

# PRELIMINARY FEASIBILITY STUDY EXECUTIVE SUMMARY

U.S. 23 Corridor Study, PID 112768



Prepared for ODOT District 6  
MAY 2022

Prepared by:



## SUMMARY

A Preliminary Feasibility Study was conducted to determine the feasibility of creating a fully free-flowing connection between the Columbus and Toledo regions. This study centered around the portion of U.S. 23 between Waldo and I-270, which is the only portion of the I-75/U.S. 23/SR 15 corridor with traffic volumes exceeding roadway capacity (see Figure 1). The study area includes nearly 40 traffic signals, the only signals between I-270 and Toledo.

After comparison of the expected benefits and costs for each concept (see Figure 7), it has been determined that none of the concepts as presented can be reasonably implemented in the immediate future. Therefore, none of the study concepts will be advanced.

## MOVING FORWARD

The study clearly indicated that improvements to the existing U.S. 23 corridor would positively affect tens of thousands of drivers daily. Public feedback has shown that improvements to safety and congestion is a top priority for many who live and travel along the route. Therefore, ODOT plans a forward-thinking approach to address specific safety and congestion issues on existing U.S. 23 between Waldo and I-270. This forward-thinking approach will result in an action plan that identifies a series of future stand-alone improvement projects, providing drivers meaningful benefits sooner rather than later. This plan will leverage much of the data, public feedback, and findings from the study.

Through this shift in focus, ODOT will prioritize the needs of the existing U.S. 23 corridor and develop individual projects, providing drivers with meaningful benefits sooner rather than later. ODOT will continue to engage the public and stakeholders to get input and ideas for how to solve some of the congestion and safety problems on the existing U.S. 23 corridor.

**This study concludes that all of the proposed concepts for a fully free-flowing connection between Waldo and I-270 would substantially impact natural and cultural resources, and would cost much more than they provide in benefit. As a result, none of the proposed concepts, as presented, are feasible to advance for further study.**

