

## RESOLUTION 16-36

### A RESOLUTION OF THE NORTHWESTERN INDIANA REGIONAL PLANNING COMMISSION APPROVING THE CONGESTION MANAGEMENT PROCESS FOR THE SR 249 BURNS HARBOR BRIDGE

December 8, 2016

**WHEREAS**, Northwest Indiana's citizens require a safe, efficient, effective, resource-conserving regional transportation system that maintains and enhances regional mobility and contributes to improving the quality of life in Northwest Indiana; and

**WHEREAS**, the Northwestern Indiana Regional Planning Commission, hereafter referred to as "the Commission," is designated as a Transportation Management Area (TMA) according to the United States Department of Transportation (USDOT) by being a Metropolitan Planning Organization (MPO) with a Metropolitan Planning Area (MPA) of over 200,000 population in Lake, Porter and LaPorte Counties.

**WHEREAS**, the Commission, being designated the Metropolitan Planning Organization (MPO) for the Lake, Porter and LaPorte County area, has established a regional, comprehensive, cooperative, and continuing (3-C) transportation planning process to develop the unified planning work program, a transportation plan, and a transportation improvement program to facilitate federal funding for communities, counties, and transit operators, and to provide technical assistance and expertise to regional transportation interests; and

**WHEREAS**, the Commission performs the above activities to satisfy requirements of the Fixing America's Surface Transportation (FAST) Act of 2015 (PL 114-94), applicable portions of all prior federal transportation program authorizing legislation, as well as other federal, state, and local laws mandating or authorizing transportation planning activities; and


**WHEREAS**, the Congestion Management Process is a product of a multi-modal, 3-C transportation planning process, compatible with regional goals and objectives and socio-economic and demographic factors used to form the *2040 Comprehensive Regional Plan (CRP)*, as amended; and

**WHEREAS**, the Congestion Management Process is an implementation of the *2040 Comprehensive Regional Plan (CRP), as amended*; satisfies Title 23 Code of Federal Regulations (CFR) Part 450.322 requiring a TMA to apply a Congestion Management Process for any project(s) adding capacity to the transportation network.

**WHEREAS**, the Congestion Management Process for the SR 249 Burns Harbor Bridge was brought before the Commission's Technical Planning Committee (TPC) on September 13, 2016 and was recommended by that committee to be approved.

**NOW, THEREFORE, BE IT RESOLVED** that the Northwestern Indiana Regional Planning Commission hereby approves the Congestion Management Process for the SR 249 Burns Harbor Bridge project.

Duly adopted by the Northwestern Indiana Regional Planning Commission this eighth day of December, 2016.



James G. Ton  
Chairperson

ATTEST:



