EXECUTIVE SUMMARY
2024 PRELIMINARY FEASIBILITY STUDY
JANUARY 2025
U.S. 23 Corridor Study, PID 112768

ROUTE 23 CONNECT

Prepared for ODOT District 6

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Ohio Department of Transportation

MORPC

TMACOG

INTRODUCTION

The Ohio Department of Transportation (ODOT), in conjunction with the Mid-Ohio Regional Planning Commission (MORPC) and the Toledo Metropolitan Area Council of Governments (TMACOG), has conducted the *2024 Preliminary Feasibility Study* to address the conditions on U.S. 23 between the Village of Waldo in Marion County and I-270 in Franklin County, Ohio. This is a continuation of the U.S. 23 Corridor Study titled *May 2022 Preliminary Feasibility Study*.

The *May 2022 Preliminary Feasibility Study* was conducted to determine the feasibility of creating a free-flowing connection between Waldo and I-270. The proposed concepts developed and evaluated included upgrading the existing U.S. 23 corridor to a fully free-flowing route with new and modified interchanges, constructing a new freeway to the west to connect with U.S. 33, and constructing a new freeway to the east to connect with I-71.

While converting U.S. 23 to a fully free-flowing facility was determined to be infeasible, the *May 2022 Preliminary Feasibility Study* indicates that improvements to the existing U.S. 23 corridor would positively affect tens of thousands of drivers daily. Therefore, ODOT and the project team began work on the *2024 Preliminary Feasibility Study*. This study is a forward-thinking approach to address specific congestion and safety issues on existing U.S. 23 between Waldo and I-270 that will result in an action plan to identify and prioritize a series of stand-alone improvements. These improvements will provide meaningful benefits to through traffic and local road users sooner rather than later. This action plan will build upon the data, public feedback, and findings from this study.

MOVING FORWARD

The *2024 Preliminary Feasibility Study* has identified high-performing concepts that offer a long-term vision for the U.S. 23 corridor. These concepts should be used as a baseline and starting point for further study, as individual projects are identified and advanced into the ODOT project development process. Once in project development, further study would evaluate these concepts against other concepts and the No-Build via the National Environmental Policy Act (NEPA) process. While it is possible that some concepts may eventually be changed during further evaluation, this study provides a roadmap of where the major access points should be located, what type of access should be provided in the corridor, and how the system should connect with local roads.

The *U.S. 23 Corridor Action Plan* will identify over 30 buildable units that are expected to improve safety, traffic operations, and travel time reliability in the corridor. These buildable units will be scored on a variety of factors to help in the development of a four-tier prioritization list.

This study concludes that improvement concepts for U.S. 23, if implemented, are expected to:

- ***Reduce more than 150 fatal/ serious injury (life-altering) crashes over a 20-year period***
- ***Reduce travel times between I-270 and Waldo by nearly 35 minutes in the Design Year***
- ***Eliminate 32-34 signals for U.S. 23 through traffic between I-270 and Waldo***

The concepts shown on Pages 7-14 should be used as a baseline and starting point for advancement into the ODOT project development process.

STUDY AREA

The *2024 Preliminary Feasibility Study* evaluated 23.5 miles of U.S. 23 between Waldo and I-270. This includes 39 traffic signals, which result in frequent stops and delays for through motorists and freight carriers. These are the only signals on the entire 119-mile U.S. 23/SR 15/I-75 corridor between I-270 in Franklin County and I-475 in Wood County – the outerbelts of Columbus and Toledo, respectively.

In order to effectively analyze the 23.5-mile study area, the corridor was broken into seven segments for further study. The segments include:

Segment 1 – I-270 to Gold Meadow Drive

Segment 2 – Green Meadows Drive to Parkway Drive

Segment 3 – Orangepoint Drive to Orangewick Drive

Segment 4 – Hyatts Road/Shanahan Road to Pollock Road

Segment 5 – SR 315 to U.S. 42

Segment 6 – Pennsylvania Avenue to Coover Road

Segment 7 – Main Road to SR 229

As concepts were developed for Segment 1, this segment was further divided into two segments, since the concepts in these areas were independent of each other:

Segment 1S – I-270 to Flint Road

Segment 1N – Northwoods Boulevard to Gold Meadow Drive

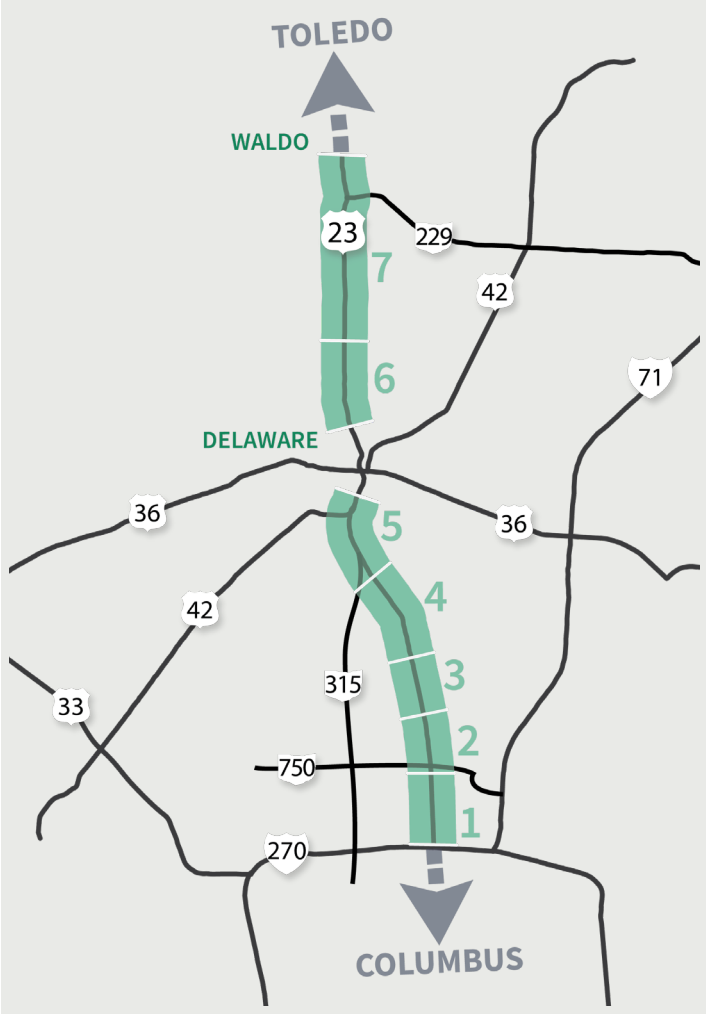


Figure 1: Study Area

PURPOSE & NEED

The primary need of this project is to improve traffic flow and safety for commuter vehicles and freight on U.S. 23 between Waldo and I-270. The need focuses on the following metrics:

- Reduce travel 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
- Improve consistency with local community goals

The purpose of the project is to enhance regional connectivity, mobility, and safety and improve U.S. 23 between Waldo and I-270.