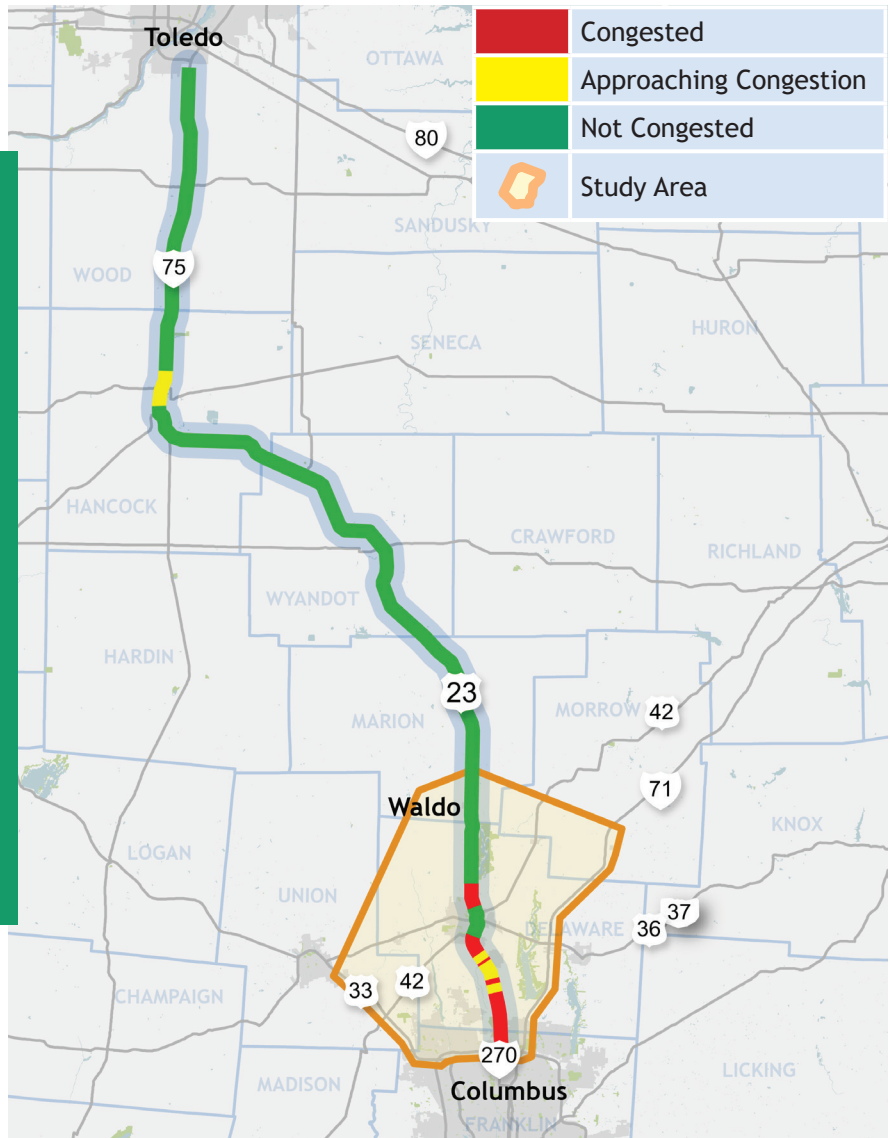


Figure 1: Congestion Between Toledo & Columbus  
Data Source: ODOT TIMS

## INTRODUCTION

The Ohio Department of Transportation, along with regional partners at the Mid-Ohio Regional Planning Commission and the Toledo Metropolitan Area Council of Governments, has conducted a Preliminary Feasibility Study to evaluate the feasibility of an improved transportation connection between the Columbus and Toledo regions.

This study focused on the area between the Village of Waldo in Marion County and I-270 in Franklin County (see Figure 2).

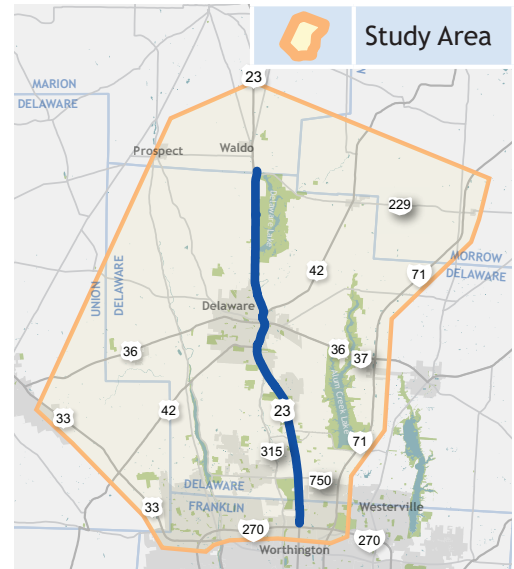


Figure 2: Study Area

## About the Study Area

Delaware County is rapidly growing and has been transitioning from an agricultural community to a dense, suburban community.

Central Ohio is the fastest-growing metro area in the Midwest and has become a freight and logistics hub

U.S. 23 is the primary route between Columbus and Toledo.

Truck traffic is expected to approximately double by 2050.

Between Waldo and I-270, through traffic also currently uses U.S. 36/SR 37, U.S. 42, and SR 315 (see Figure 3).

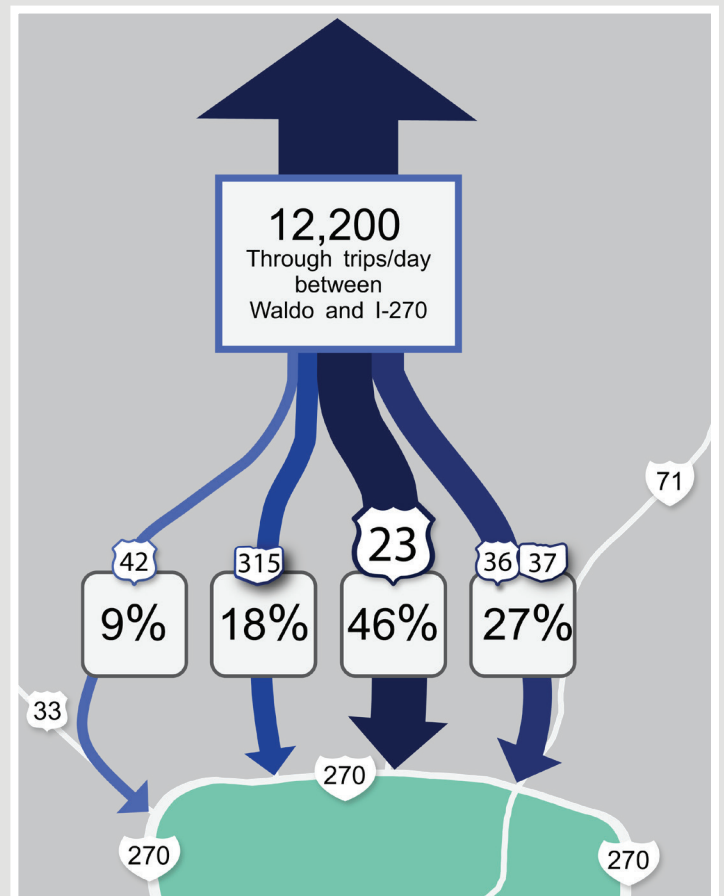


Figure 3: Percentage of Through Trips Between Waldo and I-270

Data Source: StreetLight Data, Inc.