Geof R. Benson  
Secretary

# Port of Indiana-Burns Harbor Second Bridge: Congestion Management Process

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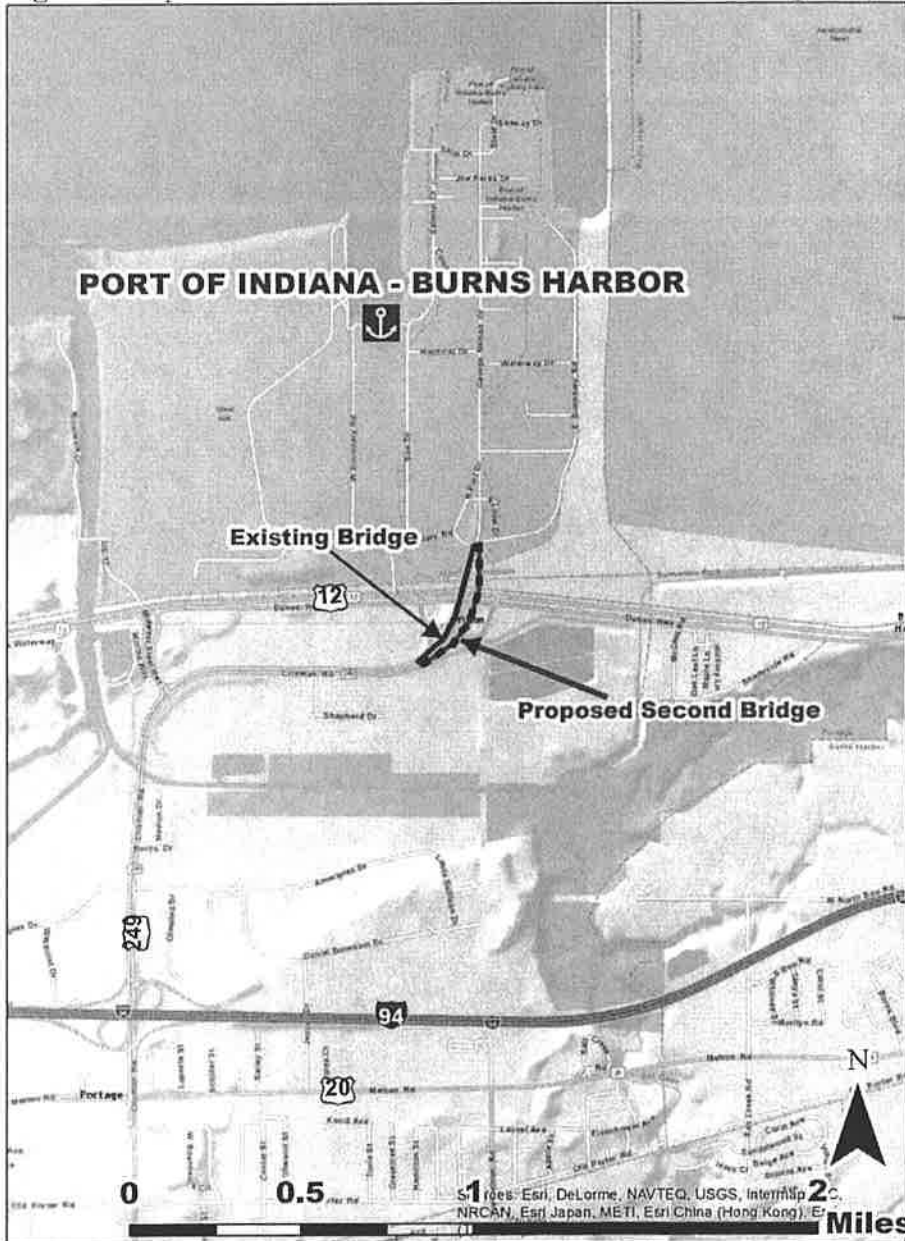


Prepared by the Northwestern Indiana  
Regional Planning Commission



**Overview of the Project:** The Indiana Department of Transportation (INDOT) has proposed amending into NIRPC's 2040 Comprehensive Regional Plan Update Companion and Fiscal Year 2016 to 2019 Transportation Improvement Program a project to add a second bridge to access the Port of Indiana-Burns Harbor from SR-249 to the port over US-12. The second bridge is proposed as an additional 2 travel lane facility covering approximately 0.3 miles.

**Figure 1:** Map of the Port of Indiana – Burns Harbor Second Bridge Project Area



**Introduction:** In order for NIRPC to approve the inclusion of the Port of Indiana-Burns Harbor second bridge project into the NIRPC 2040 Comprehensive Regional Plan (Companion Update as adopted in 2015) and Fiscal Year 2016 to 2019 Transportation Improvement Program, NIRPC must



find the project to pass the Congestion Management Process. For a project to pass the Congestion Management Process, the proposed capacity adding strategy must relieve congestion more than alternative non-capacity adding strategies. NIRPC's Congestion Management Process is a 12-step process outlined in Appendix C of the 2040 Comprehensive Regional Plan:

1. Establish a congestion management subcommittee
2. **Collect Data**
3. Develop Congestion Management Objectives
4. **Identify Area of Application**
5. Define System/Network of Interest
6. Develop Performance Measures
7. **Evaluate growth and development scenarios to identify future congestion problems in the context of the CRP**
8. Institute System Performance Monitoring Plan
9. **Identify/Evaluate Strategies**
10. Incorporate Strategies into the CRP and Transportation Improvement Program (TIP)
11. Implement Selected Strategies/-Manage System
12. Monitor Strategy Effectiveness