PUBLIC ENGAGEMENT

Public engagement was conducted throughout the study process and hundreds of individuals responded to the public surveys and/or provided comments during three rounds of engagement.

Engagement included:

- Project website with project information and schedules
- A total of 14 public meetings
- Online mapping activity
- Informational videos
- FAQ and project overview materials
- Comment Response summaries

All of the public engagement materials are available on the study website (see Figure 2): publicinput.com/23connect

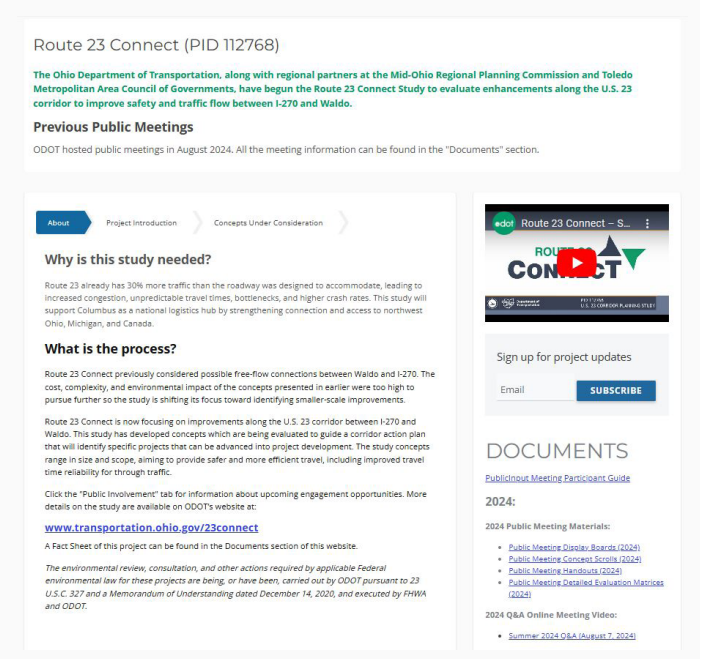
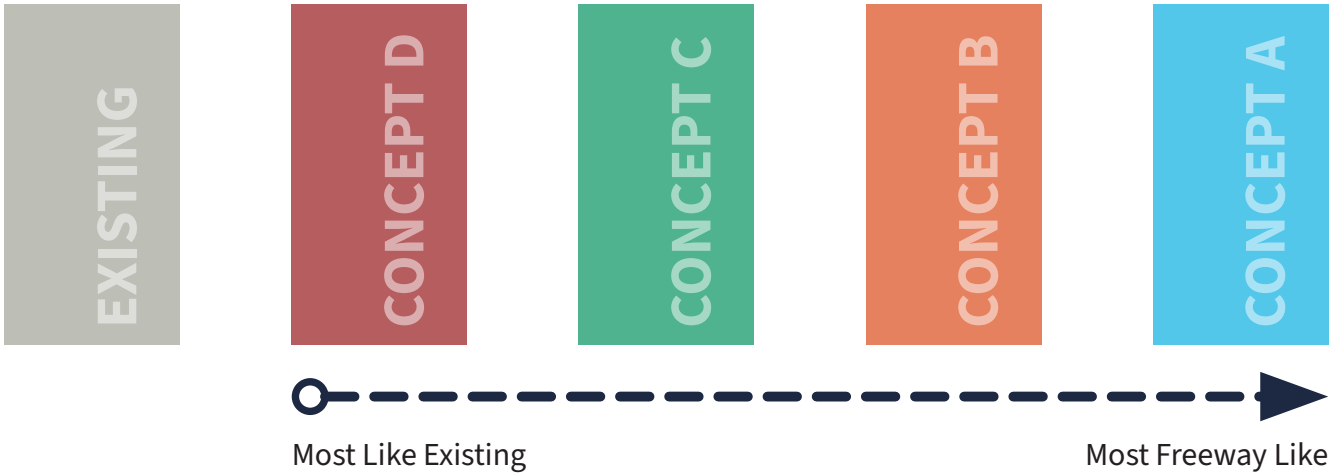


Figure 2: Route 23 Connect Public Input Website

CONCEPT DEVELOPMENT

Several concepts were prepared for each of the seven segments. Community feedback informed the development of the concepts, which were aligned with the project goals of increasing safety and reducing congestion.

Concepts range from smaller changes that improve existing stop-and-go conditions, to larger changes that would create a more freeway-like condition. The concepts use combinations of improvement options that aim to balance more reliable travel times with maintaining local access points along U.S. 23. Concepts for each segment are independent of other segments.



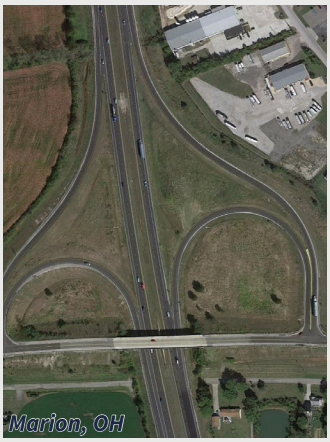
IMPROVEMENTS CONSIDERED

For this study, a wide range of improvement options were considered from minor intersection improvements to traditional freeway interchanges. A variety of improvement options were considered at each intersection and then several intersections were combined to develop a concept.

The improvements considered were developed from public input received via a public survey. Some of the improvements suggested by the public included signal coordination, removing signals, limiting access, and constructing frontage/backage roads. Based on the public comments and preliminary analysis, the concepts developed for each segment generally consisted of four major types of improvements. These four major improvement options are described below.

