

Existing and Future Conditions

Prepared by:
The Ohio Department of Transportation &
The Mid-Ohio Regional Planning Commission (MORPC)



North Central Outerbelt Study

FRA-270-22.42

Existing and Future Conditions

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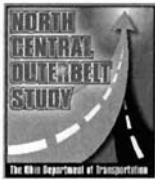
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Chapter 1: Introduction

1.1 Project History

During the 2003 fiscal year, the Ohio Department of Transportation developed Strategic Initiatives to “Implement strategies to maximize traffic flow on the state highway system” and to “develop a sound, effective crash reporting and analysis system for safety.” As a result of data collection and analysis for these two initiatives, 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 (behind I-70/I-71 split in Columbus, I-75 in Cincinnati, and I-75 in Dayton). Further investigation revealed that the weave areas between some of the interchange ramps (built in the 1960's) serve much more traffic than they were designed to handle, some as much as 68 percent over design density. The conditions at these weave areas are further exacerbated by the presence of greater numbers of trucks which require larger gaps between vehicles to change lanes. Congestion and unsuccessful weave maneuvers in these areas contributed toward approximately 1600 crashes during the three year period between 2000 and 2002. Traffic volumes have increased by 20 percent since 2001 when the final North Outerbelt Widening (NOW) project was completed. Therefore, the Department is developing a transportation operations and construction strategy that addresses the physical and operational deficiencies of these locations.

The work for this study will build upon the "I-270 North Outerbelt Corridor Major Investment Study" completed by Mid-Ohio Regional Planning Commission (MORPC) in June of 1996 (see Appendix A). While this study looked at other types of conceptual alternatives such as travel demand management (TDM), transit, high-occupancy vehicle facilities (HOV), transportation systems management (TSM), and surface street improvements, it still found that "...freeway improvements are critically needed between SR 315 and I-71. Therefore, the improvements recommended to this area should be constructed first." (page 96) This recommendation is the catalyst for the current study.

1.2 Study Area Description

The limits of this study, as shown in Figure 1, extend from SR 315 to I-71, on I-270. Also included in the study area is a portion of US 23 from Wilson Bridge Rd. to Flint Rd. The addition of the US 23 section is due to congested conditions on US 23 near I-270 which frequently cause traffic queuing extending out onto I-270.

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Figure 1: North Central Outerbelt Study Area Map

Chapter 2: Land Use

(Prepared by the MORPC)

2.1 Overview

The Ohio Department of Transportation is considering making improvements to three interchanges on I-270 in northern Franklin County. The interchanges are located at SR 315, US 23 and I-71. The interstate was widened in 2000. During the MIS associated with that project, it was determined that improvements were necessary to the interchanges for the facility to function adequately.

This is a summary of the land use in the area, and what additional development is projected to occur by the year 2030. The area of analysis includes approximately 150 square miles. It is bound by the Scioto River on the west, Hyatts/Shanahan Roads on the north, the Big Walnut Creek on the east, and Morse/Bethel Roads on the south. Land use projections for the area were prepared by the Mid-Ohio Regional Planning Commission with supporting information from all local governments in the analysis area, including county-level planning agencies, cities, villages and townships.

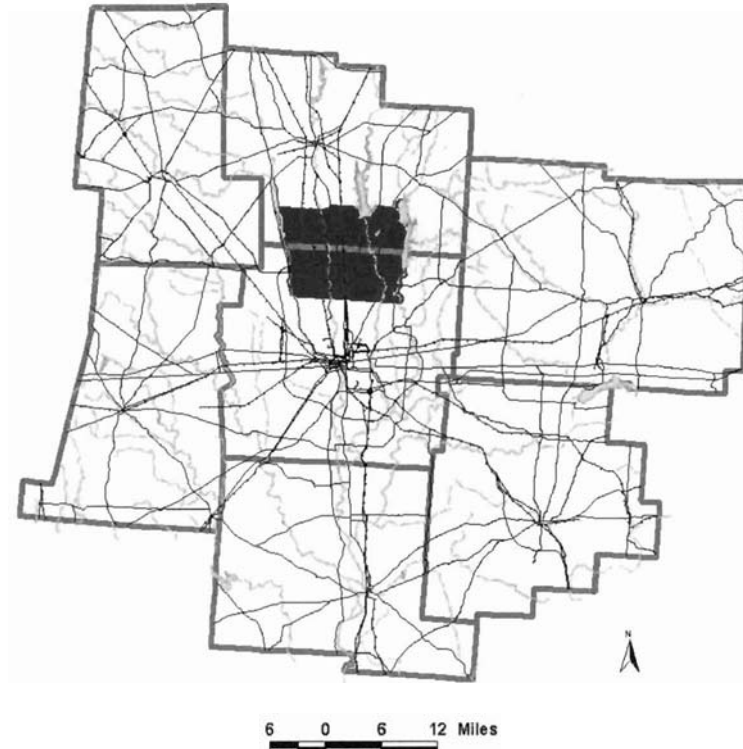
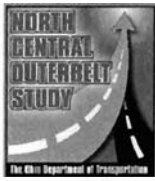


