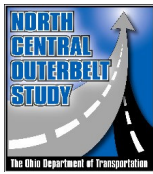


Executive Summary

Prepared by:
The Ohio Department of Transportation



North Central Outerbelt Study

FRA-270-19.84

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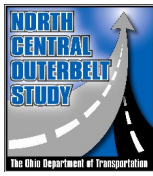
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Project History

During the 2003 fiscal year, the Department identified the North-Central Outerbelt (NCO) section of I-270 in Franklin County (which includes the interchanges of I-270 with SR 315, US 23, and I-71) is the fourth most congested/high crash location in the state. Therefore, the Department launched the North Central Outerbelt Study (see Figure 1) in June of 2003 which would follow the first four steps of the Department's 14-step Project Development Process (PDP). Work for this study was built upon the "I-270 North Outerbelt Corridor Major Investment Study" completed by Mid Ohio Regional Planning Commission (MORPC) in June of 1996.

Purpose and Need

Analysis of existing conditions found that the current design of the interchanges on the NCO were inadequate for current traffic volumes. Traffic volumes are expected to increase by 37 percent by the year 2028. Several locations with failing traffic conditions and high crash rates correspond to weave areas at and between the interchanges. These conditions are exacerbated by freight traffic on I-270 which is designated a Hazardous Cargo Route. Solutions to these issues must:

- Improve traffic flow and operational efficiency by reducing congestion
- Improve safety by improving roadway geometrics and eliminating some of the weave areas

Alternatives Analysis

This study is based on the *I-270 North Outerbelt Corridor MIS* completed by MORPC in 1996. Other conceptual alternatives evaluated by the MIS included Travel Demand Management (TDM), transit, high-occupancy vehicle facilities (HOV), Transportation Systems Management (TSM), and surface street improvements. However, none of these conceptual alternatives, either individually or in combination, were found to provide sufficient improvement to eliminate the need for general purpose capacity and geometric improvements on I-270. This current study addresses the interchange areas in the study corridor to correct safety and geometric deficiencies. The MIS's recommendations were the catalyst for this current study.

Goals and Objectives were established for this study with the assistance of local stakeholders. Screening factors were developed from the Goals and Objectives to reflect existing and anticipated future needs of the NCO. They enabled preliminary analysis of the conceptual alternatives to be conducted. The conceptual alternatives which met all of the screening factors were advanced for more detailed evaluation. Evaluation criteria were developed from the Goals and Objectives and applied to the advanced alternatives to quantify their impacts.

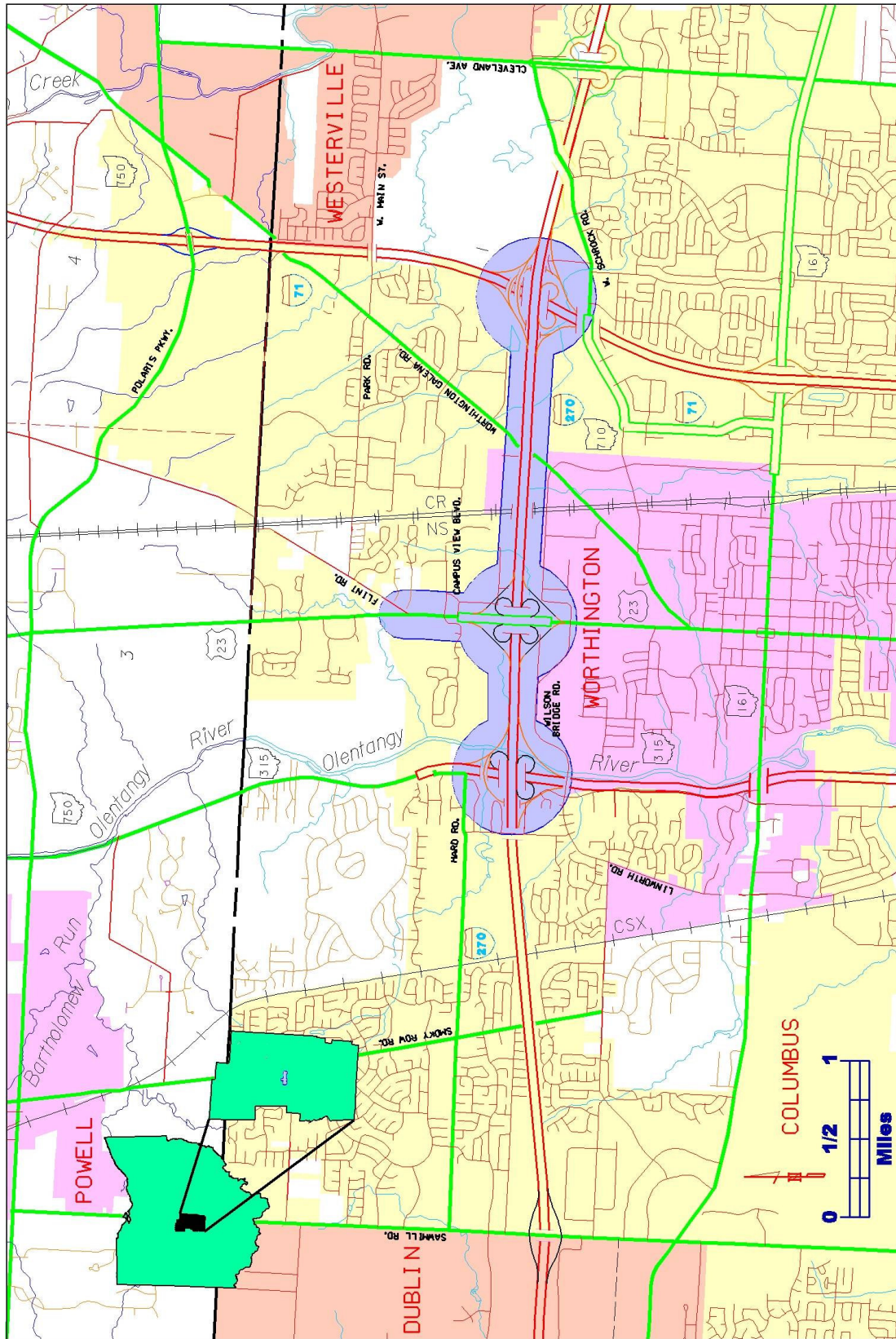
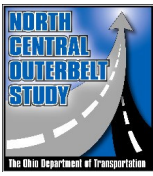


