - **Inconsistent**

➤ **Impact of the Illiana: Inconsistent-Uncertain**

Construction of Illiana Expressway as proposed is directly inconsistent with the goals of reducing flooding risks and improving water quality. Direct impacts on flooding and water quality will be required to be mitigated by permitting agencies, but improvements are above and beyond compliance. ***Assurances that additional measures such as stream restoration in the vicinity of bridges and culverts, or enhancements to utilize the right of way for enhanced regional stormwater management could bring the project into consistence with this goal.*** There are a number of secondary impacts which are future land use dependent that remain uncertain.

According to the Tier 1 EIS the proposed Illiana will replace 708 acres of Indiana land currently in agricultural use with highway. NIRPC staff utilized the Purdue University's Long-Term Hydrologic Impact Analysis (L-THIA) model to provide a cursory estimate of the annual water quantity and quality impacts resulting from a conversion of these acres from agriculture to commercial use. L-THIA tells us that this land use change would result in an additional runoff depth of 10.4 inches and runoff volume increase of 952 acre-feet (or 310 million gallons) of water per year.

Suspended solids loading would increase by 45%, from an estimated 50 tons to 72 tons per year. Biochemical Oxygen Demand by pollutant loads would increase from 2 tons to 30 tons per year. L-THIA also predicts the addition of this developed land area will annually generate 15 tons of Chemical Oxygen Demand, 12 tons of oil and grease, and over 500 pounds of heavy metals that are not presently created by agricultural land uses. Receiving streams within Indiana's portion of the Illiana corridor are all tributaries to Singleton Ditch which empties into the Kankakee River near Momence. Excessive sediment loading is already a concern for the Kankakee River and the communities that rely on the river as a water source and for recreation.

While Illiana planning team has identified and presented a variety of strategies including wildlife crossings and post-construction stormwater management practices to mitigate environmental impacts, Pg.3-239 of the Tier One Final EIS clearly states "Per state policies, IDOT and INDOT compliance with county and local regulations is voluntary, and no commitment to comply with local ordinances should be implied herein."

Additionally the maintenance activities included in the mitigation section of the EIS (3.9.4) focuses on deicing and herbicides with no mention of maintenance of the green infrastructure/LID post-construction storm water practices. In particular, the presence of deicing chemicals, specifically salt, has been shown to increase propagation of invasive plant species. Without proper vegetation management the stormwater BMPs could create greater ecological problems. At this time it is difficult for NIRPC staff to identify who will be fiscally and

qualitatively responsible for long term management maintenance of these Best Management Practices. ***Assurances that voluntary environmental practices and measures will be implemented, and that all mitigation practices will be maintained for the life of the facility would be needed to ensure that the proposed project is consistent with these above goal of the CRP.***

The EIS indicates a total impervious surface area additional impact of 745 acres (1.2 square miles). As mentioned in the above stormwater section, NIRPC utilized L-THIA to estimate the Illiana will add at least 612 acre feet of stormwater runoff per year. Impervious surface cover analysis shows that a number of subwatersheds in the project planning area were approaching the 10% threshold. Numerous studies by the Center for Watershed Protection and others have shown that stream quality begins to decline in watersheds with greater than 10% impervious cover. Development spurred by the construction of the Illiana could result in the 10% threshold exceedance. The subwatershed most likely impacted would be Cedar Creek since the Towns of Cedar Lake and Lowell are located in this drainage area. Increases in Impervious coverage could also be particularly devastating in the West Creek watershed which IDEM is currently in the process of upgrading from impaired to good quality. Increases in impervious coverage directly conflict with this CRP objective.

Floodplain preservation was identified as a critical environmental goal during the development of the *2040 CRP* for two major reasons: first, because infrastructure and development that occurs within floodplains is highly vulnerable to costly damages associated with flooding; second, because of the important environmental services floodplains provide. Kankakee River tributary floodplains impacted by the proposed project footprint include West Creek, McConnell Ditch, Cedar Creek, Spring Run, and Griesel Ditch. The EIS shows that approximately 17.1 acre-feet of fill would be placed in floodplain areas under the B3 working alignment alternative of the Illiana. This is the equivalent of displacing enough water to fill a football field from goal post to goal post 11 inches deep.

Wetland preservation was identified as a critical environmental goal during the development of the *2040 CRP* because of the important environmental services they provide such as floodwater storage, water quality improvement, and fish and wildlife habitat. The EIS shows approximately 20.1 acres of wetland impact under the B3 working alignment alternative. This is the highest impact of the alternatives proposed and potentially requires the greatest amount of mitigation depending upon wetland type and corresponding mitigation ratio. The greatest potential area of wetland impact occurs with floodplain wetlands associated with McConnel Ditch upstream of the town of Lowell and Cedar Creek. Cedar Creek is listed by IDEM for impaired biotic communities on the 2008 303d List. No existing mitigation bank exists within the watershed. Detailed information and assurances pertaining to flood plain and wetland mitigation have not been provided to NIRPC for evaluation. These will likely be determined in negotiation with state and federal regulatory agencies through the permitting process. Project impact on these issues is uncertain. ***Directing acquisition and mitigation efforts to the high priority riparian corridors***

identified in the 2040 CRP Green Infrastructure Network, and activities such as stream re-meandering and habitat restoration could help the project to support the goals of the plan.

Several of the objectives under this goal pertain to non-transportation infrastructure such as wastewater management planning, public water supply planning, stormwater planning, and aging infrastructure management. The Illiana project itself is unlikely to directly place undue strain on existing water and wastewater infrastructure. However, secondary development associated with and anticipated in its economic growth projections could greatly impact these facilities and systems. ***Any on-site sewage disposal systems installed as part of the direct development of the project will need to take into account localized soil limitations and high water tables in the corridor. In addition the project could however serve as a catalyst for regional, municipal, and county planning on meeting the existing and future water infrastructure needs of the area.***

C. Air Quality

❖ Goal: Improved air quality

○ Objectives:

- Achieve national ambient air quality standards for all pollutants, including carbon monoxide, ozone and particulates - **Consistent**
- Reduce air toxics, greenhouse gases and other harmful emissions - **Inconsistent**
- Improve the aesthetics – noise, odor, discoloration – of air - **Inconsistent**
- Reduce the disproportionate impact of industrial and transportation emissions on environmental justice populations - **Consistent**

➤ Impact of the Illiana: Mixed

There are many aspects of air quality that are important to the environment, health, and quality of life of our region and our residents. Clean air is vital to our health and to the productivity of land and our businesses in Northwest Indiana. Poor air quality can cause a wide variety of health problems, contributing to premature death from cardiovascular and respiratory diseases such as asthma, and these problems are often worse in poor urban communities. The Improved Air Quality Goal is broken down into several objectives which are summarized below as National Ambient Air Quality Standards impacts, Air Toxics and Green House Gas Emissions, Aesthetics, Reducing Disproportionate Impacts, and Coordination with Land Use.

National Ambient Air Quality Standards (NAAQS)

The United States Environmental Protection Agency (EPA) establishes the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants, all of which, in concentrations above certain levels, have adverse effects on human health and or the environment. These criteria pollutants include: carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), ozone (O₃), particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}). NAAQS attainment status in our counties is one of the strongest demonstrations of air quality improvement over time. Currently Lake County Indiana is in attainment of NAAQS for all of

these pollutants except that Lake and Porter County were designated in non-attainment for the 8 Hour Ozone standard on May 31, 2012. In addition these areas remain in maintenance for PM 2.5 and must continue to demonstrate that any changes in the region will not jeopardize improvements.