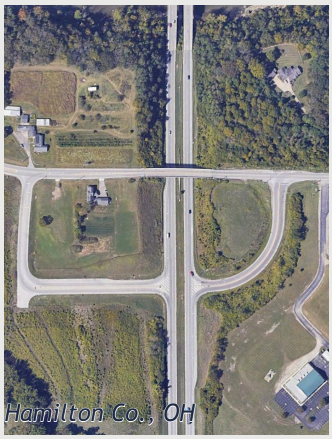
TRADITIONAL FREEWAY INTERCHANGES

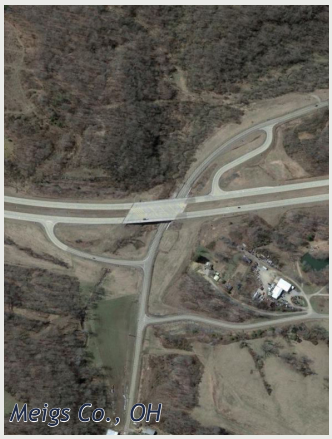
Traditional freeway interchanges replace an intersection with a bridge and ramp connections, eliminating the need for a signal on U.S. 23. Traffic enters and exits U.S. 23 at high speeds. There are many shapes of potential traditional freeway interchanges. These will be designed to allow for a U-turn movement.



CONNECTOR ROAD INTERCHANGES

Connector road interchanges replace an intersection with a bridge and two-way connector roads. This eliminates the need for a signal on U.S. 23. However, traffic enters and exits U.S. 23 at low speeds. These are flexible in design to minimize adjacent property impacts. These will provide for a U-turn movement.





RESTRICTED CROSSING U-TURNS (RCUTs)

RCUTs restrict side street left turns and through movements, but allow these movements via a nearby U-turn. RCUTs can be signalized or unsignalized. RCUTs reduce intersection delays and improve safety, compared with traditional signals.

OVERPASSES & UNDERPASSES

Overpasses and underpasses allow traffic on U.S. 23 and side streets to flow without stopping at an intersection. These do not have direct connections between U.S. 23 and the side street. Traffic wishing to make a connection between routes must divert to another location.

EVALUATION CRITERIA

Each concept was evaluated on a wide range of criteria to help identify the best solution(s) for each segment along the U.S. 23 corridor. The key decision-making criteria are explained below. The evaluation criteria are weighted based on importance or significance.

CONCEPT EVALUATION

High-performing concepts for each segment have been identified. Pages 7-14 show the baseline concept and starting point for further study in the ODOT project development process. These baseline concepts provide a roadmap for where major access points should be located, what type of access should be provided, and how the system should connect with local roads.

PRIMARY NEEDS

U.S. 23 Through Travel Times: Estimated corridor travel times during Design Year (2050) peak hours, accounting for speed limits and predicted signal delays

Travel Time Reliability on U.S. 23: The number of signals for U.S. 23 through traffic in the corridor, as signals cause the vast majority of delays and unreliability

Safety - Forecasted Crashes: Forecasted total corridor crashes and forecasted serious injury & fatal crashes over a 20-year period

Safety - Conflicting Movements for U.S. 23 Through Traffic: The number of vehicle movements that cross paths with U.S. 23 through traffic at major intersections

SECONDARY NEEDS

Consistency with Local Plans: Evaluation of how well the concept meets the vision of each community along U.S. 23 (based on planning documents)

NATURAL & CULTURAL RESOURCE IMPACTS

Park & Recreational: Public parks (state, county & local) and publicly-owned recreational facilities that may be impacted by the concept

Historic Sites: Historic sites or Historic Districts included on the National Register of Historic Places that may be impacted by the concept

Scenic River (Olentangy River): Impacts to the Olentangy River, which is designated as a State Scenic River

COMMUNITY IMPACTS

Environmental Justice and Other Traditionally Underrepresented Populations: Potential impacts to low-income, minority populations and other groups

Special Land Uses: These are unique land uses that are valued by the community, including the Stratford Ecological Center and Camp Mary Orton

Right-of-Way (ROW): The general magnitude of property acquisition that may be required for each concept

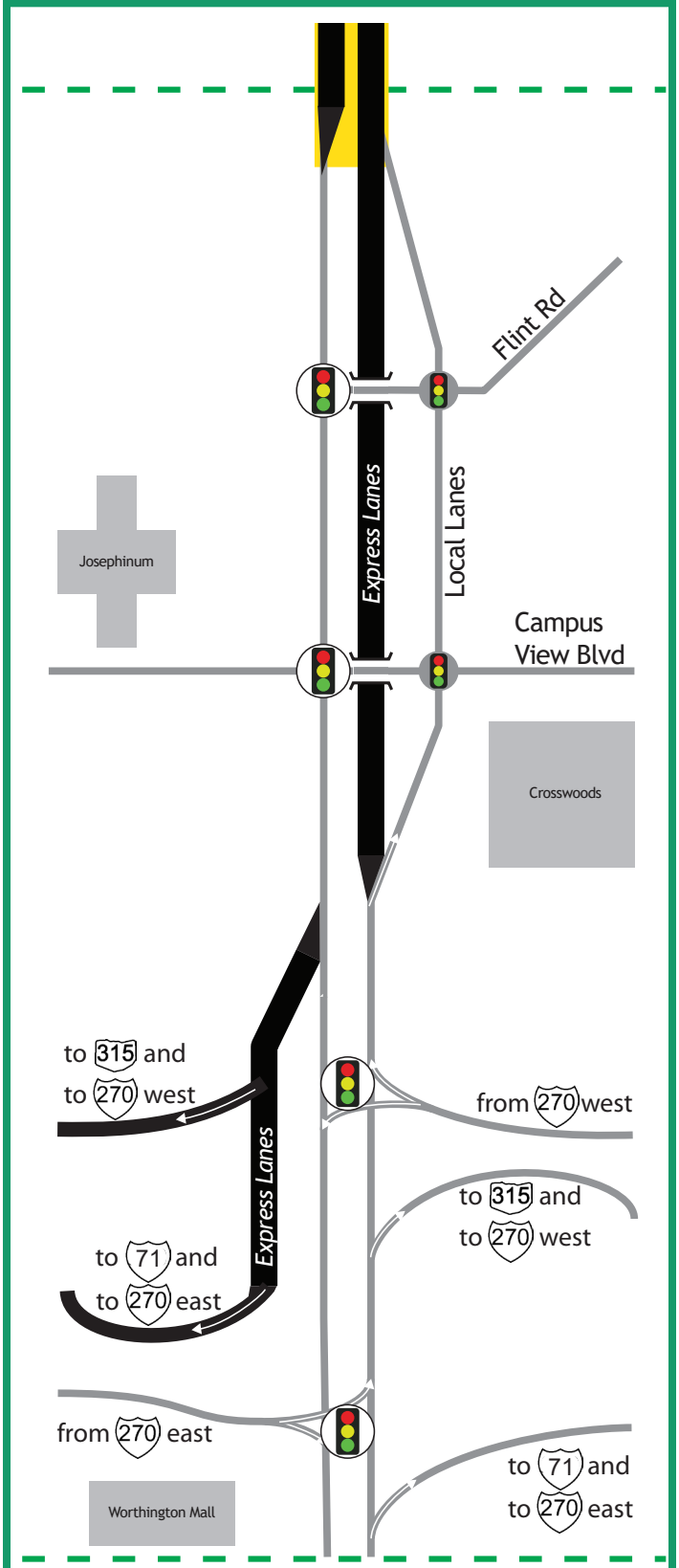
COSTS

User Benefit (20-year): Economic value of the travel time savings and crash reduction that are reasonably expected to result from the concept