## PUBLIC ENGAGEMENT

Public engagement was conducted throughout the study process and over 6,500 individuals responded to the public surveys and/or provided comments during two rounds of engagement.

Engagement included:

- Project website with project information and schedules
- Two rounds of public meetings (a total of 11 meetings)
- Two surveys (see Figure 5 for Round 1 survey results)
- An informational video
- FAQ and project overview materials
- Comment Response summary

All of the public engagement materials are available on the study website (see Figure 4): [publicinput.com/23connect](http://publicinput.com/23connect)

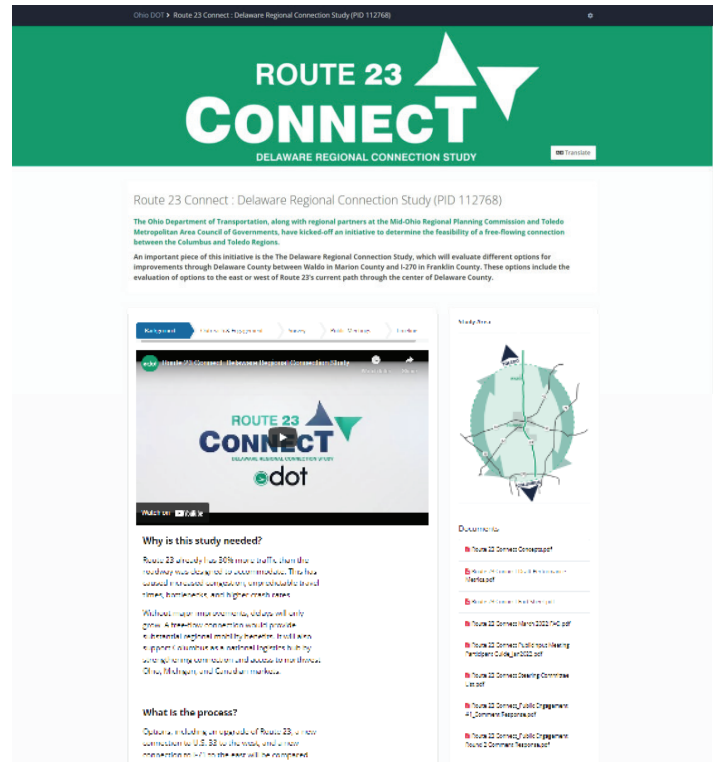


Figure 4: Route 23 Connect Public Input Website

**In general, the public felt that safety and congestion were key issues the study should address.**

### ROUTE 23 CONNECT PROJECT SURVEY (ROUND 1 RESULTS)

Q: From not important to very important, indicate how important you feel each of the following goals are for U.S. 23:

