



INTERCHANGE PROJECT 51

December 2017

Recommended Interchange Alternative Selected: DIVERGING DIAMOND INTERCHANGE (DDI)

The Pennsylvania Department of Transportation (PennDOT) District 12-0 welcomes you to the first public meeting for the I-70 and Pennsylvania Route (PA) 51 Interchange Project. The purpose of this Plans Display is to present the proposed plans, to introduce the Recommended Interchange Alternative (Diverging Diamond) and to gather public and stakeholder feedback. Please visit the informational stations and discuss your questions with Project Team members. Comment forms have been provided for you to complete and leave at the sign-in table or it can be mailed to the address provided on the back of the form.

WELCOME

PROJECT DESCRIPTION

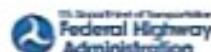
The project involves reconstruction of approximately two miles of Interstate 70 in Rostraver and South Huntingdon Townships with the western limit approximately one mile west of PA 51 interchange and the eastern limit at and including the Smithton High-Level Bridge which spans the Youghiogheny River. The project includes improvements to about one (1) mile of PA 51 including the upgrade of the Interstate 70 cloverleaf interchange with PA 51 (Exit 46). The project will include the replacement of the PA 51 bridge over I-70, the replacement of the railroad bridge over PA 51 south of the interchange and preservation work on the Smithton High-Level Bridge.



WHY WAS THE DIVERGING DIAMOND INTERCHANGE SELECTED?

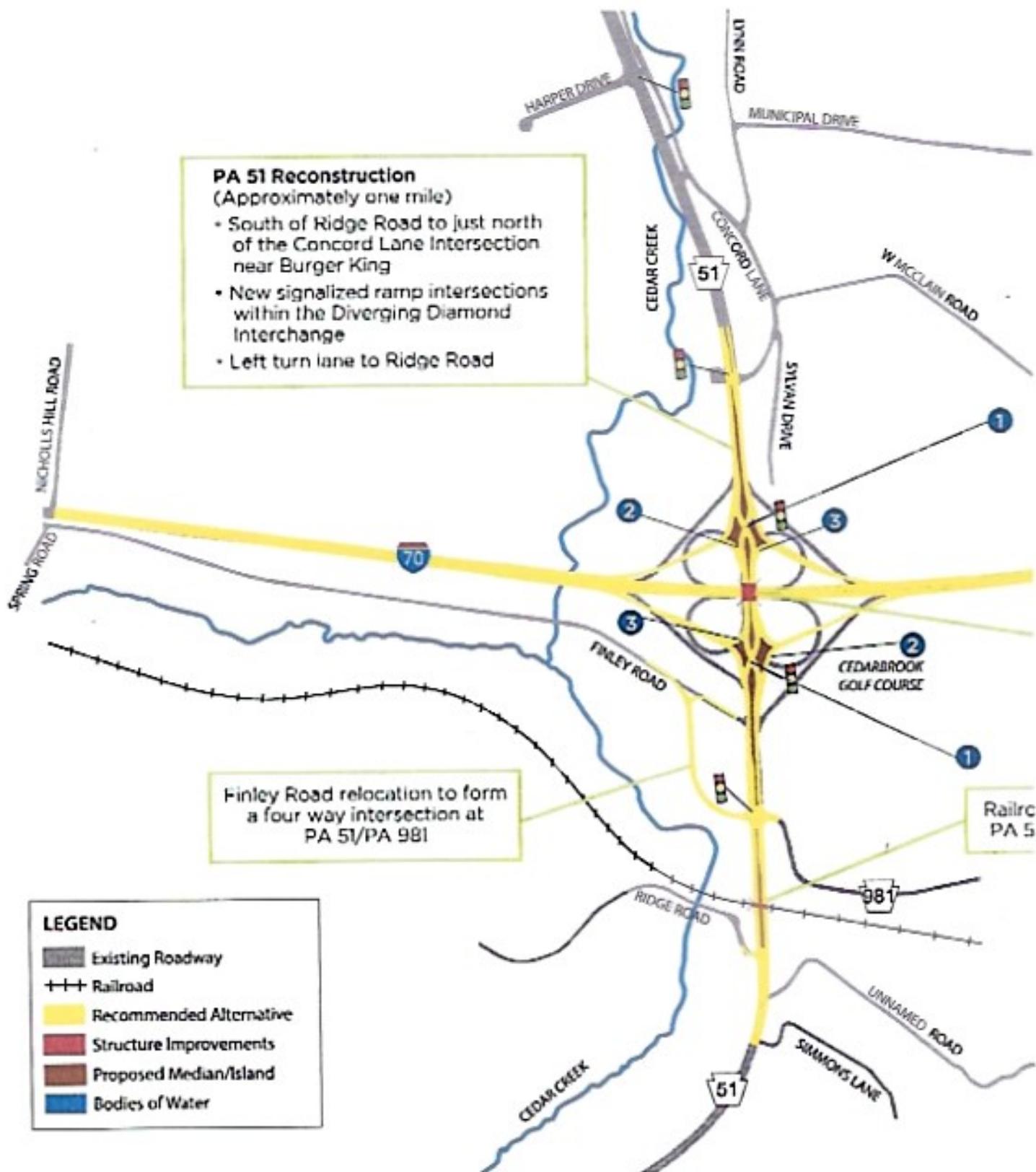
The DDI was selected because:

