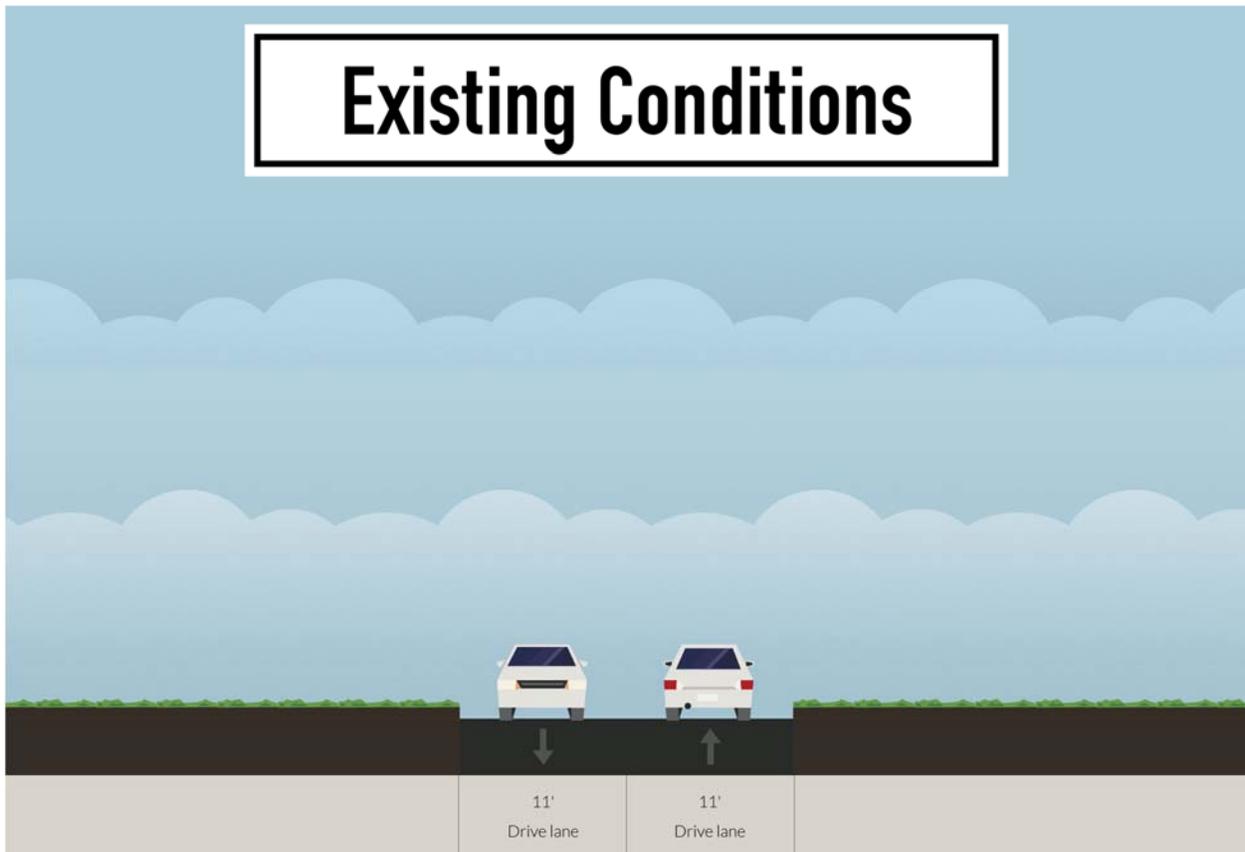


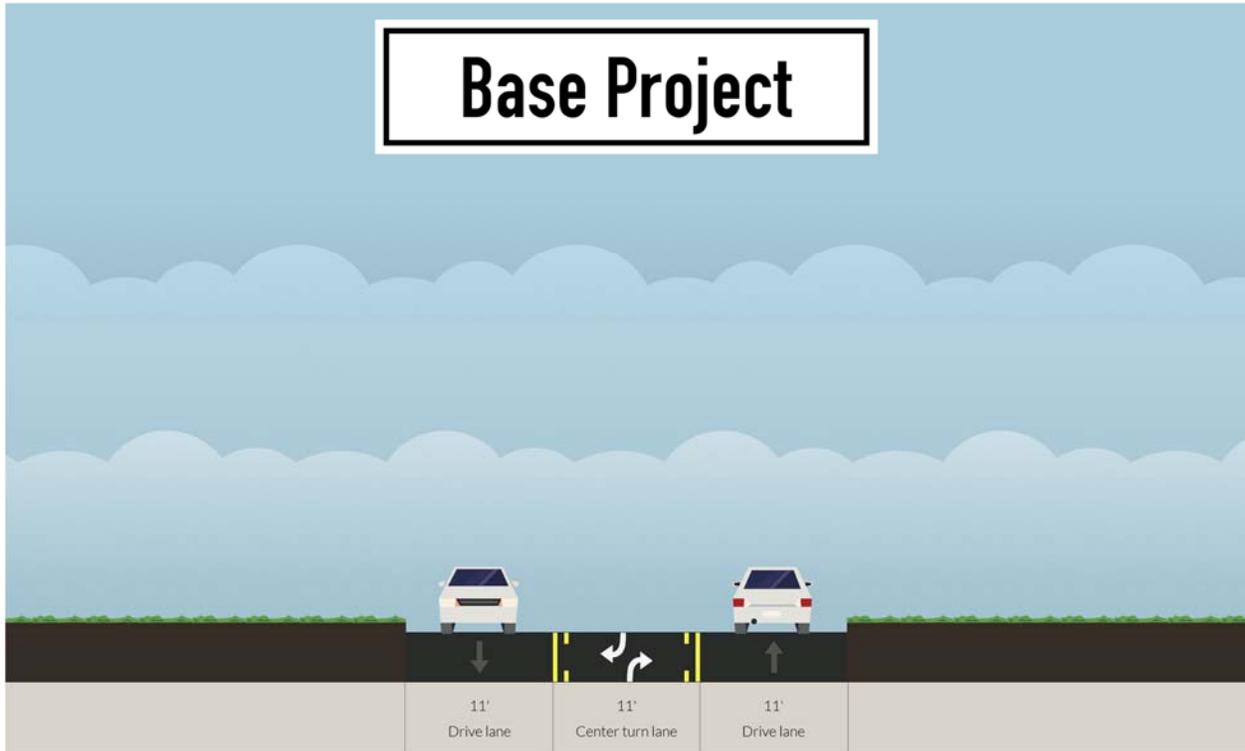
Introduction

This tool was created to help communities estimate the planning-level construction costs of active transportation facilities such as bicycle lanes, multi-use paths, and sidewalks. These facilities are often constructed within road rights-of-way as part of a larger roadway project to address such concerns as motor vehicle congestion, safety, sub-base deterioration, underground utilities, etc. This tool provides a rough estimate of the **additional** costs associated with adding facilities for those who walk, or ride bicycles or transit.

Here is a visual example. Let's say this is the roadway as it is today:



To improve safety and reduce congestion, a project is proposed to add a center left-turn lane:



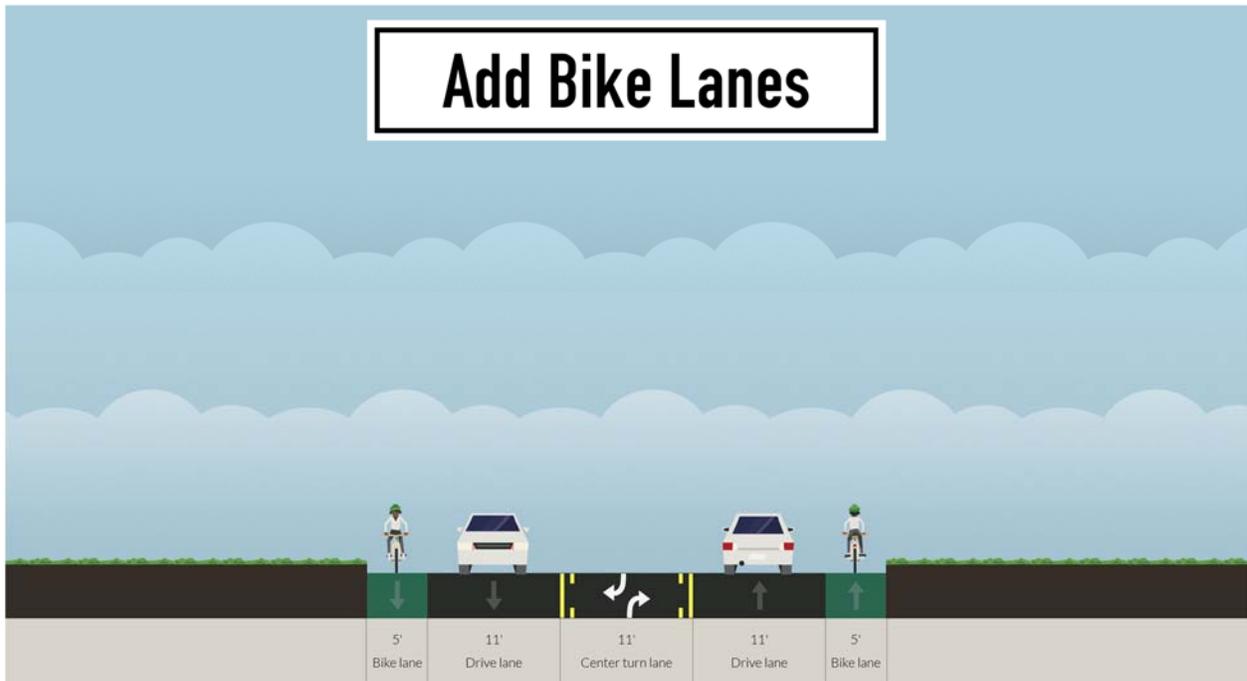
In this example, this roadway modification is called the base project. This tool does not include any of the costs to construct the base project. Instead, it calculates the cost to add components to support active transportation.