Figure 2: North Central I-270 Land Use Analysis Area



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2.2 Historical Growth

The analysis area has been impacted by a number of development factors over the past twenty years. The opening of the outerbelt I-270, the development of Muirfield, the development of Tuttle Crossing, Crosswoods, and Polaris have all resulted in significant residential and economic growth in the area. In addition, southern Delaware County is served by a county sanitary sewerage system and a private water distribution system. Public infrastructure limits the need for private on site septic systems, and allows the development of large tracts rather than spotty development that may have occurred otherwise. Delaware County is currently the tenth fastest growing county in the United States and most of this growth is occurring in the analysis area.

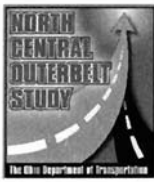
Between 1980 and 2000, the population in this area increased by over 115,000 people. This represents nearly 21 percent of the population growth the entire state of Ohio experienced during this time frame. In addition, the area attracted over 97,000 jobs, nearly 12 percent of all new jobs in the state.

The job growth was distributed across the retail, office and industrial sectors. Since 1980, Over the past 20 years, over 16.2 million square feet of retail space, 12.4 million square feet of office space, and 9.6 million square feet of industrial/warehouse space were constructed in the analysis area.

Much the growth occurred north of the outerbelt. In 1980, much of this area was farmland or small suburban communities. Approximately 40,000 lived here and there were only 7,700 jobs. By 2000, the population had nearly tripled to 113,000 people and employment opportunities had swelled to 60,000. Nearly 22 million square feet of retail, office and industrial space were built north of I-270 between 1980 and 2000.

Residential development was spurred by the “win-win” agreement between Columbus City Schools and the suburban school districts in Westerville, Worthington and Dublin. The agreement allowed the suburban districts to reap property tax benefits from new industries and office parks in northern Franklin County, while the city of Columbus collected income tax from these businesses. A side effect was the dense residential development that occurred north of the outerbelt. These residents live inside the city of Columbus while their children attend suburban school districts.

Although the area south of the outerbelt was already fairly well developed, substantial amounts of new residential and nonresidential development was attracted to the area between 1980 and 2000 as well. By 1980 there were 89,000 people living, and nearly 20,000 people working inside the arc of the outerbelt. The population grew by an additional 34,000 people by 2000. More importantly, the jobs nearly doubled as between 1980 and 2000 when 33,000 jobs were added. Approximately 7.6 million square feet of retail, 4.0 million



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square feet of office and 1.9 million square feet of industrial space were added under the arc during these decades. Worthington developed its industrial park, Anheuser Busch expanded its facilities and office parks sprang up along the south side of the outerbelt between US 23 and I-71. The Sawmill Road corridor developed as the retail corridor for the rapidly growing communities of Dublin and northwest Columbus.

2.3 Future Growth

Although the growth projected for the next thirty years is less than what has occurred in the past twenty, it is still substantial. Approximately 35,600 new housing units are expected resulting in 73,000 new people, an increase of approximately 30 percent. At this growth rate, the area will maintain its 19 percent share of the regional population.

An additional 10 million square feet of retail space, 13.5 million square feet of office space, and 8.2 million square feet of industrial/warehouse space are projected generate an additional 61,000 jobs in the area. This projected job growth results in the area having a larger share of the regional base. In 2000, approximately 13 percent of the jobs were located in the analysis area, while the area's share will grow to 19 percent by 2030.

