



I-65/I-70 North Split Project (North Split Project)

Introduction to the System-Level Analysis

In February 2018, INDOT initiated a System-Level Analysis process as part of the North Split Project. This document is an introduction to the process INDOT is undertaking.

Project Overview

The North Split is the second-most heavily traveled interchange in Indiana. Portions of the interchange were built 50 years ago and it is nearing the end of its useful life. Bridges in the interchange area require rehabilitation or replacement due to their poor structural condition. The North Split Project will also provide the opportunity to improve operations and efficiency for all users.

INDOT recently began work on an Environmental Assessment (EA), as required by the National Environmental Policy Act (NEPA). INDOT is about six months into the two-year NEPA process. As this NEPA study is prepared, INDOT will conduct a robust public outreach program.

System-Level Analysis

The NEPA process is beginning with a screening process to identify project-level alternatives to be evaluated in the environmental study. Conceptual alternatives developed by INDOT in preliminary planning studies prior to the current NEPA study were focused on upgrades of the existing interchange and connecting roadways, with most construction to occur within existing right-of-way. Preliminary scope concepts were shared with agencies and the public in early kick-off meetings in September 2017.

In response to the conceptual alternatives, several community groups called for a larger scale review of alternatives for interstates downtown. Proposals include converting downtown interstates to boulevards and depressing or tunneling the interstates to operate below ground.

In response to these requests, INDOT is initiating a two-step analysis and screening process for the North Split:

- Step 1: A system-level analysis process to consider concepts for improving the full downtown interstate system. This system-level analysis will inform the development of project-level alternatives for the North Split Interchange.
- Step 2: After the system-level analysis is complete, project-level alternatives will be screened to determine what will be evaluated in detail in the North Split Project environmental study.

Information will be shared and public comments will be solicited during both steps of the analysis and screening process.



System-Level Concepts

System-level concepts may include options to reduce traffic demand on downtown interstates or physical changes to existing transportation infrastructure, as listed below. Other concepts may be developed as the analysis process moves forward.

Transportation System Management (TSM) - Options to reduce travel demand on downtown interstates.

- Increase I-465 capacity and implement actions to divert traffic away from downtown interstates
- Make major regional transit investments to reduce travel demand on downtown interstates

Transportation System Concepts – Roadway network changes.

- No-Build (Retain existing configurations)
- Upgrade existing interstates, including I-65/I-70 North Split
- Depress downtown interstates
- Replace interstate sections with boulevards*
- Construct surface boulevards + interstates in tunnels*
- Construct new interstate links

*Suggested by community groups

Key Questions to be Addressed in System-Level Analysis

- ***Is there an opportunity to divert a significant volume of traffic away from downtown interstates to I-465?***

Past studies show that most trips on the interstates inside I-465 are to local destinations. The highest traffic volumes are not through trips. This is demonstrated by peak hour traffic, which is primarily home-to-work travel. Peak hour traffic volumes from I-70 east in the morning are the highest in the state, with most trips terminating in or near the downtown area. During the morning peak, about 65 percent of the traffic on I-70 east and about 70 percent of the traffic on I-65 south is inbound towards downtown. This pattern is reversed in the evening. These trips would not divert to I-465.

The System-Level Analysis will use travel demand models and other data sources to evaluate the potential to divert trips to I-465 to reduce traffic levels on downtown interstates.

- ***Is there an opportunity to divert significant volumes of traffic away from downtown interstates by encouraging motorists to use transit?***

Approximately 265,000 vehicles enter the downtown area via interstates each day, from origins outside I-465. Many of these areas are not or will not be served directly by transit. There are many variables to be considered in evaluating the potential for diverting auto trips to transit.



The System-Level Analysis will draw from the numerous transit studies conducted in the region during the past 10 years to review the potential for diversion of auto trips to transit. The travel demand model will incorporate the full planned system of Indy Connect, including IndyGo system upgrades and all bus rapid transit (BRT) lines. Previous studies will also be reviewed in the System-Level Analysis.

- ***Do the potential alternatives meet the project's purpose and need?***

At a project level, the purpose of the North Split Project is to provide an improved transportation system leading to and through the I-65/I-70 North Split interchange in downtown Indianapolis. Meeting the purpose and need will require a transportation system that functions well and meets the mobility needs of the Central Indianapolis region.

The System-Level Analysis will evaluate the function of the concepts using an adjusted version of the travel demand model developed by the Indianapolis Metropolitan Planning Organization (MPO). The project team is working with MPO staff to provide a model that meets the specific needs of this project. Vehicle miles and vehicle hours of travel and total vehicle delay will be used to evaluate the function of the system-level alternatives.

- ***What are the impacts of the potential alternatives?***

Ultimately, a broad range of impacts will be evaluated in the environmental study. For the purposes of system-level analysis, key impacts such as right-of-way acquisition, relocations, historic property acquisition, visual impacts, and neighborhood connectivity impacts will be reviewed.

Local traffic impacts resulting from changes to the downtown interstates will be of concern. The likelihood of neighborhood impacts from reducing downtown interstate capacity is indicated by data collected by Purdue University during the INDOT Hyperfix project in 2003, when a segment of I-65/I-70 between the North and South Split interchanges was closed for 55 days for road/bridge construction. According to the Purdue report, local traffic impacts during Hyperfix included the following:

- Pennsylvania Street, (Fall Creek to Washington) 46 percent more traffic
- Delaware Street (Washington to Fall Creek) 112 percent more traffic
- Fall Creek/Binford (Illinois to 56th) 35 percent more traffic
- College Avenue (Washington to 10th) 195 percent more traffic
- East Street (10th to Washington) 75 percent more traffic
- Martin Luther King Street (16th to I-65) 36 percent more traffic
- West Street (I-65 to I-70) 78 percent more traffic

The System-Level Analysis will use travel demand models to forecast traffic changes on key local thoroughfares and identify where the greatest changes are likely to occur.



- ***What are the costs of the potential concepts?***

Cost is a major consideration for transportation investments of this magnitude. The preliminary cost estimate for the North Split interchange project was around \$250 to \$300 million. Depressing interstates or providing tunnels would cost much more.

According to an Independent Feasibility Study prepared in November 2017, the estimated cost for replacing 1.6 miles of I-81 in Syracuse, New York with a tunnel and boulevard is nearly \$3.5 billion, with \$10 million/year for maintenance. (<https://www.scribd.com/document/366284718/I81-Independent-Feasibility-Study-Report-Nov2017>) (The north leg of the Indianapolis inner loop is about 1.5 miles long, and the entire downtown system is about 5 miles long.)

The System-Level Analysis will provide order of magnitude cost estimates for construction and operating and maintenance for each concept.

- ***What are the construction impacts of the potential concepts?***

Trips served every day by downtown interstates must be accommodated as future systems are constructed. It is estimated that construction of the I-81 tunnel project mentioned above would disrupt traffic flow in Syracuse for up to 9 years.

The System-Level Analysis will review potential construction timetables and likely construction impacts of each concept. Opportunities to maintain the function of the transportation system during construction will be considered in the review.