The tool can estimate the additional construction costs of including three types of active transportation components.

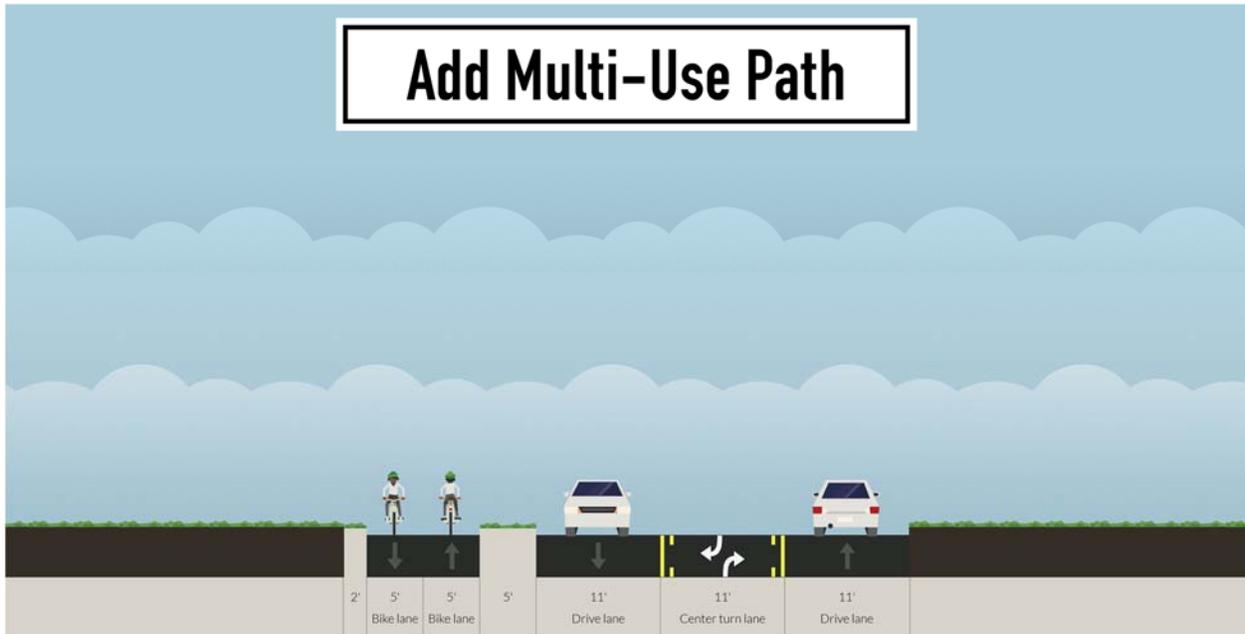
1. Sidewalks



2. Bike Lanes



3. Multi-Use Paths



The estimate for adding each facility to the base project is independent of other facilities. If more than one type of facility is proposed, the estimates for all facilities can be added together for the total cost.

The “tabs” for each sheet in the tool are color-coded:

- Green tabs are the user interfaces where information is entered and the resulting estimate is displayed.
- Red tabs contain formulas and unit costs that calculate the estimated costs using the information entered in the corresponding green tabs for the project components.
- Yellow tabs contain references for design guidance that users may consult to determine what values to enter into the interface sheets, such as the width of the sidewalk, bike lane, or multi-use path.