Figure 1: North Central Outerbelt Study Area Map



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Recommendations

Based upon the analysis of the evaluation criteria the following concepts are recommended for the various segments of the study area. (See graphic representations of recommendations in Part 4 of the Final Planning Study Report).

I-270 at SR 315

Create a SR 315 northbound to I-270 westbound flyover ramp and a SR 315 southbound to I-270 eastbound flyover ramp.

I-270 at US 23

Modify the existing cloverleaf interchange to a Partial Cloverleaf (Parclo) Type A interchange.

US 23 - From I-270 to Flint Rd.

Create a grade-separated, northbound-only roadway which by-passes the signals on US 23 between I-270 and Flint Rd. The grade separated roadway would be below normal grade, and located between the northbound and southbound "surface" roadways.

York Temple Drive

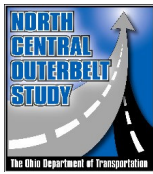
Relocate/extend York Temple Dr. to access West Campus View Boulevard.

I-270 at I-71

Create an I-270 eastbound to I-71 northbound flyover ramp which replaces the existing loop ramp.

Subdivision of Projects

Due to the close proximity of the segments of the I-270 interchange at SR 315, the I-270 interchange at US 23, US 23 north of I-270, and York Temple Drive, these segments are recommended to be designed together by a single design agency. The remaining segment of the I-270 interchange at I-71 should be designed separately since the improvements recommended at this location are substantially simpler to design and construct. In addition, the improvements recommended at the I-270 & I-71 Interchange clearly have separate, independent utility from the improvements at SR 315 and US 23.



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Phasing and Funding

Planning level cost estimates are provided in Table 1 below for each of the study segments. It includes the estimated costs for each phase of the project (PE - Design; R/W - Right-of-Way acquisition; Const. - Construction). Costs are in millions of dollars.

Table 1: Phase Funding

Phase	Location				
	SR-315 Interchange Alt 1	US-23 Interchange Alt 1	US-23 North of I-270 Alt C	York Temple Dr. Relocation	I-71 Interchange
PE	\$4.7 M	\$3.4 M	\$5.0 M	\$0.01 M	\$2.2 M
R/W	\$2.0 M	\$1.9 M	\$14.7 M	\$0.40 M	\$2.8 M
Construction	\$47.4 M	\$33.9 M	\$50.1 M	\$0.10 M	\$21.9 M
TOTAL	\$54 M	\$39 M	\$70 M	\$0.51 M	\$27 M

Table 2 below provides phasing and funding data based upon the recommended subdivision of projects.

Table 2: Phase Funding Based on Subdivision of Projects

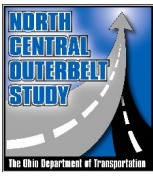
Design Projects	PE		RW		Construction		Project Total
	Year	Cost	Year	Cost	Year	Cost	
I-270 @ SR 315 & US 23, US 23 North of I-270, and York Temple Drive	2004	\$13 M	2006	\$10 M	2008	\$66 M	\$164 M
			2007	\$9 M	2009	\$66 M	
I-270 @ I-71	2004	\$2 M	2005	\$3 M	2006	\$22 M	\$27 M
NCOS TOTAL							\$191 M

Public Involvement

Stakeholder involvement is essential for every step in the PDP. Stakeholders provide information and offer a unique perspective in identifying the problem and what changes or improvements are needed to have a successful project.

To that end, ODOT developed a Public Involvement Plan (PIP) that weaved together the technical aspects of the study with the appropriate level of public participation activities. The PIP outlined the formation of an Advisory Committee (comprised of public and private stakeholders in the NCO), public meetings, an internet website, and several media stories and articles.

Numerous comments have been received as a result of public involvement activities to date. The majority of these comments express frustration over existing problems with the NCO. Comments pertaining to the recommended alternatives have, for the most part, been positive.