Bolded items indicate items that need to be addressed as part of this Congestion Management Process Project Evaluation, as explained in Section XI of Appendix C in the 2040 CRP. Non-bolded items do not need to be addressed in the Project Evaluation because either they have already been addressed (Item 1, 3, 5, and 6) or are actively being addressed as part of the 2040 CRP Plan Implementation (Items 8, 10, 11, and 12). The following describes how the proposed Port of Indiana-Burns Harbor second bridge project Congestion Management Process meets the bolded items.

**CMP Process #2: Collect Data:** NIRPC collects data routinely as part of its planning process outlined in the Fiscal Years 2015-2016 Unified Planning Work Program found on the NIRPC website at <http://nirpc.org/transportation/unified-planning-work-program.aspx>. In particular for the Congestion Management Process, NIRPC relies on data from both the NIRPC Travel Demand Model (for data related to vehicle capacities, volume, volume to capacity ratios [V/C], level of service [LOS], and speed) as well as real-time data (vehicle travel times, speeds, and crash rates).

**CMP Process #4: Identify Area of Application:** Since the proposed Port of Indiana-Burns Harbor second bridge project is located between SR-249 and the port, SR-249 the area of application is SR-249 between I-94 and the port. See Figure 1 for a project area map.

**CMP Process #7: Evaluate growth and development scenarios to identify future congestion problems in the context of the CRP:** The Project Evaluation for the Port of Indiana-Burns Harbor second bridge project accomplishes this by examining the conditions of congestion in both the existing and projected future no-build scenario. Tables 1 and 2 show the existing 2015 congestion and projected 2040 no-build congestion respectively.





**Table 1: Congestion Conditions on Existing SR-249 in Project Area in 2015**

		Level of Service (LOS)
Project Length (mi)	0.30	
2015 Total Volume to Capacity (V/C) Ratio	0.539	C
2015 AM Volume to Capacity (V/C) Ratio	0.600	C
2015 PM Volume to Capacity (V/C) Ratio	0.687	C
2015 OP Volume to Capacity (V/C) Ratio	0.504	C
2015 % Below Posted Speed	31.8%	C
2015 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>C</b>

**Table 2: Projected Congestion Conditions on SR-249 Project Area from 2040 CRP in 2040**

		Level of Service (LOS)
Project Length (mi)	0.30	
2040 Total Volume to Capacity (V/C) Ratio	0.662	C
2040 AM Volume to Capacity (V/C) Ratio	0.726	D
2040 PM Volume to Capacity (V/C) Ratio	0.818	E
2040 OP Volume to Capacity (V/C) Ratio	0.625	C
2040 % Below Posted Speed	33.3%	C
2040 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>D</b>

Table 1 shows that the Project Area segment of SR-249 currently performs at Level of Service C – Stable Flow. Table 2 shows that if nothing is done in the project area, in 2040 the segment will perform at Level of Service D – Approaching Unstable Flow. The growth and development assumptions in the projected 2040 no-build scenario in Table 2 have the same growth and development assumptions as in the NIRPC 2040 CRP.

**CMP Process #9: Identify/Evaluate Strategies:** According to the 2040 CRP Congestion Management Process Project Evaluation, alternative strategies to adding capacity need to be examined in order to conclude that the capacity-adding strategy improves congestion better than the alternative strategies. Alternative strategies are divided into 2 categories: demand management strategies and transportation systems strategies.

There are 4 demand management strategies identified in the 2040 CRP Congestion Management Process: telecommuting, carpooling, school pool, and flextime. In the context of this Project Area, 3 of the 4 strategies, with the exception of school pool because there are no district school busses that use this segment, are considered viable. Altogether, these 3 strategies are assumed to reduce demand for this segment by 4.5%. Table 3 shows projected 2040 congestion on the segment if these 3 demand management strategies are implemented.