Benefit-Cost Ratio: The ratio of User Benefits to Project Cost, in current-year dollars, a value over 1.0 means that the benefits surpass costs

Projected Costs (2030): Projected costs including construction, engineering, and right-of-way, in 2030 dollars, the earliest likely starting point for construction on any concept

SEGMENT 1S



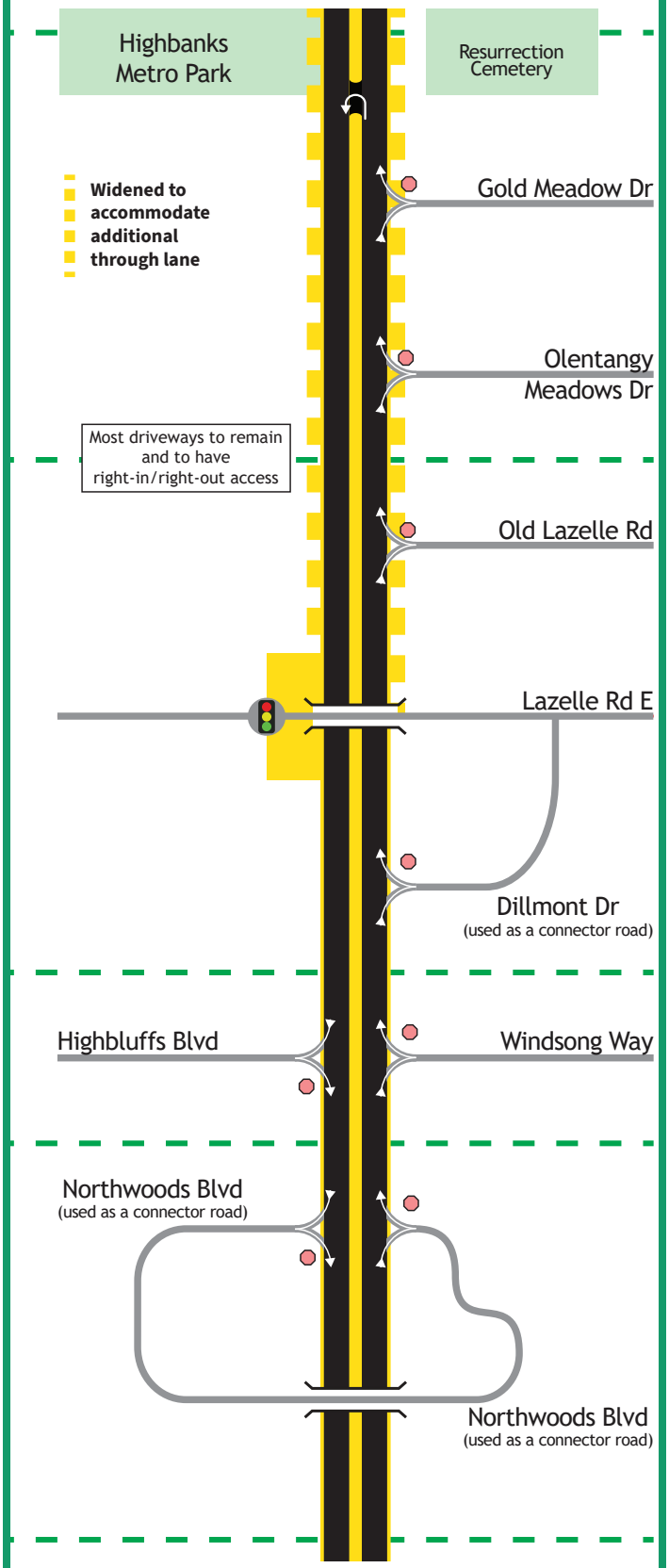
BASELINE CONCEPT FOR FURTHER STUDY

- Maintain the existing condition

ODOT invested tens of millions of dollars in the past decade to improve traffic flow.

ODOT will continue to monitor for signing, striping, and/or traffic control changes to further improve traffic flow.

SEGMENT 1N



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Widen U.S. 23 for additional through lane in each direction north of Lazelle Road
- Construct a signalized location for northbound U-turns north of Gold Meadow Drive
- Convert the Olentangy Meadows Drive intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct a connector road interchange at Lazelle Road, using Dillmont Drive as the connector road for the U.S. 23 northbound movements, replacing existing traffic signal
- Convert Highbluffs Boulevard/Windsong Way intersection to right-in/right-out only operation, replacing existing traffic signal
- Convert northern Northwoods Boulevard intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct an overpass/underpass at southern Northwoods Boulevard intersection