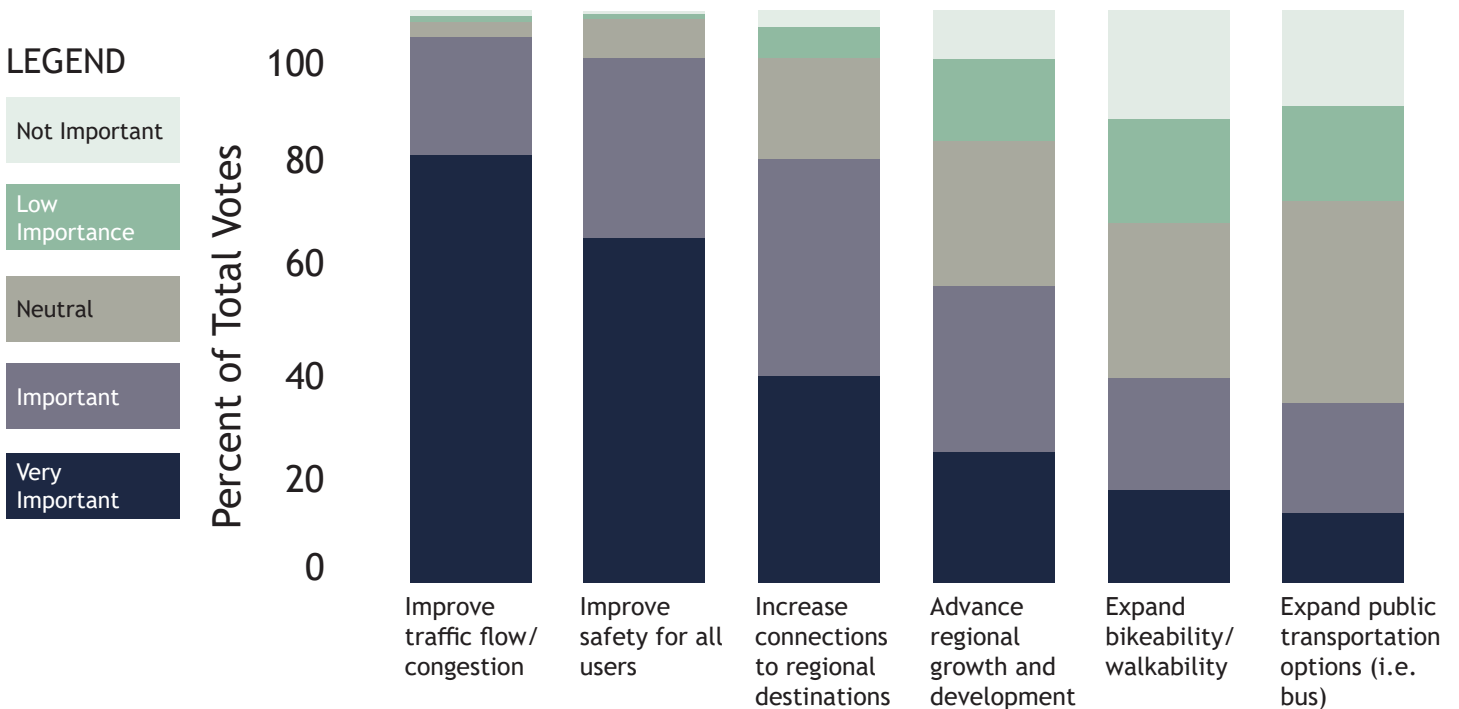


Figure 5: Route 23 Connect Project Round 1 Survey Results

## PURPOSE & NEED

The need of the future project is to improve traffic flow for through traffic, freight, and commuter vehicles between Waldo and I-270. The need focuses on several metrics:

- Reduce times between Waldo and I-270
- Improve travel time reliability so people can count on consistent travel times during particular periods of each day (e.g. morning commute)
- Improve safety for local and regional trips
- Reduce congestion for local and regional trips
- Be consistent with local community goals by reducing diversion of traffic from U.S. 23 to local roads

The purpose of the study is to enhance regional connectivity and mobility by creating a free-flowing connection between Waldo and I-270.

## Key Issues In The Study Area Today

### TRAVEL TIMES & TRAVEL TIME RELIABILITY

The nearly 40 signalized intersections on U.S. 23 in the study area create delays for through traffic and freight, adding over 10 minutes of travel time during peak hours.

### CONGESTION

The segment between Waldo and I-270 is the only portion of the I-75/U.S. 23/SR 15 corridor between Columbus and Toledo where volumes exceed roadway capacity (see Figure 1).

### SAFETY

The study area includes dozens of high-priority safety locations, with crashes occurring in higher numbers than expected for these types of locations (see Figure 6).

<span style="color: #e91e63;">●</span>	Top 100 Ranked HSIP Intersection
<span style="color: #e91e63; opacity: 0.5;">●</span>	100 - 500 Ranked HSIP Intersection
<span style="color: #ffc107;">●</span>	Top 100 Ranked HSIP Segment
<span style="color: #ffc107; opacity: 0.5;">●</span>	100 - 500 Ranked HSIP Segment