Most of the new growth for the area is expected in southern Delaware County. Of the 73,000 new people, 60,000 are forecasted to locate in Delaware County. Similarly, 50,000 of the 61,000 new jobs are projected to be in the Delaware County portion of the analysis area. The completion of Polaris, infill along the US 23 corridor, the development of Westerville's 971 acre tract, and development along the extended Sawmill Parkway are all projected to induce the creation of additional jobs. The planned expansion of the Delaware County sanitary system will open several additional thousand acres of land for development for residential development.

Tables 1 and 2 below include specific data about historic and projected growth in this area. The sub areas identified as Delaware county, North of I-270 , and South of I-270 area shown in Figure 2.

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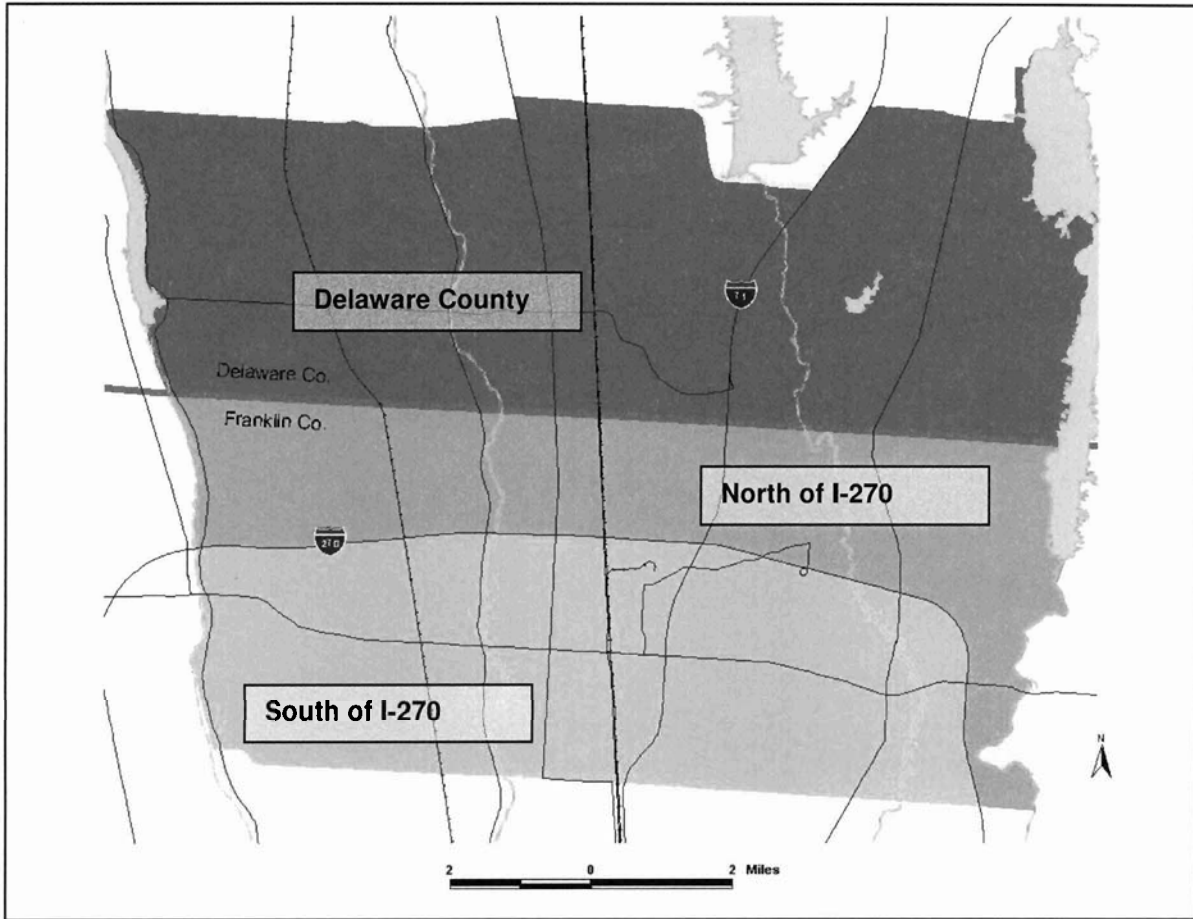


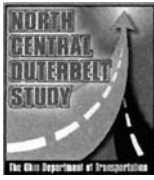
Figure3: Delaware County, North of I-270 & South of I-270 Sub-Areas