**Table 3: Projected Congestion Conditions on SR-249 Project Area with Demand Management in 2040**

		Level of Service (LOS)
Project Length (mi)	0.30	
2040 Total Volume to Capacity (V/C) Ratio	0.632	C
2040 AM Volume to Capacity (V/C) Ratio	0.693	C
2040 PM Volume to Capacity (V/C) Ratio	0.781	D
2040 OP Volume to Capacity (V/C) Ratio	0.597	C
2040 % Below Posted Speed	32.1%	C
2040 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>C</b>

From Table 3, it appears that demand management improvements alone have a slight positive effect on reducing congestion compared with the 2040 projected no-build scenario in Table 2.

There are 9 transportation systems strategies identified in the 2040 CRP Congestion Management Process: signal timing, intersection turn lanes, traffic operations improvements, driveway controls, median controls, incident management/Intelligent Transportation Systems (ITS), railroad grade separation, transit, and growth management. Of these 9 strategies, 3 are considered viable: signal timing, traffic operations improvements, and transit for a total capacity adjustment factor of 20%. Intersection turn lanes already exist, there are no significant driveways to be controlled, median controls already exist, incident management/Intelligent Transportation Systems (ITS) strategies would be too short for this corridor, and there is no significant residential development in the area to control. Table 4 shows the projected 2040 congestion on the segment if both the demand management strategies and the transportation system strategy are implemented.

**Table 4: Projected Congestion Conditions on SR-249 Project Area with Demand Management and Transportation System Strategies in 2040**

		Level of Service (LOS)
Project Length (mi)	0.30	
2040 Total Volume to Capacity (V/C) Ratio	0.527	C
2040 AM Volume to Capacity (V/C) Ratio	0.578	C
2040 PM Volume to Capacity (V/C) Ratio	0.651	C
2040 OP Volume to Capacity (V/C) Ratio	0.497	C
2040 % Below Posted Speed	30.2%	C
2040 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>C</b>

Compared with Table 3 showing just demand management strategies, Table 4 shows that implementing both demand management strategies and a transportation system strategies slightly improves Level of Service along SR-249, but not more than the existing conditions.

After considering both demand management and transportation system strategies, the Congestion Management Process considers the supply adding strategy of constructing a second bridge with 2 additional travel lanes from SR-249 to access the Port of Indiana-Burns Harbor. Table



5 shows the projected 2040 congestion on the segment if both the demand management strategies and the added bridge are implemented.

**Table 5:** Projected Congestion Conditions on SR-249 Project Area with Demand Management and Added Travel Lanes Strategies in 2040

		Level of Service (LOS)
Project Length (mi)	0.30	
2040 Total Volume to Capacity (V/C) Ratio	0.316	B
2040 AM Volume to Capacity (V/C) Ratio	0.347	B
2040 PM Volume to Capacity (V/C) Ratio	0.391	B
2040 OP Volume to Capacity (V/C) Ratio	0.299	B
2040 % Below Posted Speed	27.2%	B
2040 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>B</b>

Compared with Tables 3 and 4, it is clear that adding a second bridge as shown in Table 5 significantly improves performance. Table 5 shows by adding a second bridge as well as implementing demand management strategies, the corridor is expected to perform at Level of Service B – Reasonably Free Flow.

Finally, the Congestion Management Process considers the effects of implementing all available strategies –demand management, added travel lanes, and transportation system improvements. Table 6 shows the projected congestion conditions in 2040 implementing all of these strategies.