Ozone (O₃) is an odorless, colorless, highly reactive gas. Ozone can irritate the eyes, nose, throat and respiratory system. It can be especially harmful to individuals with chronic heart or lung disease, as well as the very young and very old. Children, in particular, can be at risk during the summer months due to increased outdoor activity. In addition to public health risks from ozone, long term exposure to ozone during the growing season also damages sensitive vegetation. Cumulative ozone exposure can lead to reduced tree growth; visibly injured leaves; and increased susceptibility to disease, damage from insects and harsh weather. Current ground level ozone concentrations in many regions of the U.S. can suppress yields of sensitive crops by 5 to 15%, with greater impacts expected if ozone levels continue to rise. Sensitive Northwest Indiana crops include soybean, clover, alfalfa and wheat. Soybean is one of the most sensitive crops to ozone, showing yield decreases when levels exceed 30 ppb. Ground level ozone forms when its precursors (i.e., nitrogen oxides and volatile organic compounds (VOC)) mix with high temperatures, bright sunlight, and calm winds. This reaction forms smog and can lead to ozone action days, a period when certain pollutant-generating activities should be minimized. Cars, power plants, refineries, chemical plants, gasoline storage, and household paints and solvents emit NO₂ and VOCs as a by-product of their use. Control of Ozone levels in the air is accomplished by regulating the emissions of Nitrous Oxides (NO_x) and Volatile Organic Compounds (VOC) from various sources including transportation systems.

Fine particulate matter (PM_{2.5}) is produced by all forms of combustion from engines, wood burning, open burning, and industrial processes. The annual PM_{2.5} NAAQS is met when the annual arithmetic mean concentration is less than or equal to 15.0 µg/m³ (parts per billion) The 24-hour PM_{2.5} NAAQS is met when the three-year average of the 98th percentile of 24-hour concentration is less than 35 µg/m³. Like the criteria for Ozone, the standards for Fine Particulate Matter are also in a state of uncertainty. In March 2010 EPA released the announced it would reconsider the Annual PM_{2.5} standard within a range of 11-13 µg/m³ (parts per billion). Depending on where that final standard is designated, Northwest Indiana could again find itself in non-attainment.

Illiana Impacts

NAAQS Emission projections for 2040 were compared between (1) the existing CRP, which does not include Illiana, (2) an Illiana Build scenario with 2040 population and jobs projections, and (3) an Illiana Build scenario with the project's trend based anticipated population and job growth changes. Table 6 summarizes and compares the critical NAAQS pollutant emissions projections with the future Lake and Porter County transportation emission budgets. While Lake and Porter County transportation emissions are projected to remain within allowable budgets regardless, some NAAQS pollutants are projected to change substantially if the project

is built. In some cases, addition of the Illiana project will absorb significant portions of future transportation emissions budgets. This could be an important consideration as it may limit future growth of transportation projects with potential to increase emissions.

Building the Illiana is projected to result in a net reduction in VOC emissions of 0.36 tons per day (approx. 131 tons per year). This would essentially free up approximately 6% of the regional transportation VOC emission budget.

All of the other critical NAAQS pollutant emissions would increase with the building of the Illiana, regardless of the future secondary growth projections. Direct Nitrous Oxide compounds would increase by approximately 7 tons per day (2555 tons/year), which is 42% of the regional transportation emissions budget for this pollutant. Nitrous Oxide Precursors would increase by approximately 2,700 to 2,800 tons per year, 51% of the regional transportation emissions budget for this pollutant. Particulate emissions would increase between 45 and 50 tons per year, an amount which represents between 23 and 26% of the entire regional transportation budget, bringing the Lake and Porter County transportation system up to 91% of the total allowable particulate emissions. Future transportation projects with potential to increase particulate emissions could be constrained as a result of the small remaining allocation available.

In addition to future regional conformity impacts, because the Illiana is predicted to have a significant number of diesel vehicles it is required to conduct project level conformity analysis, otherwise known as a quantitative hot-spot analysis. The purpose of this requirement is to determine if increased diesel emissions in the immediate vicinity of the new highway will cause localized exceedances of the annual PM 2.5 standard and accompanying health impacts associated with these exceedances. This evaluation required the team to determine the locations with the greatest increases in diesel traffic volumes, most likely the interchange locations. For the corridor as a whole, the SR 55 and I-65 segment in Indiana incurred the highest project impacts for this pollutant.

The Annual PM_{2.5} standard that must be met for project specific conformity is 12 $\mu\text{g}/\text{m}^3$ (parts per billion). The annual background concentration of PM 2.5 for the project area is 9.9 $\mu\text{g}/\text{m}^3$. In 2040, the no-build projection for 2040 predicts annual PM 2.5 for the project area of 10.20 $\mu\text{g}/\text{m}^3$, while the build projection predicts annual PM 2.5 for the project area of 10.23 $\mu\text{g}/\text{m}^3$, with the net difference being 0.03 $\mu\text{g}/\text{m}^3$ (parts per billion). In both cases predicted concentrations are below the conformity standard, and so conformity will be met.¹⁰

¹⁰ Illiana Corridor Air Technical Report_November 2013.

Table 6: Comparison of Regional NAAQS Emission Projections for 2040

Model Year	2040							
	VOC		NOx Direct		NOx Precursor		PM Direct	
	<i>Tons/day</i>	<i>% of budget</i>	<i>Tons/day</i>	<i>% of budget</i>	<i>Tons/Yr</i>	<i>% of budget</i>	<i>Tons/yr</i>	<i>% of budget</i>
Transportation Emission Budget	5.99	100%	16.69	100%	5,472	100%	189.73	100%
Current CRP - No Build	4.51	75%	5.07	30%	2,102	38%	122.12	64%
Build – CRP Growth Control	4.15	69%	12.04	72%	4,896	89%	172.23	91%
Build- Illiana Growth Projections	4.15	69%	12.04	72%	4,801	88%	166.52	88%

Air Toxics, Green House Gases, and other Harmful Emissions

Toxics are monitored and regulated differently than the National Ambient Air Quality Criteria Pollutants. There are no standards or emissions regulations pertaining to transportation systems and air toxics. US EPA has determined in the Mobile Air Toxics Rules that 4 compounds commonly associated with vehicle activity have the greatest potential influence on health. These include benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, polycyclic organic matter, naphthalene, and diesel particulate matter. The Indiana Department of Environmental Management's (IDEM) 2008 ToxWatch Report found that acrolein and benzene are two of these chemicals that have been found at levels of concern at monitoring stations in Lake and Porter Counties.

More recently, IDEM has completed a Lakeshore Air Toxics Study (LATS) to further refine understanding of the air toxics condition and sources in northern Lake and Porter County. For this study, the agency used the Motor Vehicle Emissions Simulator (MOVES) Air Toxics Addendum to estimate air toxic emissions in Northwest Indiana from highways and interstates in the Northern portion of Lake and Porter Counties. LATS showed that based on 2010 traffic count data, 676 tons of air toxics were estimated to be emitted annually by roadway vehicles in the study area.

The IDEM LATS study estimated that the additional lifetime cancer risk from on-road mobile sources in the lakeshore area from air toxics was 18.6 per million people. The on-road mobile sources average non-cancer hazard was 7.2 on a scale of 1 to 100. Overall, IDEM's conclusions were that the greatest level of cancer risk and non-cancer hazard is attributable to on-road mobile sources. On-road mobile emissions for acrolein, benzene, and formaldehyde were significantly greater than industrial sources.