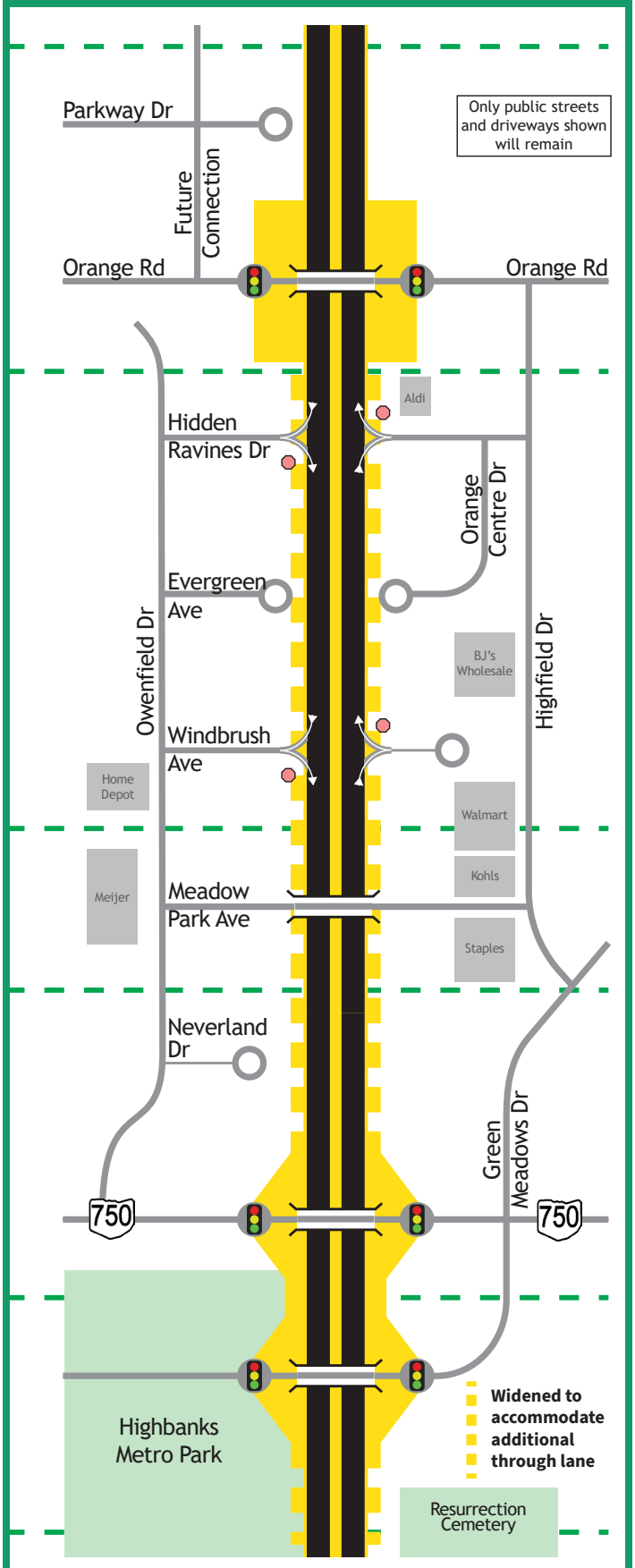
BENEFIT SUMMARY

Reduces 9 serious injury/fatal crashes over 20-year period

Eliminates 3.5 traffic signals from U.S. 23

Removes 48 conflicting movements for U.S. 23 through traffic

SEGMENT 2



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Close intersection at Parkway Drive and construct future connection to Orange Road to allow access to U.S. 23
- Construct a connector road interchange at Orange Road, replacing existing traffic signal
- Widen U.S. 23 for additional through lane in each direction south of Orange Road
- Convert the Hidden Ravines Drive intersection to right-in/right-out only operation, replacing existing traffic signal
- Close intersection at Evergreen Avenue/Orange Center Drive
- Convert the Windbrush Avenue intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct an overpass/underpass at Meadow Park Avenue, replacing existing traffic signal
- Improvements to Green Meadows Drive, including at the SR 750/Green Meadows Drive intersection
- Construct an overpass/underpass and interchange ramp connections at SR 750, replacing existing traffic signal
- Construct an overpass/underpass and interchange ramp connections at Green Meadows Drive, replacing existing traffic signal
- Improve some local roadways/intersections to accommodate diverted traffic volumes

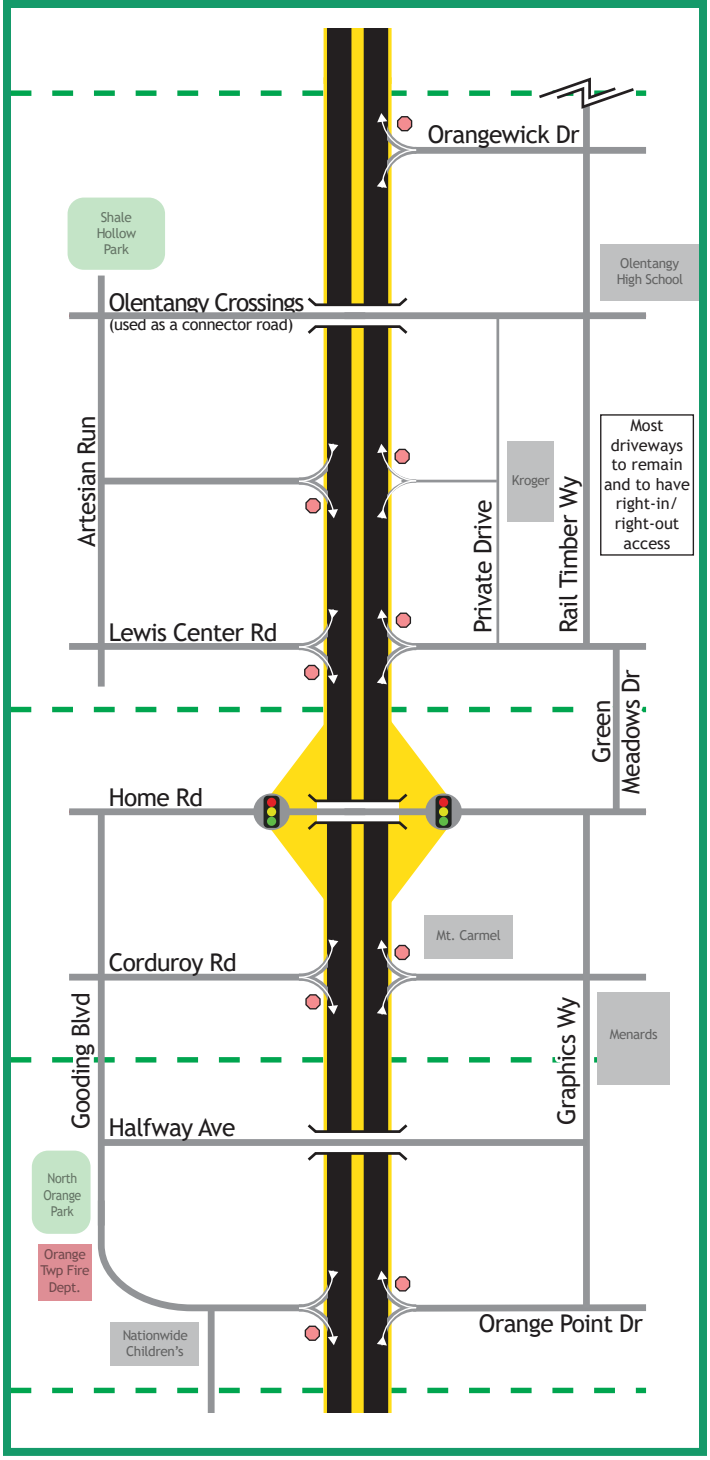
BENEFIT SUMMARY

Reduces 48 serious injury/fatal crashes over 20-year period

Eliminates 6 traffic signals from U.S. 23

Removes 90 conflicting movements for U.S. 23 through traffic

SEGMENT 3



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Construct an overpass/underpass at Olentangy Crossings, replacing existing traffic signal
- Convert Lewis Center Road intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct an overpass/underpass and interchange ramp connections at Home Road, replacing existing traffic signal
- Convert Corduroy Road intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct an overpass/underpass at/near Halfway Avenue, replacing existing right-in/ right-out access point
- Convert Orange Point Drive intersection to right-in/right-out only operation, replacing existing traffic signal
- Improve local road intersections to accommodate new traffic patterns