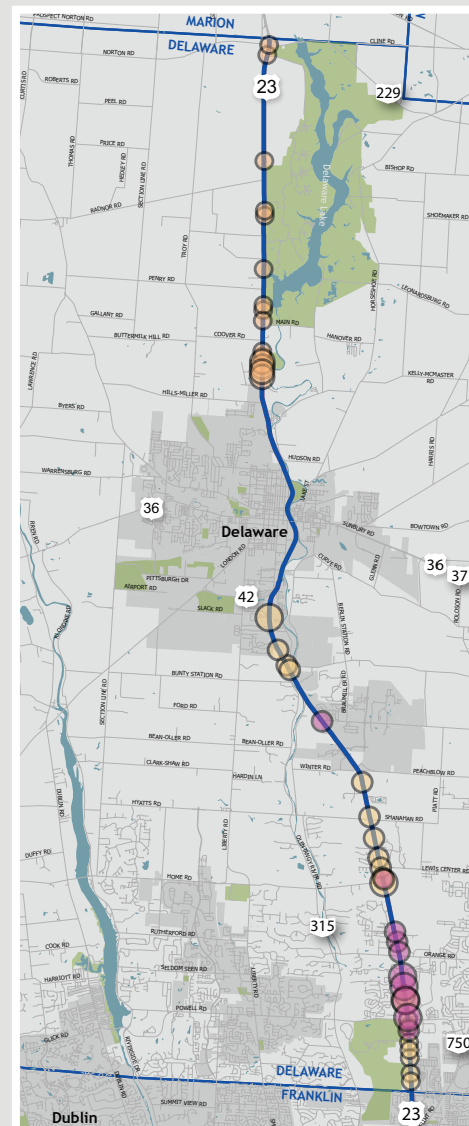


Figure 6: 2018 Highway Safety Improvement Program (HSIP) Locations

## COMPARISON OF CONCEPTS

A total of seven (7) concepts were developed as depicted on the following pages. The areas shown on the map for each concept are broad in nature and represent general connections ODOT is considering, not specific routings. The shaded areas for each concept are much wider than an actual new roadway.

A total of seven (7) concepts were developed and analyzed in this study:

- No-Build
- Upgrade existing U.S. 23 to free-flow (C1)
- Two new freeway connections to U.S. 33 to the west (W1 and W2)
- Three new freeway connections to I-71 to the east (E1, E2, and E3)

Concepts were compared using a variety of metrics. Each concept is shown highlighting how it performed in key metrics - areas where there was substantial differentiation among the concepts, or areas that were particularly important toward judging a concept's feasibility. A more complete list of evaluation metrics is shown on Figure 15.

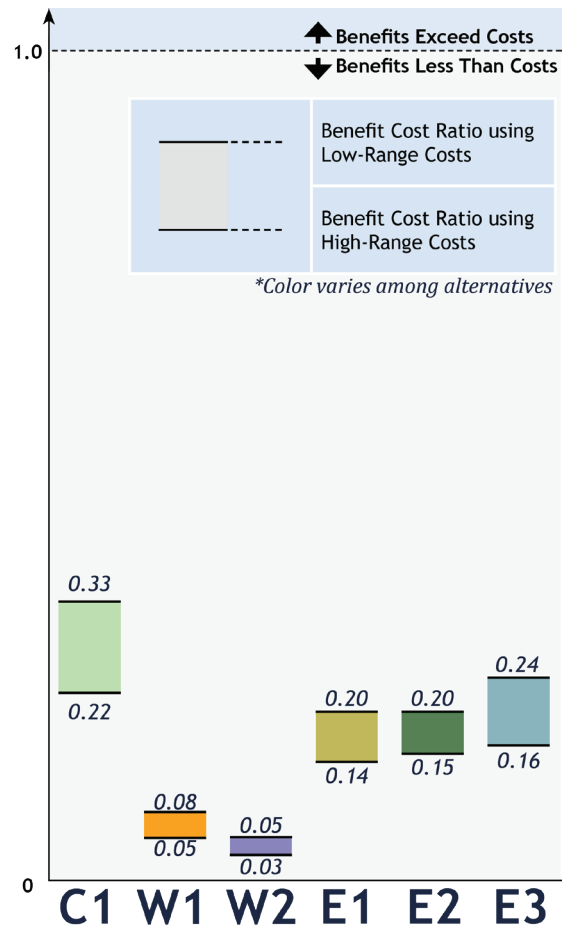
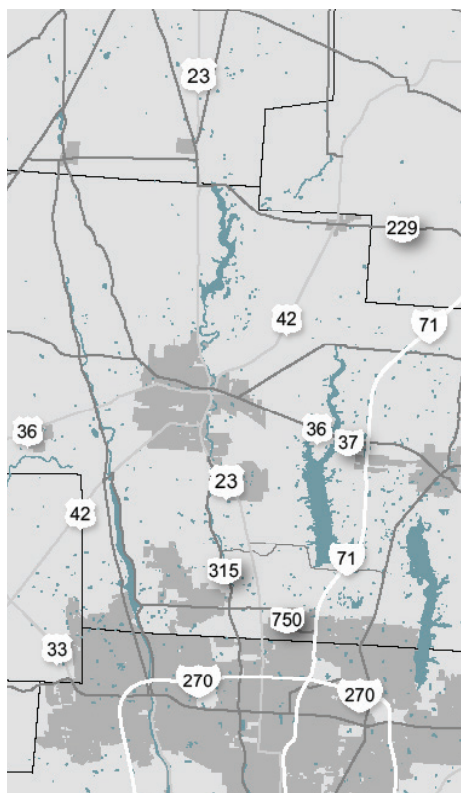


Figure 7: Estimated Benefit-Cost Ratios

## No-Build



Travel Time (Through and Local)	---
Safety	---
Community Effects	---
Potential Impacts to Underserved Populations	++
Potential for Residential and Commercial Displacements	+++
Farmland	+++
Costs	+++
Ability to be Phased	+++