No national or state standards are in effect for greenhouse gas (GHG) emissions from transportation or other sources. However, the 2040 CRP includes an objective to reduce GHG emissions as part of improving regional air quality. MOVES2010b does have the ability to model potential GHG emissions from vehicle emissions associated with highway projects. Other tools are available on-line to estimate the life cycle carbon emissions generated from new highway projects. There also a variety of tools and methods available on-line to estimate the life cycle carbon emissions generated from new highway construction projects.¹¹ One tool is created by the Rutgers University Transportation Research Center is the Greenhouse Gas Assessment Spreadsheet for Transportation Capital Projects (GASCAP). Another is the Project Emissions Estimator by the Asphalt Pavement Association of Indiana¹². These tools may better represent project GHG emissions because they include construction and life-cycle maintenance costs in addition to vehicle miles traveled on the new roadway. NIRPC has not been provided with results of this type of analysis, which would be above and beyond any federal or state requirements.

Illiana Impacts

The Mobile Source Air Toxics Rules place consideration of Air Toxics for transportation projects within the project-level decision making context of the National Environmental Protection Act (NEPA). FHWA Interim Guidance takes a tiered approach to project evaluation of Mobile Source Air Toxics (MSAT). Tier 1 projects have no potential for meaningful MSAT effects and are not required to include these analysis in their Environmental Impact Statements. Tier 2 projects with low potential for MSAT effects are required to provide qualitative analysis. Tier 3 projects with higher potential MSAT effects are required to conduct quantitative analysis. The Illiana Corridor Project was determined to fall under Tier 3, so quantitative analysis of MSAT emissions in the project study area were projected using MOVES2010b.

The amount of MSAT generated is tied closely to changes in Vehicle Miles Traveled associated with the project; however, the MOVES2010b model includes predicted 80% MSAT emission reductions estimated to result as new EPA vehicle emission standards impact vehicle fleets. Table 7 shows the LATS estimated 2010 On-road Mobile Source Emissions of these compounds, the relative percentage of overall regional air emissions these amount represent, and the projected changes in MSAT Emissions from the Build and No-Build alternatives in the Illiana Project Air Quality Technical Report of November 2013. Overall future MSAT emission are predicted to be well below current levels due to the above mentioned regulatory vehicle

¹¹ University Transportation Research Center, Rutgers University. "Planning Level Assessment of Greenhouse Gas Emissions for Alternative Transportation Construction Projects".

<http://www.utrc2.org/research/projects/planning-level-assessment-greenhouse-gas-emissions>

¹² http://www.asphaltindiana.org/pe_2_project_emissions_estima.php

emission standards regardless of the Illiana project. However, Benzene and Formaldehyde emissions in the project area are greater with the project than without it. Construction of this project will not result in a decrease of MSAT emissions and is therefore inconsistent with the objective of reducing emissions.

Beyond the regional impacts assessed above through consideration of VMT changes, consideration should be given to localized impact. With regards to air toxics, IDEM LATS reports that the highest mobile toxics health risks exist within close proximity to major traffic corridors. Risks tend to decrease substantially within ¼ to ½ mile from the travel lanes. Predicted changes in VMT caused by the Illiana are unlikely to incur significant changes in **regional** MSAT emissions. However, introduction of an on-road mobile source air toxic emission generator such as the Illiana into the currently rural area of south Lake County, could reasonably be construed to introduce an additional health risk in the immediate vicinity of the new road. There is no requirement that MSAT risk mitigation strategies be included as part of the qualitative analysis required for this project within NEPA. **However, such strategies could be recommended as be part of the project’s design. For the Illiana project diesel truck VMT and predicted MSAT emission mitigation strategies could include active Intelligent Transportation System programs, incident management systems, truck stop electrification, or incentives to replace or rebuild older diesel emissions in the project area. Provisions for alternative fueling infrastructure would also support future emission reductions on the corridor.**

Table 7: Regional Emissions Air Toxics Comparisons

Mobile Air Toxics	NWI Indiana Total 2010 Estimated On-road Mobile Source Emissions (Tons per Year) ¹³	Percent of Regional Emissions	Current Study Area MSAT Emissions Burdens (Tons/year ¹⁴)	2040 Indiana Study Area Portion MSAT Emissions Burdens – (Tons/year) No Build	2040 Indiana Study Area Portion MSAT Emissions Burdens – Build
Acrolein	28.03	96%	0.17	0.04	0.04
Benzene	331.32	63%	1.39	0.64	0.69
Formaldehyde	181.13	76%	2.37	0.84	0.97

Given the complicated and global nature of the interaction of greenhouse gas (GHG) emissions and climate impacts, there is no current methodology in place to evaluate the impact of project

¹³ Lakeshore Air Toxics Study Report, Indiana Department of Environmental Management, June 2013.

¹⁴ Air Quality Technical Report - November 2013, Parsons Brinkerhoff

level changes in GHG emissions on global climate. As a result, detailed analysis of this is not required under NEPA. The Illiana Air Quality Technical Report did provide some information demonstrating the relative magnitude the impact by comparing Global GHG Emissions to Combined Illinois and Indiana Motor Vehicle GHG Emissions. They further provided bi-state VMT changes as a result of the project as a surrogate for future emission changes. Table 8 presents their analysis and shows a 2040 increase in bi-state total VMT caused by the project of 0.04%. While the increase is minor it does nevertheless indicate that the project would result in a slight increase in GHG emissions. This increase appears to be inconsistent with this plan objective of reducing emissions. ***NIRPC recommends that a more complete carbon-footprint analysis be conducted for the Illiana project. It is entirely possible that the proposed green infrastructure and environmental mitigation undertaken in conjunction with the project could offset any minimal GHG increases caused by increased VMT and result in the project being supportive of this objective. Provisions for alternative fueling infrastructure on the corridor would support future emission reductions, perhaps offsetting potential increases due to VMT changes.***

Table 8: Vehicle Miles Traveled Emissions

Scenario	Global CO2 Emissions (Million Metric Tons)	Illinois and Indiana Motor Vehicle CO2 Emissions (Million Metric Tons)	Illinois and Indiana Motor Vehicle CO2 Emissions (Percent of Global)	Percent Change in Combined Statewide VMT due to Illiana Project
2010 CO2 Emissions	29,670	102.7	0.346%	-
2040 Emissions - No Build	45,500	118.0	0.259%	Not Available
2040 Future Emissions– Illiana Build	Not available	Not available	Not available	0.041%

Improve the aesthetics – noise, odor, discoloration – of air

The Illiana Tier I EIS Study includes some discussion of aesthetics in the form of Visual Resource Impact based on guidelines established in the Visual Impact Assessment for Highway Projects (FHWA, 1981).

Visual impacts of the project would be most apparent to rural residents in the residential areas adjacent to West Creek, Lake Dalecarlia, and along SR 55. Mitigation methods proposed to reduce visual impacts include design guidelines for signs, ramps, and vegetation as well as Dark Sky compliant lighting.