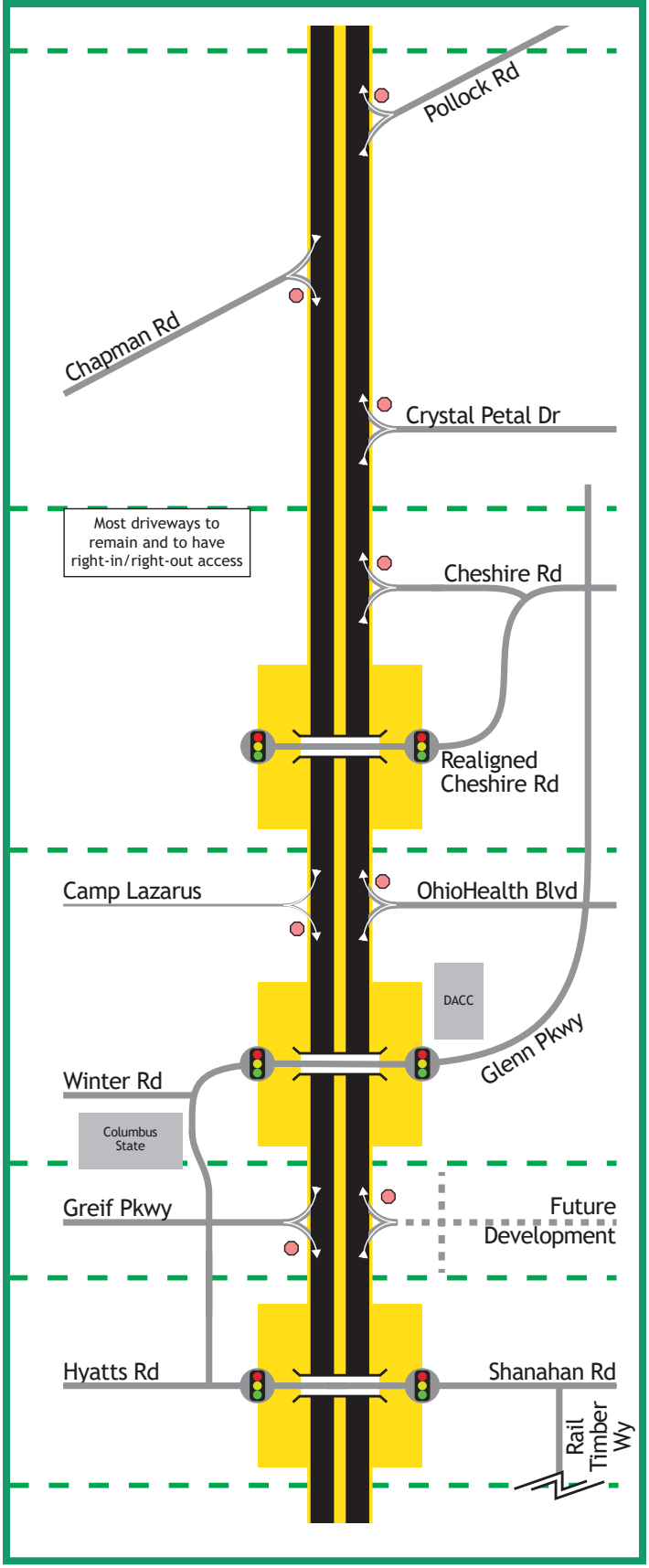
BENEFIT SUMMARY

Reduces 24 serious injury/fatal crashes over 20-year period

Eliminates 5 traffic signals from U.S. 23

Removes 68 conflicting movements for U.S. 23 through traffic

SEGMENT 4



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Convert Pollock Road intersection to right-in/right-out only operation
- Convert existing Cheshire Road intersection to right-in/right-out operation
- Construct a connector road interchange at realigned Cheshire Road, replacing existing traffic signal
- Convert the OhioHealth Boulevard intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct a connector road interchange at Glenn Parkway, replacing existing traffic signal
- Convert Greif Parkway intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct frontage/backage roads on west side of U.S. 23 to connect with Hyatts Road and Glenn Parkway
- Construct a connector road interchange at Hyatts Road/Shanahan Road, replacing existing traffic signal