### CONCEPT OVERVIEW

- Existing roadways
- Includes additional projects committed or in planning stages
- Continued maintenance
- Monitoring to identify safety or operations improvements

### CONCEPT EVALUATION

- Would not address congestion or safety issues in study area
- Congestion and safety issues would continue

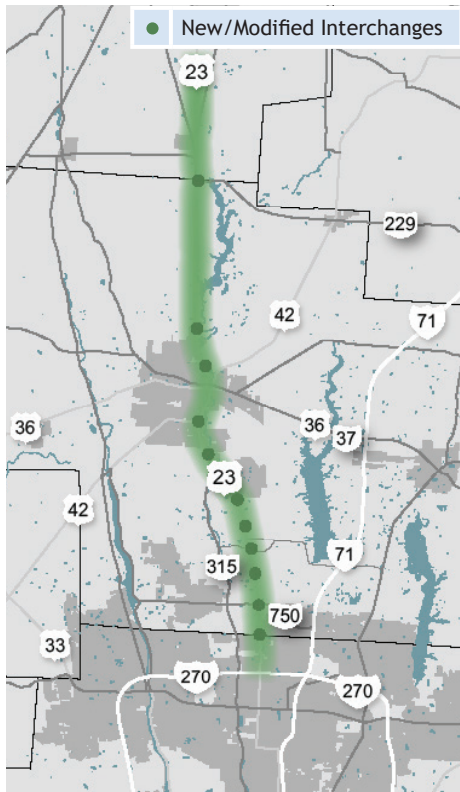
### Legend



Figure 8: No-Build Overview

## CONCEPTS CONSIDERED

### Concept C1



Travel Time (Through and Local)	+++
Safety	+++
Community Effects	++
Potential Impacts to Underserved Populations	--
Potential for Residential and Commercial Displacements	---
Farmland	0
Costs	---
Ability to be Phased	+++

#### CONCEPT OVERVIEW

- 11 new/modified interchanges
- Limited access w/ service roads
- Additional through lanes

#### CONCEPT EVALUATION

- Greatest expected improvement in travel times
- Greatest expected improvement to safety
- Highest cost – approximately double other concepts
- Highest potential for displacements and impacts to underserved populations, as work is within highly-developed corridor

#### Legend

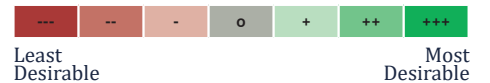
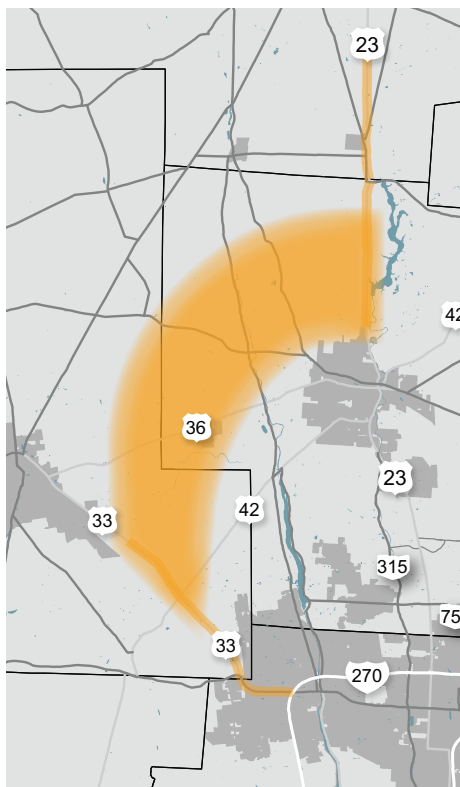


Figure 9: Concept C1 Overview

### Concept W1



Travel Time (Through and Local)	+
Safety	++
Community Effects	--
Potential Impacts to Underserved Populations	0
Potential for Residential and Commercial Displacements	-
Farmland	--
Costs	--
Ability to be Phased	---

#### CONCEPT OVERVIEW

- New freeway from U.S. 23 to U.S. 33
- Use U.S. 33 to connect to I-270

#### CONCEPT EVALUATION

- Lowest cost of build concepts
- Minimal travel time benefits, because it is not expected to draw a large percentage of through traffic
- Potential impacts to hundreds of acres of farmland