Specific information about impacts and mitigation of traffic noise from the project will be provided in the Tier 2 EIS. NEPA requires that noise levels for the federal action, in this case

constructing the Illiana Project, be compared against the baseline or no-build alternative. However, the Federal-Aid Highway Act of 1970 places traffic noise criteria in place for all state agency highway projects with any federal participation. 23 CFR 772 identifies new highway construction projects such as Illiana as Type 1, so noise must be considered. Future Noise Levels are predicted using a FHWA Traffic Noise Model. Traffic noise abatement is required to be incorporated when noise is predicted to exceed acceptable noise levels, known as noise abatement criteria, or when new noise levels created by a proposed project are expected to increase 5 to 15 decibals (dBA) over existing levels. Noise Abatement Criteria for residential areas is between 67 and 70 dBA. Agricultural land uses are not considered to be noise sensitive so there is no NAC established for these areas. Measures incorporated must be reasonable and feasible, conditions which allow factors such as cost, engineering capabilities, and noise receptors to be considered.

While both visual impacts and noise impacts are required to be mitigated in project planning and design, it seems unlikely that the Illiana project meets the CRP objective to actually **improve** aesthetics within its corridor. Nor is the project suggested to remove aesthetic impacts from other areas within Northwest Indiana. As a result the project is **inconsistent** with this plan objective.

Reduce Disproportionate Impact of Emissions on Environmental Justice Populations

Reduction of disproportionate impact of regional decisions and transportation investments on environmental justice communities is one of the overarching themes of the *2040 CRP*. The extent to which the proposed Illiana project reduces air emission impacts on these vulnerable populations is directly related to the amount of vehicle miles traveled, especially diesel truck VMT that it relocates from the Lake County Core Communities of Gary, Hammond, and East Chicago.

For purposes of this evaluation, the percent difference between Heavy Truck VMT in the entire region and Heavy Truck VMT in the EJ Community is used as a surrogate for harmful air emissions. This is necessarily an over simplification and doesn't account for possible benefits of improved diesel engine emissions over time. Table 9 compares the Heavy Truck VMT in the region with that of the EJ communities in North Lake County with the current 2040 travel model, and Illiana with CRP projections travel model, and the Illiana with projected growth travel model. ***Additional MOVES analysis of heavy truck emissions specifically targeted to address this question would better incorporate predicted changes in diesel emission rates and could improve the results of this analysis.***

Illiana Impact

Based on this evaluation of emissions solely as a function of VMT, it would appear that building the Illiana generates 0.1% less heavy truck impact on the EJ community than not building it in a trend scenario 2040. This is consistent with Plan objectives.

Table 9: VMT and Environmental Justice Impacts

Scenario	Region Heavy Truck VMT	EJ Community Heavy Truck VMT	% in EJ Community	% Difference from 2008 Baseline
2008 Baseline	6226370	2612375	42%	-
2040 CRP – No Build	8269312	3778381	45.7%	8.4% Greater
Illiana-Trend 2040 – No Build	9463187	3560828	37.6%	11 % Less
Illiana 2040 Build	8349942	3146237	37.7%	10.8 % Less

D. Land Quality

❖ Goal: Clean land

○ Objectives:

- Maximize the number of brownfields returned to productive use- **Uncertain**
- Facilitate a regional solid waste and landfill strategy- **Neutral**
- Promote the acquisition and protection of green space- **Uncertain**
- Mitigate transportation and land use impacts- **Uncertain**

➤ Impact of the Illiana: **Uncertain**

Brownfields

The EIS, and NIRPC's own evaluation show no known brownfields in the B-3 corridor. However, within 2 miles of the corridor centerline approximately 20 remediation sites are identified in the Indiana Department of Environmental Management (IDEM) databases. The majority of these sites are south of the B-3 corridor along State Road 2, with a small number being located north of the corridor in Cedar Lake. Several of the sites on SR2 are located at intersections with roads that connect with planned Illiana Intersections such as US 41. These sites present high priority redevelopment opportunities and should be targeted for ancillary development associated with the Illiana. ***Making use of these brownfields for redevelopment are the responsibility of local governments and will be determined by local development decisions.*** Therefore the impact of the Illiana on this objective is considered to be **Uncertain**.

Solid Waste

This project has no foreseeable impact on the quantity or management of solid waste in Northwest Indiana. The project also has no direct connectivity to the Allied Waste Landfill in Newton County Indiana. The Newton County facility receives considerable amounts of solid waste from the Northwest Indiana and Chicago area. The Illiana project could provide additional access to US 41 for waste haulers traveling to the Newtown County facility; however,

this does not directly advance the objective of a regional solid waste strategy. The project is **Neutral** with regards to this objective.

Green Space Acquisition, Protection, and Mitigation of Land Use Impacts

While Illiana planning team has identified and presented a variety of strategies including wildlife crossings and post-construction storm water management practices to mitigate environmental impacts, Pg.3-239 of the Tier One Final EIS clearly states “Per state policies, IDOT and INDOT compliance with county and local regulations is voluntary, and no commitment to comply with local ordinances should be implied herein.” There are no assurances that voluntary environmental measures will be implemented. Without these measures the proposed project is inconsistent with the above goal of the CRP. ***Assurances that voluntary environmental practices and measures will be implemented, and that all mitigation practices will be maintained for the life of the facility, and more detailed information about the mitigation related acquisitions would be needed to ensure that the proposed project is consistent with these CRP Objectives.***

VI. QUALITY OF LIFE

A. Coordinate Projects Across Multiple Agencies

The Illiana Expressway has promoted coordination among the affected jurisdictions and organizations on both sides of the state line. Efforts both in support of and in opposition to the Illiana have caused coalitions to form to serve both positions. Activities have taken place both among private citizens and public agencies and jurisdictions. Bi-state participation and cooperation is evident in every planning step taken. Interaction with the Indiana and Illinois Departments of Transportation and the two metropolitan planning organizations has been on-going since the project's inception.

- ❖ **CRP Goal:** Efficient and Coordinated Local Government
 - *Objective: Promote coordination of land use and corridor planning across jurisdictional boundaries.*
 - **Impact of the Illiana: Consistent**
 - *Objective: Foster better communication, cooperation and coordination to better leverage resources.*
 - **Impact of the Illiana: Consistent**

Both the Indiana and Illinois Departments of Transportation have conducted numerous public participation activities to foster citizen awareness of the proposed plans and receive feedback. The bi-state project has also fostered coordination between the states to better leverage private investment.

Section Summary

The proposed project was developed with the participation and cooperation of both states and local municipal and county governments.

B. Develop and Preserve Greenways and Blueways

- ❖ **CRP Goal:** Managed growth that protects farmland, environmentally sensitive areas and important ecosystems
 - *Objective: Promote the development and preservation of regional greenways and blueways (water trails) and establish linkages between them.*
 - **Impact of the Illiana: Uncertain**

The project team has reported that coordination is underway with Lake County Parks & Recreation regarding future parkway development, such as linear trails. The project consultants need to work with local entities, such as Cedar Lake and Lowell, regarding their visions for trail development in the Illiana Expressway corridor.

In relation to blueways, or water trails, care must be afforded to bridge facilities spanning creeks and ditches through the corridor vicinity. Two major corridors in particular, Cedar Creek and West Creek, traverse the planned route. At these locations ***NIRPC recommends unfettered access for potential canoe and kayak users of the route, and coordination with the Northwest***

Indiana Paddling Association (NWIPA) on strategies and best practices for management and access of these riparian resources.