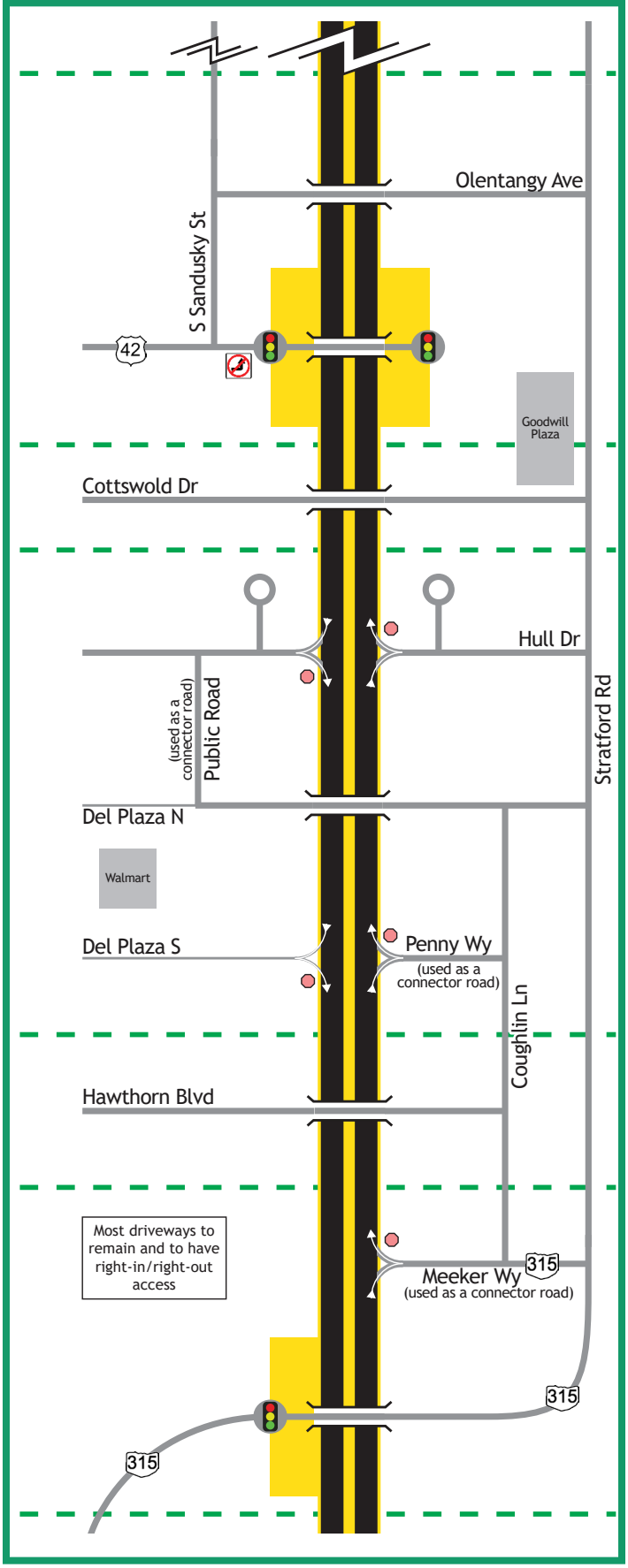
BENEFIT SUMMARY

Reduces 23 serious injury/fatal crashes over 20-year period

Eliminates 5 traffic signals from U.S. 23

Removes 64 conflicting movements for U.S. 23 through traffic

SEGMENT 5



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Construct a connector road interchange at U.S. 42, replacing existing signalized intersections
- Construct an overpass/underpass at Cottswold Drive, replacing existing traffic signal
- Construct driveways north from Hull Drive to allow access to car dealerships
- Revise private driveway on west side of U.S. 23 to create a public street connection to Hull Drive
- Convert Hull Drive intersection to right-in/right-out only operation
- Construct an overpass/underpass at Delaware Plaza North drive, replacing existing traffic signal
- Extend Delaware Plaza North drive east to Stratford Road as a public road
- Convert Delaware Plaza South intersection to right-in/right-out only operation, replacing existing traffic signal
- Construct an overpass/underpass Hawthorn Boulevard, replacing existing traffic signal
- Construct a connector road interchange at SR 315, using Meeker Way as the connector road to/from U.S. 23 northbound, replacing existing signalized intersections

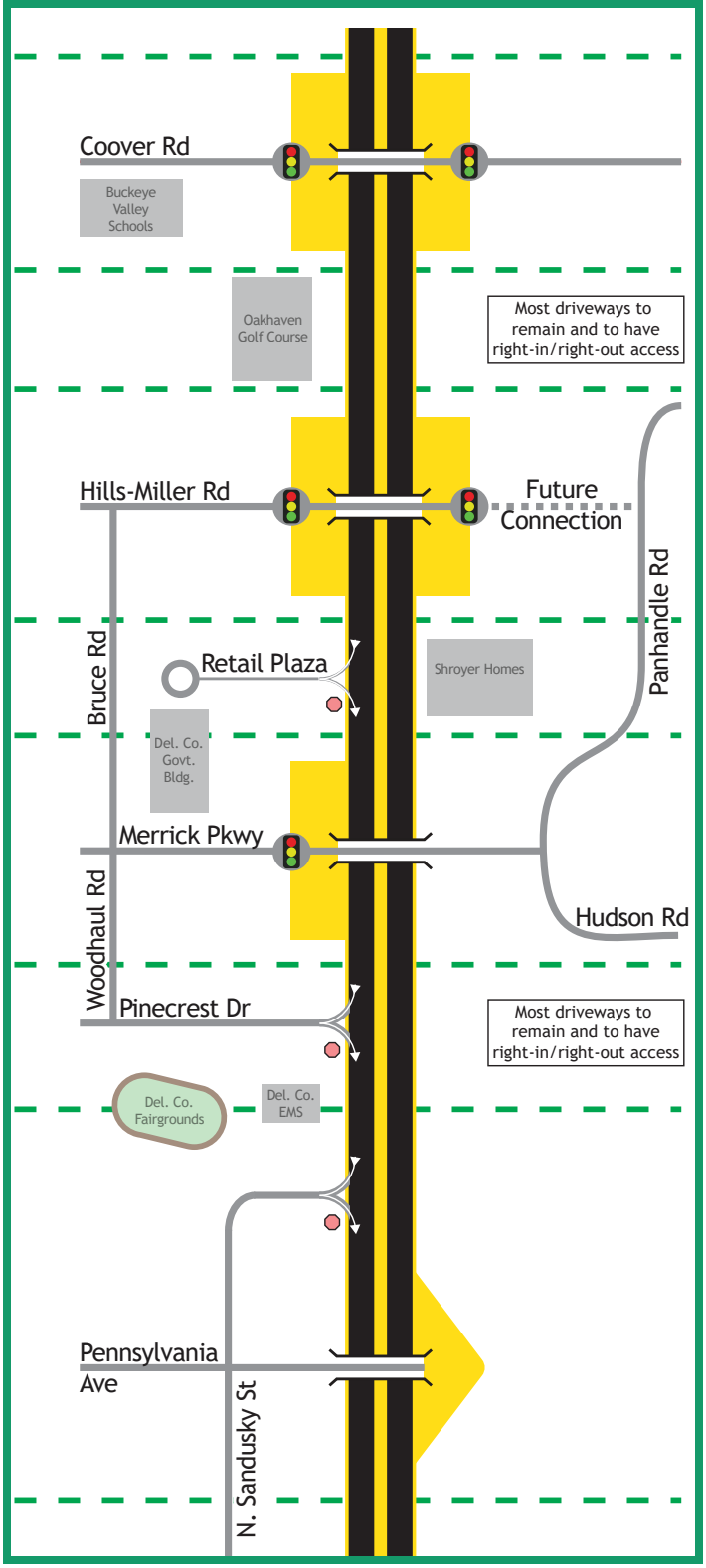
BENEFIT SUMMARY

Reduces 26 serious injury/fatal crashes over 20-year period

Eliminates 8 traffic signals from U.S. 23

Removes 56 conflicting movements for U.S. 23 through traffic

SEGMENT 6



BASELINE CONCEPT FOR FURTHER STUDY

- Install median and/or barrier to eliminate all left turning movements
- Construct a connector road interchange at Coover Road, replacing existing traffic signal
- Construct a connector road interchange at Hills-Miller Road on U.S. 23, replacing existing traffic signal
- Convert Retail Plaza intersection to right-in/right-out only movements, replacing existing traffic signal
- Construct a connector road interchange for U.S. 23 southbound at Merrick Boulevard/Panhandle Road, replacing existing traffic signal
- Convert Pinecrest Drive intersection to right-in/right-out only operation
- Convert Pennsylvania Avenue/Sandusky Street southbound exit and entrance to right-in/right-out only operation, replacing existing traffic signal
- Reconstruct/realign Pennsylvania Avenue bridge and northbound entrance ramp
- Construct northbound exit ramp at Pennsylvania Avenue