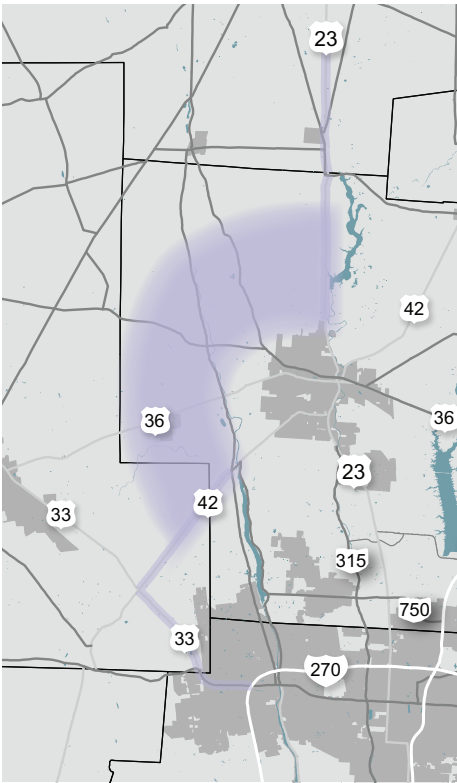
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Figure 10: Concept W1 Overview

## CONCEPTS CONSIDERED (CONTINUED)

### Concept W2



Travel Time (Through and Local)	+
Safety	++
Community Effects	--
Potential Impacts to Underserved Populations	o
Potential for Residential and Commercial Displacements	--
Farmland	--
Costs	--
Ability to be Phased	---

#### CONCEPT OVERVIEW

- New freeway from U.S. 23 to U.S. 42
- Upgraded U.S. 42 to U.S. 33
- Use U.S. 33 to connect to I-270

#### CONCEPT EVALUATION

- Among the lower cost build concepts
- Minimal travel time benefits, because it is not predicted to attract a large percentage of through traffic
- Potential impacts to hundreds of acres of farmland
- Impacts to properties along U.S. 42

#### Legend

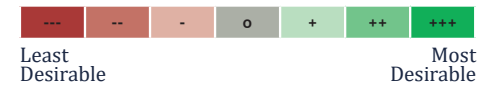
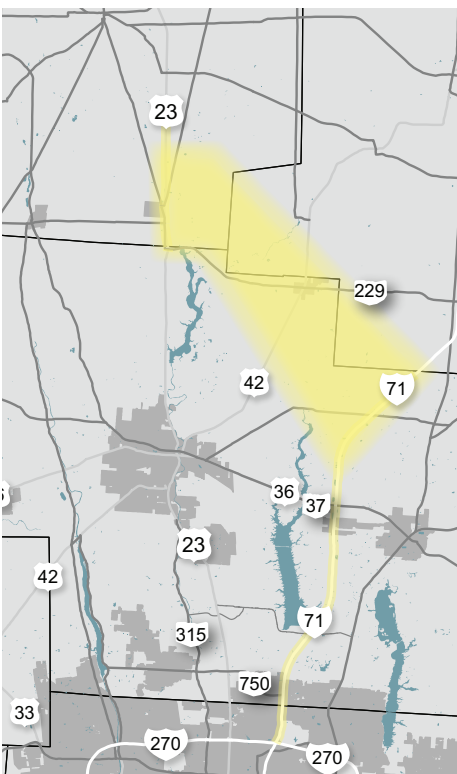


Figure 11: Concept W2 Overview

### Concept E1



Travel Time (Through and Local)	+++
Safety	+
Community Effects	--
Potential Impacts to Underserved Populations	-
Potential for Residential and Commercial Displacements	--
Farmland	---
Costs	--
Ability to be Phased	---

#### CONCEPT OVERVIEW

- New freeway from U.S. 23 to I-71
- Use I-71 to connect to I-270

#### CONCEPT EVALUATION

- One of greatest expected improvements in travel times
- Potential impacts to hundreds of acres of farmland
- Residents and businesses impacted would not receive much of the benefits of the improvements

#### Legend

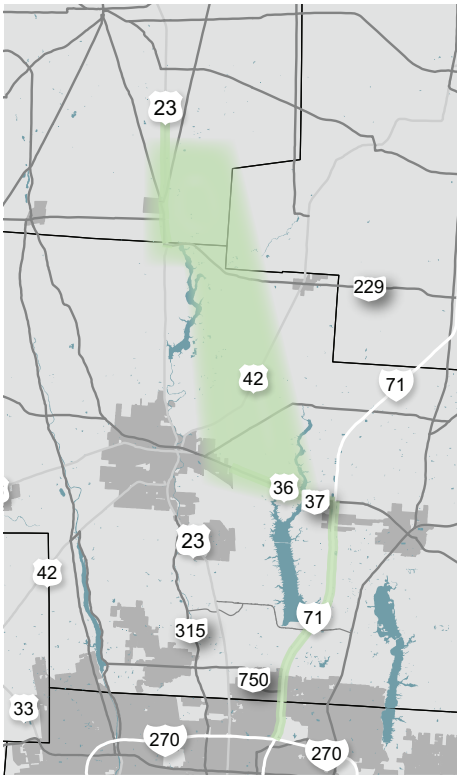


Figure 12: Concept E1 Overview



## CONCEPTS CONSIDERED (CONTINUED)

### Concept E2



Travel Time (Through and Local)	++
Safety	+
Community Effects	--
Potential Impacts to Underserved Populations	-
Potential for Residential and Commercial Displacements	--
Farmland	--
Costs	--
Ability to be Phased	---