C. Improve Access to Regional Parks, Open Lands and Open Space

- ❖ **CRP Goal:** Managed growth that protects farmland, environmentally sensitive areas and important ecosystems
- *Objective: Improve access to major regional parks and preserved open lands, including the Indiana Dunes*
- **Impact of the Illiana: Uncertain**

In theory, the development of the Illiana Expressway will promote improved access to a number of recreation destinations in both Lake and Will Counties. However, no major local or countywide park facilities will be afforded direct access from the expressway via interchange locations in the NIRPC region. Two Lake County Park facilities are located within minutes of the expressway corridor – Lemon Lake to the north near Cedar Lake, and Buckley Homestead to the south near S.R. 55.

Regarding future parkland acquisition as outlined in Lake County Parks *Open Space Master Plan 2003-2007*, two potential park sites, identified as West Creek Park Sites A & B, would be directly impacted by the proposed route of the expressway. ***NIRPC staff encourages continued dialogue between the project team and the Lake County Parks on this, and other planned property acquisitions in the Illiana Expressway vicinity.*** Furthermore, it is expected that additional parkland will become available over time as growth occurs along the corridor route.

D. Improve Access to Jobs

- ❖ **CRP Goal:** A globally competitive, diversified economy that protects & enhances our natural environment
- *Objectives:*
 - Maximize technology, productivity and efficiency of existing core industries
 - Create diverse, emerging and sustainable industries
 - Strengthen public/private partnerships resulting in increased regional investment
 - Redevelop urban core areas
 - Use/expansion of transportation and other infrastructure advantages
 - Promote growth that protects and enhances the environmental assets of Northwest Indiana
 - Improve the region's workforce to accommodate growth in emerging industries
 - Improve overall quality of life to attract businesses and residents
- **Impact of the Illiana: Mixed**

The *2040 CRP* emphasizes development and job growth within existing communities. According to the CRP's vision, the Lake, Porter, and LaPorte region expects to grow by 170,000 people and 80,000 new jobs by the year 2040. Much of the region's growth would occur within existing communities that are already served by infrastructure. The CRP focuses new growth and

development in an existing community area where infrastructure and urban services would be most readily available.

The *2040 CRP* also calls for the Livable Centers-oriented approach that supports the preservation of the region's built environment, revitalization efforts of infill development and its adaptive reuse to promote sustainable development patterns and economic growth. The largest sectors of employment in the region revolve around manufacturing, government, health care, retail, tourism and hospitality. The following are prime sectors and emerging industry clusters the Region sees for future job growth: transportation, distribution and logistics; advanced manufacturing; IT and technology; and professional and medical services. The *2040 Plan* supports Livable Centers with economic centers and encourages these future prime sectors to be located within existing communities in order to take advantage of existing infrastructure, services, facilities and amenities.

In an increasingly globalizing economy, Northwest Indiana is positioned as the eastern gateway to a global city. While this fact has historically been downplayed, connections to Chicago will only rise in importance between now and 2040. Strengthening these ties through infrastructure development and building human relationships will help the region thrive. In addition, maintaining and building upon the historical role as a transportation and freight corridor also presents an opportunity for economic growth, if we can make our region attractive as a destination for goods and people, not just a place to be passed through.

Looking out to 2040, we assume that job growth will occur and employment, according to the CRP's vision, is expected to grow by about 80,000 jobs across Lake, Porter and LaPorte Counties. These numbers represent targets, or indicators of progress. The real concern should not be how many jobs are added, but rather what types of jobs are created. Quality jobs are more important than quantity of jobs.

Typically, a transportation route is associated with higher economic output, both due to the short-term expenditures from construction activity and the possible long-term gains in efficiency due to shorter travel times and better market access. These impacts are usually a result of improvements in market access, or the number of customers that an industry can reach within a certain drive time. It is uncertain whether the Illiana will provide short-term employment, during construction, or long-term employment, after it has been built since the corridor is located at a considerable distance from existing employment.

Table 8 below provides the 2009 employers and employments figures for both north and south Lake County. A large percentage of employment is located in the northern portion of Lake County. The second part of the table identifies the number and percentage of employment located within five and ten miles of the Illiana corridor. The major employers in Lake County are Franciscan St. Anthony Health in Crown Point with 1,670 employees; and Methodist Hospital Southlake in Merrillville. Most employment is located at a considerable distance from the corridor.

Table 8: Projected Employment near Illiana Expressway

	Employers		Employment	
North Lake County	8,491	84.3%	162,910	90.0%
South Lake County	1,577	15.7%	16,379	9.1%
Total Lake County	10,068	100.0%	179,289	100.0%
Within 5 mi of Illiana	389	3.9%	3,583	2.0%
Within 10 mi of Illiana	1,676	n/a	17,097	n/a

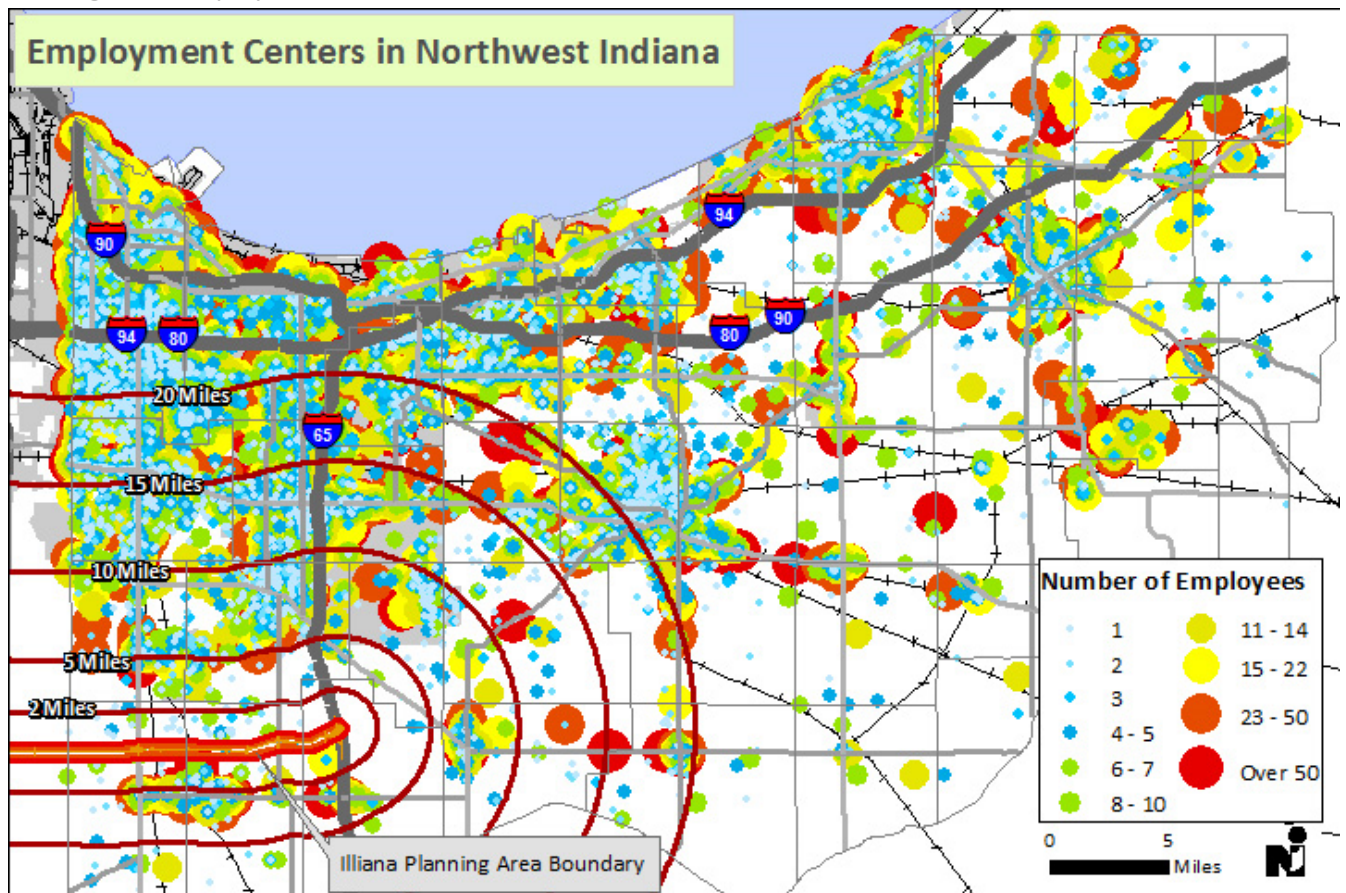
Includes 139 employers with 857 employees in Porter County