**Table 6:** Projected Congestion Conditions on SR-249 Project Area with Demand Management, Added Travel Lanes, and Transportation System Strategies in 2040

		Level of Service
Project Length (mi)	10.28	
2040 Total Volume to Capacity (V/C) Ratio	0.264	B
2040 AM Volume to Capacity (V/C) Ratio	0.289	B
2040 PM Volume to Capacity (V/C) Ratio	0.326	B
2040 OP Volume to Capacity (V/C) Ratio	0.249	B
2040 % Below Posted Speed	25.6%	B
2040 Crash Rate (crashes per million VMT)	2.77	D
<b>Total Level of Service (LOS)</b>		<b>B</b>

Table 6 shows very little change from Table 5 indicating that adding a second bridge on SR-249 to access Port of Indiana-Burns Harbor has a much greater effect on improving congestion than transportation system strategies. Also, since Table 3 shows very little change from Table 2, it appears that demand management strategies alone have little effect on congestion in the project area. This suggests that the added travel lanes strategy has significantly the greatest effect on improving congestion from the strategies considered in the Congestion Management Process.

In summary, Table 7 shows the strategies that the Congestion Management Process considers and their projected total Levels of Service.



**Table 7: Congestion Management Process Strategies and their Projected Levels of Service (LOS)**

<b>Port of Indiana-Burns Harbor Second Bridge on SR-249 Level of Service</b>	
LOS 2015	C
LOS 2040 No Build or Strategies	D
LOS 2040 with Demand Management	C
LOS 2040 with Demand Management and Transportation System Strategies	C
LOS 2040 with DM and Second Bridge	B
LOS 2040 with Second Bridge, DM and Transportation System Strategies	B

In conclusion, the Congestion Management Process for the Port of Indiana-Burns Harbor second bridge project shows that only the added second bridge strategy for improving congestion outperforms the existing 2015 Level of Service in 2040. Demand management and transportation system strategies alone fail to adequately improve congestion. Therefore, the analysis recommends that the Port of Indiana-Burns Harbor added second bridge project pass the NIRPC Congestion Management Process.

**Conclusion:** The Port of Indiana-Burns Harbor added second bridge project is recommended to pass the NIRPC Congestion Management Process. Demand management and transportation system strategies alone fail to adequately improve congestion, and only the added second bridge alternative achieves a Level of Service in 2040 better than existing conditions.





Environmental Justice  
Benefits and Burdens Analysis

for the Port of Indiana Bridge

Prepared by the Northwestern Indiana Regional Planning Commission

September 2016

## Purpose and Background

On Feb. 11, 1994, President Bill Clinton issued an Executive Order on Federal actions to address environmental justice in minority and low income populations. It directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on “minority populations and low income populations.” The order was designed to focus Federal attention on the environmental and human health conditions in minority communities and low income communities with the goal of achieving environmental justice. The order promotes nondiscrimination in Federal programs substantially affecting human health and the environment, and to provide minority communities and low income communities’ access to public information on, and an opportunity for public participation in, matters relating to human health or the environment.

The Northwestern Indiana Regional Planning Commission (NIRPC) is committed to addressing environmental justice in all of its work. As the Metropolitan Planning Organization (MPO) for Northwest Indiana, NIRPC is responsible for planning and programming transportation projects that use Federal funds to maintain and expand the transportation system in the region. In the past, transportation projects have often caused undue burdens on environmental justice communities. NIRPC’s goal is to prevent such undue burdens from occurring in the future. The purpose of this document is to analyze the proposed lane track expansion of the Northern Indiana Commuter District’s (NICTD) South Shore train to determine what benefits and/or burdens the project may have on environmental justice populations in Northwest Indiana.

This proposed project is to replace the heavy-haul bridge on Indiana State Road 249 that stretches over US Route 12 and several railroad tracks, providing access to the Port of Indiana. Currently the bridge is only two lanes in either direction. The proposed project will have four total lanes, providing an extra travel lane in either direction.

## Approach

NIRPC defines the “minority” and “low-income” requirements of an environmental justice community in the following ways. “Minority” people are those who do not identify as “white, non-Hispanic,” when completing the Census. People who are considered, “low income” are defined as people who have lived in poverty, at any time, during the last 12 months. Sources used in extrapolating data for this population were taken from the most recent data sets from the Census and the American Community Survey.