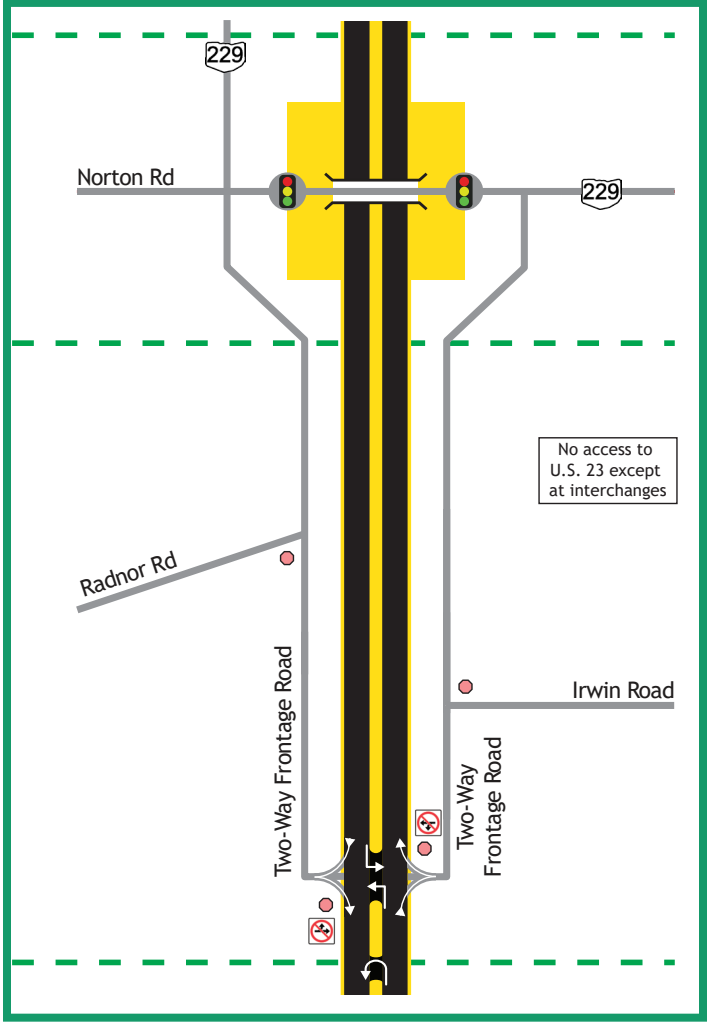
BENEFIT SUMMARY

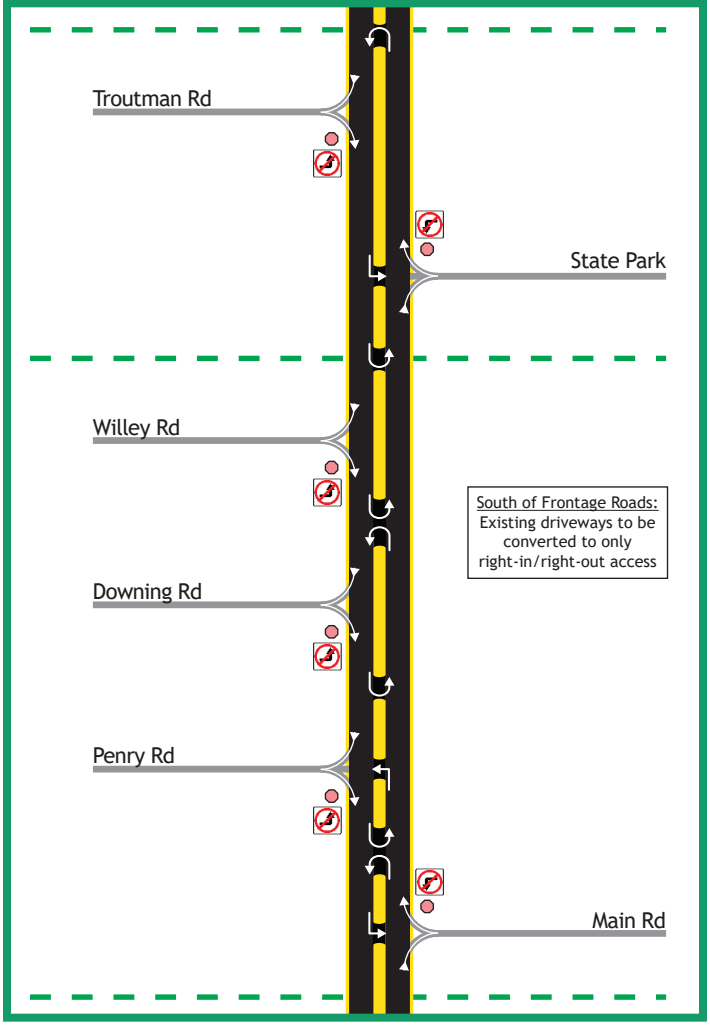
Reduces 18 serious injury/fatal crashes over 20-year period

Eliminates 4.5 traffic signals from U.S. 23

Removes 47 conflicting movements for U.S. 23 through traffic

SEGMENT 7





BASELINE CONCEPT FOR FURTHER STUDY

- Construct a connector road interchange at SR 229, replacing existing traffic signal
- Eliminate direct access from U.S. 23 mainline lanes, except at south end of frontage roads
- Convert frontage roads from one-way operation to two-way operation
- Construct an RCUT intersection at Troutman Road, replacing existing unsignalized intersection
- Construct an RCUT intersection at Delaware State Park entrance, replacing existing traffic signal
- Convert all intersections (Main Road, Delaware Dam access, Penry Road, Downing Road, Willey Road) to RCUT operation

BENEFIT SUMMARY

Reduces 11 serious injury/fatal crashes over 20-year period

Eliminates 2 traffic signals from U.S. 23

Removes 21 conflicting movements for U.S. 23 through traffic