North County includes Calumet, Hobart, North, Ross, and St. John Townships.

South County includes Cedar Creek, Center, Eagle Creek, Hanover, West Creek, and Winfield Townships.

Figure 8 illustrates the employment concentrations for Lake County in 2009. Again, employment is currently concentrated in the northern part of the County.

Figure 8: Employment Centers in NW Indiana



The *2040 Plan* has strong consensus and agreement in its vision for the future, that growth and development take place within and around existing communities. There is a strong consensus that no new municipal centers, such as downtown areas, be introduced into the area. According to the plan, Crown Point is designated as a Livable and economic center. As such, future growth is to be located as close to the centers as possible in an attempt to stop suburban sprawl into central and south Lake County. Given the considerable distance to existing employment, the impact on access to employment is mixed.

E. Preserve Historical and Cultural Resources

- ❖ **CRP Goal:** Livable urban, suburban, and rural centers
 - *Objective: Promote the preservation of historic and cultural resources.*
 - **Impact of the Illiana: Neutral**

The Illiana Project Team has performed a Historic Property Survey and produced an accompanying report. Their analysis showed that, within the Area of Potential Effects (APE), there is one property listed on the National Register of Historic Places (NRHP) and one property that is NRHP-eligible. However, neither one is within the current working alignment.

There are two properties listed in The Lake County Interim Report of the Indiana Historic Sites and Structures Inventory within the Illiana Corridor's 2,000 foot planning boundary. Both of these properties are homes dating from about 1920, and are listed in the survey as "Contributing." The Interim Report describes the "Contributing" rating this way:

A "C" rating was given to any properties meeting the basic inventory criterion of being pre-1945, but that are not important enough to stand on their own as individually "Outstanding" or "Notable." Such resources are important to the density or continuity of the area's historic fabric. "Contributing" properties can be listed in the National Register of Historic Places if they are part of a historic district, but would not usually qualify individually.

There are also two "Contributing" properties within a quarter mile of the Illiana Corridor's planning boundary: a county bridge dating from 1915 and a cemetery dating from 1850-1890. This Interim Report listing, however, does not necessarily mean that a property is NRHP eligible.

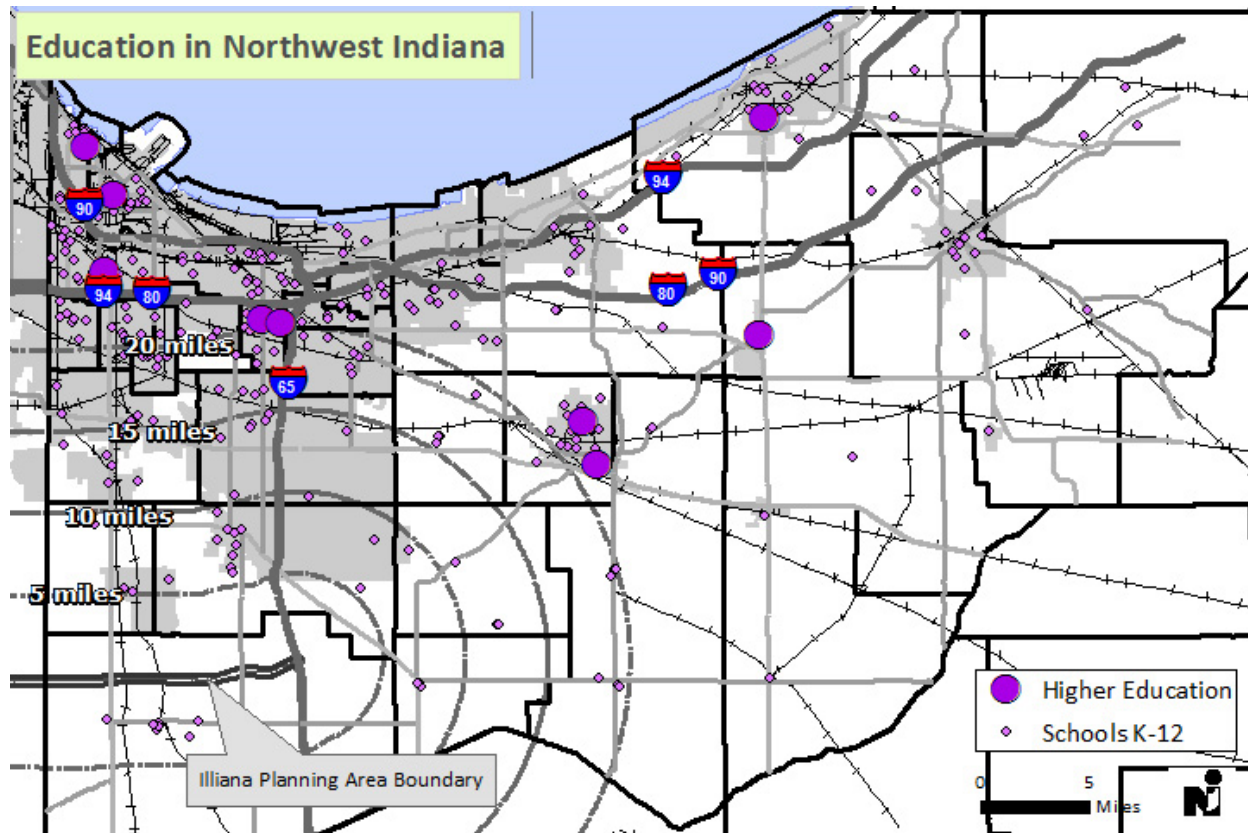
Over the course of the Tier 2 Section 106 process, it has been determined that the properties listed in the Interim Report, in their current states, are not eligible for NRHP designation. SHPO concurred in this determination. FHWA has determined that the Illiana will have "no effect" on the two NRHP properties. This determination is pending review by the Indiana State Historic Preservation Office (SHPO).

F. Provide Safe and Reliable Access to Education

- ❖ **CRP Goal:** Project includes elements to improve safety and/or reliable access to an existing or planned educational facility (traffic calming measures, crosswalk signals, etc.)
- **Impact of the Illiana: Neutral**

The Illiana project is located more than 20 miles from existing schools of higher education in the region, such as Purdue University Calumet, Indiana University Northwest, and Valparaiso University. The Illiana project would likely have little impact on providing safe and reliable access to these institutions.