Assumptions

- This tool is intended to provide only planning-level construction cost estimates.
- The tool estimates **construction costs only**. It does not include costs for design, right-of-way acquisition or utility relocation or construction inspection.
- A roadway project that will result in significant construction activity is under consideration. This project is called the **base project**.
- Constructing bicycle lanes, multi-use paths, or sidewalks is NOT the primary purpose or cost element of the base project.
- The base project will involve roadway construction and includes all costs for
 - Mobilization
 - Drainage and stormwater management
 - Maintenance of traffic
 - Traffic control devices
 - Retaining walls
- The estimator includes only those elements of construction costs found to be the norm for each type of facility. Some projects may encounter significant costs that a similar project in a different location may not, such as retaining walls, grading, drainage, storm water treatment, etc. The range and contingencies provided by the tool are not intended to account for all costs that are easily anticipated at the planning level.
- Materials costs are determined by historical cost data available from the Ohio Department of Transportation.
- All crossings of the roadway will be accessible and marked.
- Pedestrian signal heads will be installed at all signalized intersections.

Instructions

1. Determine the scope of the “base project” for use with this tool. Begin with elements that have already been identified as part of the project and then make additional assumptions as needed. For example, a traffic study may have determined the number of motorized vehicle lanes to be added to the roadway and the project limits, but the alignment, lane widths, pavement type, etc. are undetermined. Make assumptions about the unknowns using readily available information and risk tolerance (i.e., make higher-cost assumptions for a more conservative cost estimate).
2. Decide on a set of alternatives for which to estimate costs. Each alternative can include any combination of the available active transportation components.
3. Review the calculations sheet (red tabs) for each active transportation component you intend to use. Check to see if the tool has the most recent ODOT cost data.
4. Complete the sheet for each component included in the alternative. Each green tab contains a group of questions for the type of facility. Enter values into the orange-shaded cells in the Answer column. The spreadsheet will automatically calculate values in orange text in gray-shaded cells. Users should review the results in these cells to check their entries in the orange shaded cells. Yes/No cells have a dropdown menu from which the user should choose Yes or No. Additional guidance and instructions for each question are available in the notes column. Add notes concerning sources of information, rationale, etc.
5. It may be helpful to make a copy of the Excel file for each alternative under consideration. For example, to compare costs of (1) constructing bike lanes and sidewalks to (2) a multiuse path on one side and a sidewalk on the other, use separate Excel files for each alternative.

Other Available Tools

- Ped/Bike Safety Guide and Countermeasure Selection System <http://pedbikesafe.org/>
 - FHWA Office of Safety
 - Estimates not detailed
 - Focus on selecting a countermeasure

Infrastructure	Description	Median	Average	Min. Low	Max. High	Cost Unit	# of Sources (Observations)
Path	Boardwalk	\$1,957,040	\$2,219,470	\$789,390	\$4,288,520	Mile	5(5)
Path	Shared-Use Path - Paved	\$261,000	\$481,140	\$64,710	\$4,288,520	Mile	11(42)
Path	Shared-Use Trail - Unpaved	\$83,870	\$121,390	\$29,520	\$412,720	Mile	3(7)

- Costs-Demands-Benefits Analysis Tool <http://www.pedbikeinfo.org/bikecost/>
 - National Cooperative Highway Research Program (NCHRP), Minnesota Department of transportation (MnDOT), et al.
 - Itemized estimate, many inputs

ITEM	DESCRIPTION	Input			English Units		UNIT	Itemized COSTS
		Units	Length (Feet)	Width (Feet)	Depth (Inches)	Default Unit Cost (2002)		
1.00	Roadway Construction							
1.10	Earthwork							
1.11	Clearing and Grubbing				\$1,703		acre	\$0
1.12	Excavation			6	\$15		cu yd	\$0
1.13	Grading				\$2,555		mile	\$0
1.14	Pavement Removal				\$14		cu yd	\$0
1.15	Curb/Gutter Removal			2	\$4		l ft	\$0
-	Earthwork Contingency				10%			\$0
1.20	Pavement							
1.22	Bituminous Concrete Pavement			3	\$135		cu yd	\$0
1.24	Aggregate Base			4	\$28		cu yd	\$0

Disclaimer: Funding for this Cost Estimator Tool was provided by Franklin, Delaware, Licking, Fairfield and Union counties, municipalities and townships within these counties, the Federal Highway Administration, the Federal Transit Administration, and the Ohio Department of Transportation. The contents of this report reflect the views of MORPC, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view and policies of the State of Ohio and/or Federal agencies. This report does not constitute a standard, specification, or regulation.

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