#### CONCEPT OVERVIEW

- New freeway from U.S. 23 to U.S. 36/ SR 37
- Use U.S. 36/SR 37 to connect to I-71
- Use I-71 to connect to I-270

#### CONCEPT EVALUATION

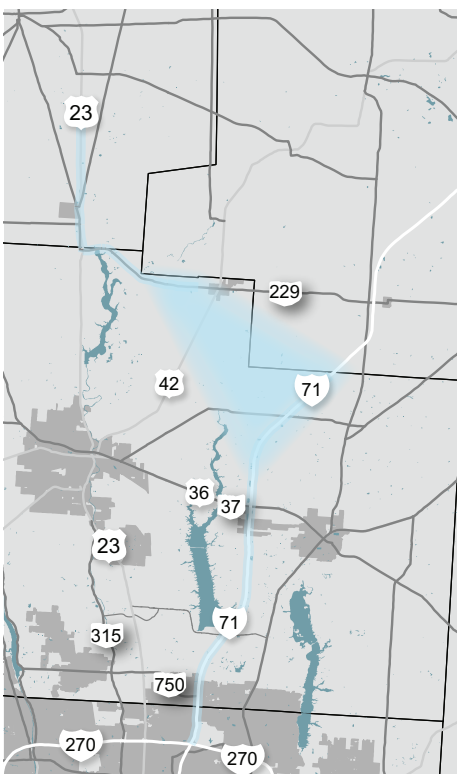
- One of greatest expected improvements in travel times
- Potential impacts to hundreds of acres of farmland
- Requires widening U.S. 36/SR 37 within Alum Creek State Park
- Residents and businesses impacted would not receive much of the benefits of the improvements

#### Legend



Figure 13: Concept E2 Overview

### Concept E3



Travel Time (Through and Local)	++
Safety	+
Community Effects	--
Potential Impacts to Underserved Populations	-
Potential for Residential and Commercial Displacements	--
Farmland	-
Costs	--
Ability to be Phased	---

#### CONCEPT OVERVIEW

- Use U.S. 23 to SR 229
- New freeway from SR 229 to I-71
- Use I-71 to connect to I-270

#### CONCEPT EVALUATION

- One of greatest expected improvements in travel times
- Potential impacts to hundreds of acres of farmland, although less than E1, E2
- Requires widening SR 229 through Delaware State Park
- Residents and businesses impacted would not receive much of the benefits of the improvements

#### Legend



Figure 14: Concept E3 Overview

## SUMMARY EVALUATION MATRIX

		No-Build	Concept C1	Concept W1	Concept W2	Concept E1	Concept E2	Concept E3
Primary Needs	Reduce Travel Times	---	+++	+	+	+++	++	++
	Improve Travel Time Reliability	---	+++	+	+	++	++	++
	Free-Flow Connection between Waldo & I-70	---	+++	+++	+++	+++	+++	+++
Secondary Needs	Improve Safety	---	+++	++	++	+	+	+
	Improve Through Congestion	---	+++	++	++	+	+	+
	Improve Local Congestion	---	+++	+	+	++	++	++
	Community Effects along Existing Through Routes	---	++	--	--	--	--	--
Natural & Cultural Resource Impacts	Farmland Impacts	+++	0	--	--	---	--	-
	Park & Recreational Impacts	+++	-	0	0	0	-	---
	Streams, Waterways, & Olentangy Watershed	+++	--	-	-	--	---	---
	Other Natural Resources	+++	-	--	--	--	--	--
Community Impacts	Displacements	+++	---	-	--	--	--	--
	Potential Impacts to Underserved Populations	++	--	0	0	-	-	-
	Community Effects Outside of Through Routes	0	+	--	--	--	--	--
Costs	Construction Costs	+++	---	--	--	--	--	--
	Right-of-Way Acreage	+++	-	--	---	---	---	---
	Regional Travel Time Delay User Benefit	---	+++	+	+	++	++	++
	Funding/Phasing	+++	+++	---	---	---	---	---

**Legend**



Least Desirable

Most Desirable

Figure 15: Summary Evaluation Matrix