Figure 9: Education in NW Indiana



The nearest educational facilities to the Illiana project are local K-12 schools in Cedar Lake and Lowell. The Illiana Expressway would cut through the Tri-Creek School Corporation, creating a potential barrier between students on the north side of the district –those in Lake Dalecarlia and the southern edge of Cedar Lake, as well as unincorporated areas – and their schools. At present, the working alignment shows that the north-south connections at Morse Street and Cline Avenue would be severed, perhaps creating a minor inconvenience for students traveling south to schools in Lowell.

Originally, the project would have closed several more north-south roads in the area; to INDOT's credit, they have addressed concerns over road closures during the planning process and have

minimized the number of roads to be closed should the project be built. The effects that the remaining road closures would have on access to education are likely small.

G. Reduce and Limit Disproportionate Environmental Impacts on EJ Communities

- ❖ **CRP Goal:** Project is located within an identified E.J. Area and has beneficial impacts projected.
- **Impact of the Illiana: Neutral**

In the past, many Federally-funded transportation projects have led to disproportionately negative impacts in communities of color and low income areas. The term “environmental justice”¹⁵ describes the effort to ensure that future projects do not place unjust burdens on these communities. “Environmental justice communities” (or “EJ communities”) are communities with a concentration of racial/ethnic minorities and/or low income residents. Special care is taken to ensure that the people in these communities have a voice in the planning process and that projects do not inequitably burden people in these communities.

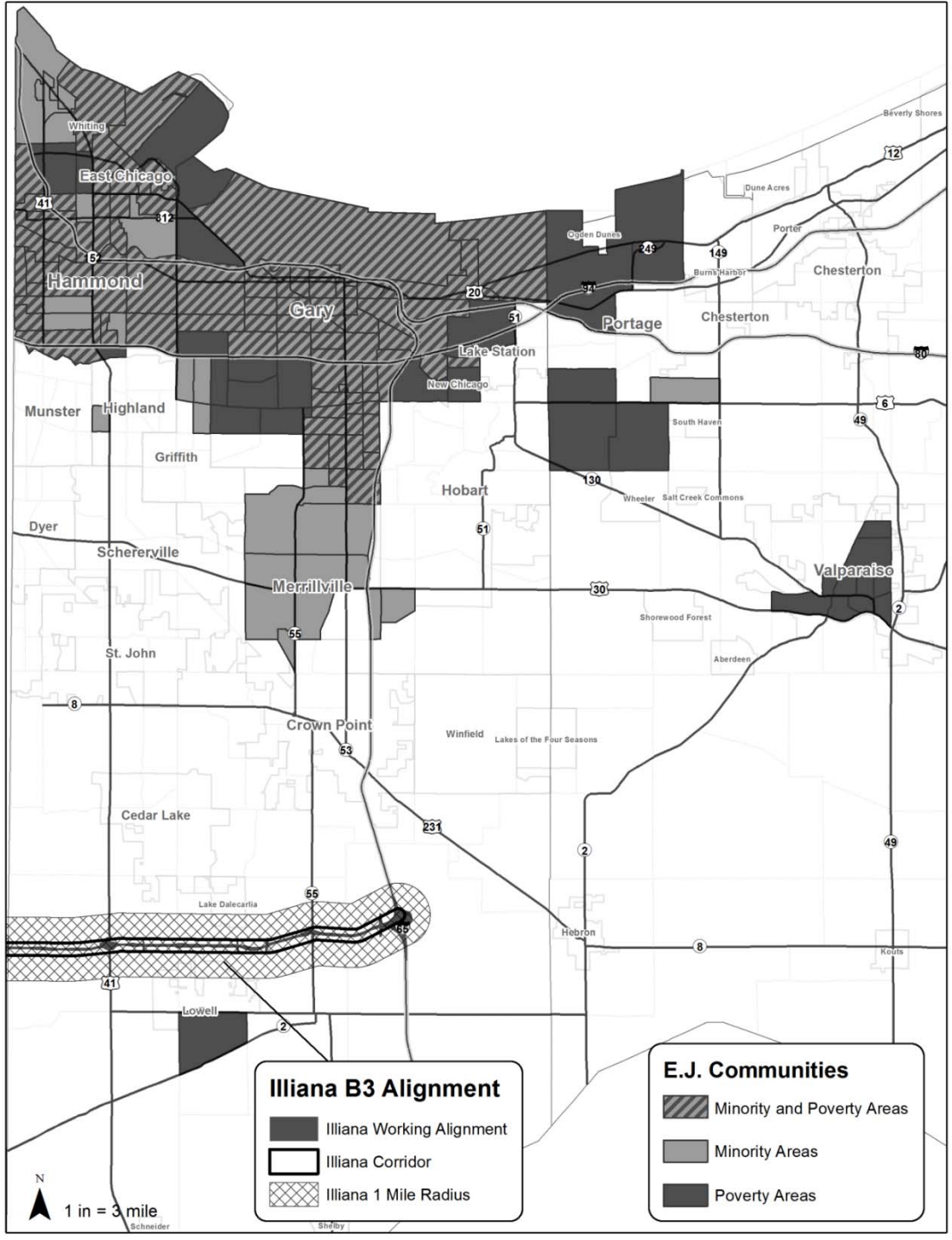
In developing the *2040 Comprehensive Regional Plan*, NIRPC approached environmental justice in a more thorough way than had been done previously, focusing on two areas: outreach to EJ communities, and technical analysis of transportation projects to determine benefits and burdens of those projects on EJ communities. In terms of outreach, NIRPC held a two day workshop to engage key members of EJ communities to provide input for the CRP, and also sent representatives to meet individually with leaders in EJ communities to gain their insights for inclusion in the plan. For the *2040 Plan* technical analysis, NIRPC developed an analytical framework using 11 transportation-related measures to assess benefits and burdens of projects in the CRP. The results of the analysis showed that as modeled, the projects included in the plan would place no undue burdens on EJ communities (and in many cases would benefit them).

In analyzing the Illiana project, NIRPC has taken the same approach used for the CRP: first by engaging members of EJ communities in an open house to solicit input on the project, and second by conducting an analysis using the same 11 performance measures from the CRP to determine the benefits and burdens of the Illiana project on EJ populations.

The Illiana corridor is located in a rural area far from the densely populated parts of Northwest Indiana, and far from concentrations of EJ populations (see Figure 1 below). The *direct* impacts of the proposed highway on EJ communities are therefore likely to be minimal, a notion that has been backed up both by feedback NIRPC received from the EJ open house and from the technical analysis staff has conducted on EJ impacts of the Illiana.

¹⁵ The term stems from the fact that historically, the negative effects of many projects were environmental in nature (e.g. the building of noisy, polluting highways through predominantly poor communities of color), and the burdens were not equitably, or justly distributed.

Figure 10: Environmental Justice Zones in NW Indiana



EJ Open House

An Environmental Justice Open House was held in October at the Genesis Convention Center in Gary. In all eight external individuals participated outside of those in attendance from NIRPC,

INDOT, FHWA and the open house consultant. Feedback NIRPC received during the event was useful and should be taken into account if the Illiana project is built.

The concerns of the attendees focused primarily on secondary impacts of the project, such as the potential for the project to draw development away from the urban core and that any project-associated job creation – both short- and long-term – will not benefit EJ communities.¹⁶ A common belief among attendees appeared to be that they would not use the Illiana if built, and it would not affect their daily lives.