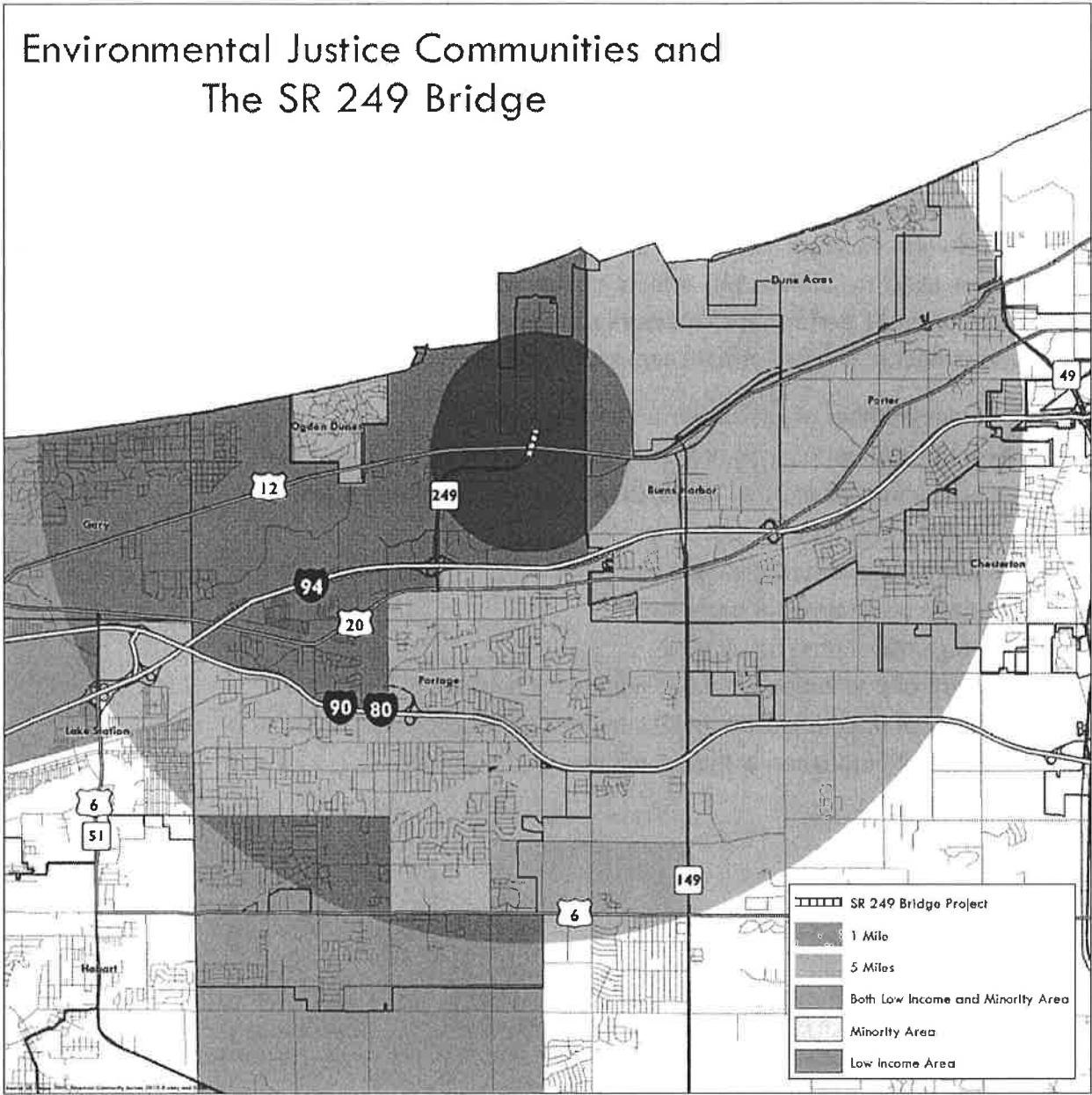
Understanding how the proposed double-tracking of NICTD’s South Shore train can impact Northwest Indiana’s environmental justice population was divided into two distinct parts. First, NIRPC sought to understand how the proposed infrastructure changes may impact environmental justice communities in a very physical way. Do the proposed changes require the acquisition of property? Would the proposed changes dislocate disadvantaged people? Would the proposed changes cause disadvantaged people to disproportionality absorb more environmental burden through pollution and other impacts of building new infrastructure? Second, NIRPC explored how

the added track *may* impact the rest of the travel network by disproportionately harming environmental justice communities in terms of travel delays to key community resources.