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Actions & Next Steps

Preliminary Engineering & Detailed Design

ODOT - District 6 will be the responsible agency for advancing the projects through the environmental, preliminary engineering, design, right-of-way, and construction phases. The study area is to be divided into two different design projects. Due to the complexity of the recommended conceptual alternatives, I-270 at I-71 will follow the Minor PDP and I-270 at SR 315 and US 23 will continue to follow the Major PDP.

I-270 at SR 315 & US 23 (Major PDP)

A consultant team has been selected and authorized to proceed with work on all relevant tasks in Steps 5 through 7 (authorization to proceed with additional Steps will come at a later date). The recommendations for this part of the study area are quite expensive and complicated to construct. Consequently, the final construction activities for this location will likely be sub-divided into several different projects to provide logical construction sequencing. The number of sub-projects and their limits will be determined by Step 8. Each sub-project will have its own delivery strategy. The schedule below shows the anticipated overall delivery strategy for all of the projects at this location.

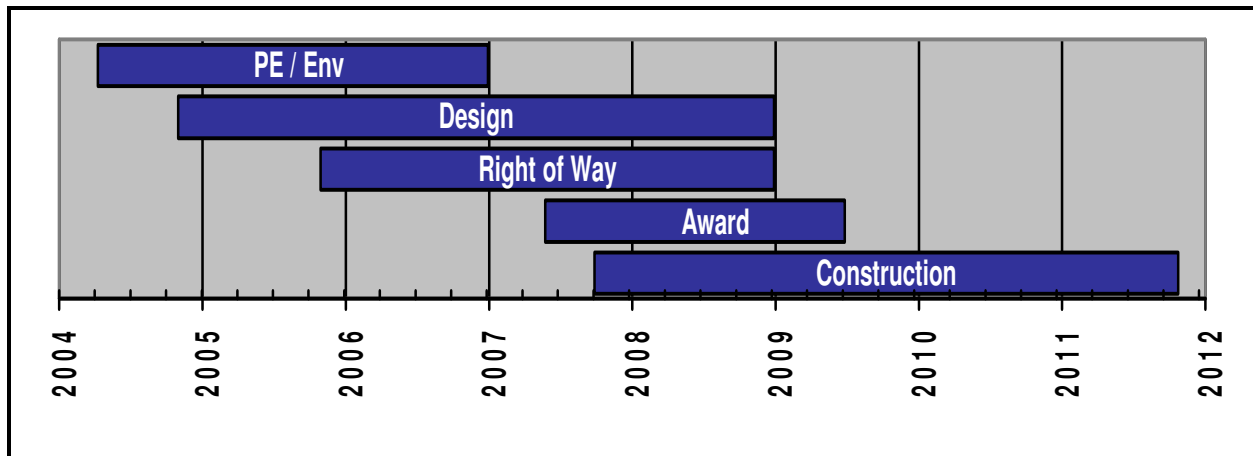
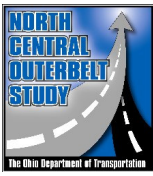


Figure 2: Delivery Strategy for I-270 at SR 315 & US 23

I-270 at I-71 (Minor PDP)

A consultant team has been selected and authorized to proceed with work on all relevant tasks in Steps 3 and 4. Final construction activities for this location will be conducted as a single project. The schedule below shows the anticipated delivery strategy for this location:



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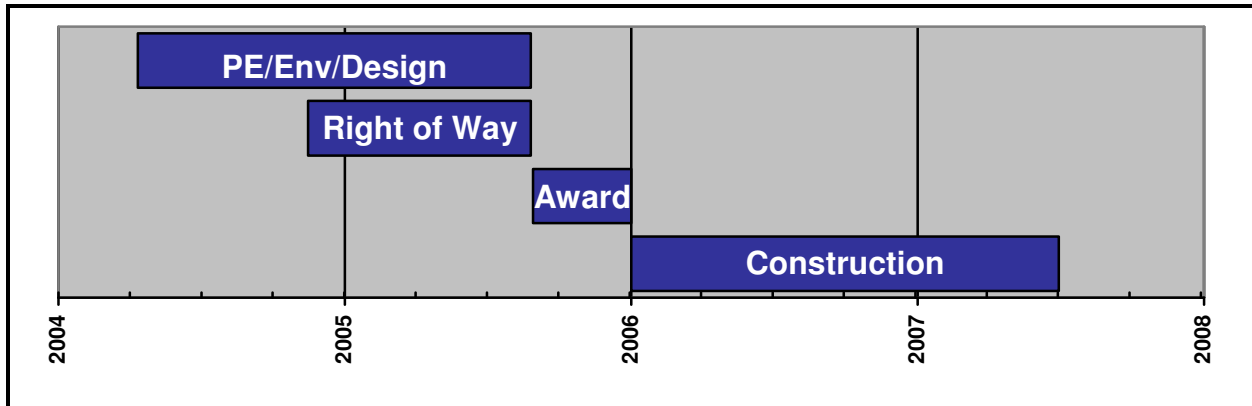


Figure 3: Delivery Strategy for I-270 at I-71