Technical Analysis

















NIRPC conducted a benefits and burdens analysis to determine the impacts of the Illiana project on Environmental Justice communities. The analysis mirrored the one that was developed for the *2040 Comprehensive Regional Plan*, and analyzed the project's impacts on 11 different measures. The results of the analysis for each of these measures can be seen in Table 9 below.

According to the analysis, the impact of the Illiana on EJ populations appears to be neutral – neither beneficial nor burdensome. These results are not surprising given that the Illiana project is not located in or near areas with a concentration of environmental justice populations.

Addressing concerns about secondary impacts of the project, however, such as concerns about jobs moving from the I-80/94 corridor to the Illiana corridor, minimizing urban sprawl and disinvestment in the urban core communities, and ensuring that new jobs associated with the Illiana project are open and accessible to EJ communities should be considered high priorities for project planners.

¹⁶ For a summary of attendees comments and concerns, see the appendix to NIRPC's Illiana Project Environmental Justice Analysis located at NIRPC's website at www.nirpc.org

Table 9: Environmental Justice Benefits and Burdens Analysis Results

	Low Income Population		Minority Population		Impact
	Build	No Build	Build	No Build	
<i>Average number of...</i> <i>...within a 20 minute drive.</i>					
jobs	32,375 (13% of total)	32,300 (13% of total)	35,250 (14% of total)	35,150 (14% of total)	Minimal
shopping destinations	2,550 (11% of total)	2,550 (11% of total)	2,900 (13% of total)	2,900 (13% of total)	None
other destinations	29,050 (12% of total)	28,975 (12% of total)	31,875 (14% of total)	31,750 (14% of total)	Minimal
<i>Average travel time for...</i>					
work trips	17.3 minutes 	17.4 minutes 	19.3 minutes 	19.4 minutes 	Minimal
shopping destinations	10.8 minutes 	10.9 minutes 	12.4 minutes 	12.5 minutes 	Minimal
other trips	10.5 minutes 	10.5 minutes 	12.5 minutes 	12.5 minutes 	None
all trips	13.7 minutes 	13.8 minutes 	15.6 minutes 	15.6 minutes 	Minimal
<i>Percent of population within 20 minutes of a...</i>					
livable center	98.9%	98.9%	99.7%	99.7%	None
retail center	61.3%	61.2%	65.2%	65.2%	Minimal
hospital	91.7%	91.4%	92.1%	91.9%	Minimal
university	93.2%	93.2%	96.7%	96.7%	None

H. Reduce Emergency Response Times

- ❖ **CRP Goal:** A safe and secure transportation system
 - *Objective:* Reduce emergency response times
 - **Impact of the Illiana:** Consistent

The Illiana project does provide a continuous, multi-lane highway connection in an area where one does not currently exist, and will provide added emergency routes in the region. Early in the project's development, there was, rightfully, great concern on the impact of the Illiana on the existing north-south connections through this part of Lake County. The project team, working with stakeholders in southern Lake County, has reduced the proposed closures to two and provided alternative traffic routing and new frontage roads as appropriate to facilitate easier connections across the Illiana corridor. Any potential travel time increases caused by the detouring of these remaining two roads must be kept in mind and properly accounted for.

VI. ANALYSIS EPILOGUE

The goal of this analysis is to provide key decision-makers in the NIRPC region a well-rounded review of how the proposed Illiana Expressway lines up with the goals and objectives from the *2040 Comprehensive Regional Plan*. This report focused on a number of aspects where the Illiana either positively or negatively impacts the quality of life of the residents of Northwest Indiana. NIRPC staff does not intend to offer a direct recommendation on the Illiana Expressway as a whole, but leaves this critical decision with the NIRPC Commissioners, based on the relative importance of key criteria related to the *2040 CRP*.

In the interest of best practices, throughout the report NIRPC staff has recommended a variety of design and policy initiatives to be considered by INDOT, IDOT and municipalities if the Illiana Expressway moves forward. The summary of these recommendations are as follows:

- Pedestrian and bicycle transportation movements need to be maintained with new bridge constructions over roadways for existing and/or future sidewalk and trail developments. Furthermore, a parallel multi-use trail facility should be incorporated along the entire length of the expressway corridor (minimum 10 feet wide).
- Additional wayfinding signage that highlights environmental and historic features encountered along the roadway.
- INDOT should pursue grade separation projects in the Illiana Corridor on the front end, which would prevent future problems by addressing them in the present, when project costs are lower.
- Infill and adaptive reuse strategies would promote the preservation of historic and cultural resources within existing communities. These strategies should be utilized to enhance livable centers and limit greenfield development in this corridor.
- The Illiana recommendations need additional strategies and policies to guarantee proper implementation by local governments.
- Local land use decisions should consider policies and actions to protect natural resources and prime farmland. These decisions should include but are not limited to the following:
 - Restricting permitted land use to those uses that are compatible with rural resources in the rural areas, such as those related to farming and forestry.
 - Requiring low density development and discouraging development in the rural area by requiring large minimum lot sizes that maintain the rural character.
 - Restricting road access points and discouraging strip development by limiting access along rural roads.
- Assurances that voluntary environmental practices and measures such as corridor and wildlife connectivity, green stormwater management practices, and invasive species management will be implemented, and that all mitigation practices will be maintained for the life of the facility would be needed to ensure that the proposed project is consistent with these above goal of the CRP. Additional details such as anticipated

- additional costs for these practices, and what entity will be responsible for their implementing and funding in perpetuity could increase confidence.
- The *2040 CRP* encourages projects that facilitate cooperative planning of water resources and infrastructure including drinking water, waste water, and stormwater. While water management is not the purpose of the Illiana project, potential secondary development associated with its construction could potentially have significant impacts on all water infrastructure needs in the project area. It is true that these secondary development impacts are controlled by local land use authorities, rather than INDOT. However, as the project will catalyze these impacts, INDOT should support efforts to plan for them. NIRPC would recommend that the INDOT state agencies set aside resources and technical support to assist regional, municipal and county planning efforts to meet future water infrastructure needs of the area.
 - There is no requirement that Mobile Source Air Toxics (MSAT) risk mitigation strategies be included as part of the qualitative analysis required for this project within NEPA. However, such strategies could be recommended as part of the project's design to reduce project impacts on the local rural community. For projects such as the Illiana in which an anticipated increase in diesel truck VMT applicable MSAT emission mitigation strategies might include active Intelligent Transportation System programs, incident management systems, anti-idling strategies such as truck stop electrification, or incentives to replace or rebuild older diesel emissions in the project area.
 - One method for reducing air emissions is to promote alternative fuels and energy sources. NIRPC would recommend that the Illiana be designed and promoted as a green energy corridor with opportunities for vehicle fueling that include Compressed Natural Gas, Propane, Electric charging, and Biofuels.
 - NIRPC staff encourages continued dialogue between the project team and the Lake County Parks on planned property acquisitions in the Illiana Expressway vicinity.
 - NIRPC recommends unfettered access for potential canoe and kayak users of bisecting water routes, and coordination with the Northwest Indiana Paddling Association on strategies and best practices for management and access of these riparian resources.
 - Concerns about secondary impacts of the project such as addressing concerns about jobs moving from the I-80/94 corridor to the Illiana corridor, minimizing urban sprawl and disinvestment in the urban core communities, and ensuring that new jobs associated with the Illiana project are open and accessible to EJ communities should be considered high priorities for project planners.