Table 1: Population, Housing and Employment Growth by Sub-Area (1980-2030)

Sub Area	Population			Housing			Employment		
	1980	2000	2030	1980	2000	2030	1980	2000	2030
Delaware Co	5,776	42,505	101,978	1,943	15,148	38,821	888	20,601	76,071
North of I-270	39,713	78,976	85,567	13,478	31,347	35,513	8,898	47,043	50,743
South of I-270	88,295	127,447	134,760	35,921	56,562	61,587	34,165	74,814	77,586
Total	133,784	248,928	322,305	51,342	103,058	135,922	43,951	142,458	204,399

Table 2: Retail, Office and Industrial Square Feet Growth by Sub-Area (1980-2030)

Sub Area	Retail Floor Space (1,000 sqft)			Office Floor Space (1000 sqft)			Industrial Floor Space (1000 sqft)		
	1980	2000	2030	1980	2000	2030	1980	2000	2030
Delaware Co	142	5,514	15,176	26	3,123	15,098	84	4,698	13,574
North of I-270	1,216	4,432	4,571	725	6,100	7,240	1,552	4,632	4,816
South of I-270	5,771	13,392	13,688	3,492	7,432	8,854	5,845	7,745	6,980
Total	7,129	23,338	33,435	4,243	16,656	31,192	7,481	17,075	25,369



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Chapter 3: Environmental Red Flags

3.1 Definition of an Environmental Red Flag

Environmental Red Flags are points of concern that could cause revisions to: the anticipated design and construction scope of work, the proposed project development schedule, the estimated project budget (including construction, utility reimbursement, right-of-way acquisitions, and design costs) or the potential impacts of the project on the surrounding area. Environmental Red Flags may include, but are not limited to the following:

Section 4(f) and/or 6(f) properties (schools, parks, athletic fields, historic sites, etc.)

High quality wetlands

- Sensitive waterways
- Significant Cultural Resources (i.e. National Register site)
- Hazardous material sites (i.e. Superfund site, landfill, etc.)
- Environmental Justice communities
- Future noise wall locations

3.2 Limits of research

Environmental research was conducted on all property adjacent to the existing right-of-way up to a 500' width on each side of the highway for the following limits:

- I-270 between Sawmill Road and Cleveland Avenue
- SR 315 between SR 161 and Hard Road
- US 23 between Wilson Bridge Road and Flint Road
- I-71 between SR 161 and Polaris Parkway

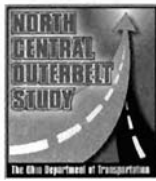
3.3 Environmental Red Flags

Through Environmental Literature Searches and field reviews by the ODOT Office of Environmental Services staff as well as coordination with ODOT District 6 staff, the following Environmental Red Flags were identified:

- Olentangy River - This river has numerous protective designations and possesses habitat and records for several listed species. Avoiding and minimizing impacts to this river (wherever feasible) would be an ecological priority.

Sharon Woods Metro Park (IR270/IR71, NE quadrant). This is Section 4(f) resource.

- Olentangy River Parklands (IR270/SR23, SE quadrant and along the river). This is Section 6(f) resource.



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- City of Columbus Bikepath currently under construction (north of I-270 and east of SR 315). This is a Section 4(f) resource.
- Conservation easement owned by the City of Columbus between SR 315 and the river, north of SR 161. This is a possible Section 6(f) resource.
- Bluffsvew Elementary School (Worthington) recreational facilities along I-270 at Linworth Road. This is Section 4(f) resource.
- Worthington Kilbourne High School Athletic fields along I-270. This is a Section 4(f) resource.
- Thomas Worthington High School - Athletic Fields east of the river and along SR161. This is a Section 4(f) resource.
- Worthington Industries; along I-270 between CSX and I-71
- Proposed noise walls along I-270
- Existing noise walls along I-71
- 100 and 500 year floodplains
- Floodway

Through coordination with the Ohio Historic Preservation Office (OSHOP), additional historic locations were identified, as follows:

- The Pontifical Josephinum College (FRA-2167-3), 7625 North High Street
- The Old Flint School (FRA-2183-3), 7861 Flint Road
- The property located at 7844 Flint Road (FRA-8895-3)
- The property located at 7755 North High Street (FRA-8864-3)