To understand the project's potential impact, environmental justice populations were identified, and concentrations of the populations were mapped. Two future scenarios, a "baseline" scenario and a "build" scenario developed and used to determine the effects of adding the Port of Indiana bridge on environmental justice populations. The baseline scenario consisted of the entire 2040 road network that was adopted for the 2040 CRP. The build scenario added the extra bridge to the baseline network. Each scenario was run through the NIRPC transportation model. The model results were used to analyze the effects of the added travel lanes on environmental justice populations using 11 performance measures developed to capture resources that are critical to a community's health. The performance measures are as follows:

- Average number of jobs within a 20 minute drive
- Average number of shopping destinations within a 20 minute drive
- Average number of other destinations within a 20 minute drive
- Average travel time for work trips
- Average travel time for shopping trips
- Average travel time for other trips
- Average travel time for all trips
- Percent of population within 20 minutes of a livable center
- Percent of population within 20 minutes of a retail center
- Percent of population within 20 minutes of a hospital

Figure 1: Map of the proposed Port of Indiana Bridge



Results

The first portion of NIRPC’s analysis is starkly clear. The proposed changes are all within property owned by the Port of Indiana. No new property will need to be acquired. Even though the proposed corridor passes directly through Northwestern Indiana’s Environmental Justice population, the proposed changes are contained within an established industrial area.

The second portion of NIRPC’s analysis, understanding the impact to the travel network, equally clear. Table 2 indicates the potential changes to the travel network in a build/no-build scenario, separated by low income and minority populations. In the table below, there are no changes to

the existing road network. The proposed bridge will have no positive nor negative impact on the EJ population. The bridge is too small and too isolated in an industrial area to have any measurable effect on the EJ population.

Table 1: Performance Measures for the proposed Port of Indiana bridge. The proposed bridge will have no effect on the travel time of the Northwestern Indiana EJ population

		Low Income Population			Minority Population			Impact
		Build	No Build	Difference	Build	No Build	Difference	
Within a 20 min drive:	Average number of jobs	48,127 (14% of total)	48,127 (14% of total)	0	44,341 (13% of total)	44,341 (13% of total)	0	None
	Average number of shopping destinations	27,636 (11% of total)	27,636 (11% of total)	0	27,679 (11% of total)	27,679 (11% of total)	0	None
	Average number of "other" destinations	155,185 (12% of total)	155,185 (12% of total)	0	153,072 (12% of total)	153,072 (12% of total)	0	None
Average travel time for: (values are given in minutes)	Work trips	20.1 min	20.1 min	0.0	20.4 min	20.4 min	0.0	None
	Shopping trips	13.5 min	13.5 min	0.0	14.6 min	14.6 min	0.0	None
	"Other" trips	13.7 min	13.7 min	0.0	14.1 min	14.1 min	0.0	None
	All trips	15.3 min	15.3 min	0.0	15.7 min	15.7 min	0.0	None
Percent of the population within 20 minutes of a:	Livable Center							
	Retail Center	99.9%	99.9%	0%	99.1%	99.1%	0%	None
	Hospital	89.3%	89.3%	0%	89.1%	89.1%	0%	None
	University	93.9%	93.9%	0%	93.6%	93.6%	0%	None
		83.8%	83.8%	0%	80.1%	80.1%	0%	None

## Summary

As illustrated by the NIRPC travel model the proposed Port of Indiana bridge is not expected to have a significant enough negative impact to halt or change the project. The potential impacts to the environmental justice community so minimal that they cannot be measured by our model. Additionally, while the bridge may technically overlap an EJ community, the bridge is contained in an area already dedicated to industry, far away from existing residents. This bridge will have no effect on the EJ population.