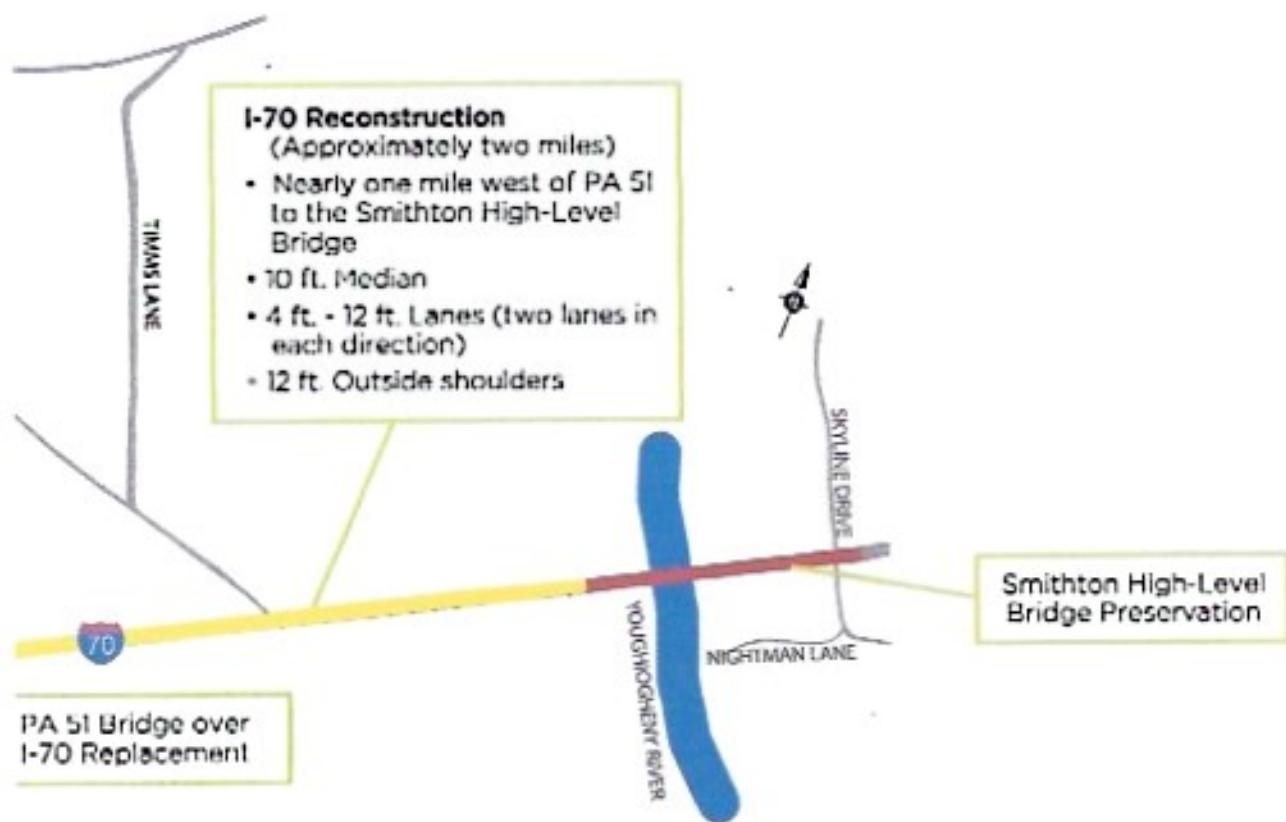
- 1 Innovative Design
- 2 Lowest Conflict Points
- 3 Best Overall Level-of-Service
- 4 Lowest Predicted Crash Frequency - Safety
- 5 Reduced Speed Through the Interchange
- 6 Free Flow Left Turns from PA 51 to I-70 Entrance Ramps
- 7 Improved Traffic Signal Operation - 2 Phase



Learn more about the Overall Project and the Diverging Diamond Interchanges on Page 2-3.

PROJECT OVERVIEW MAP



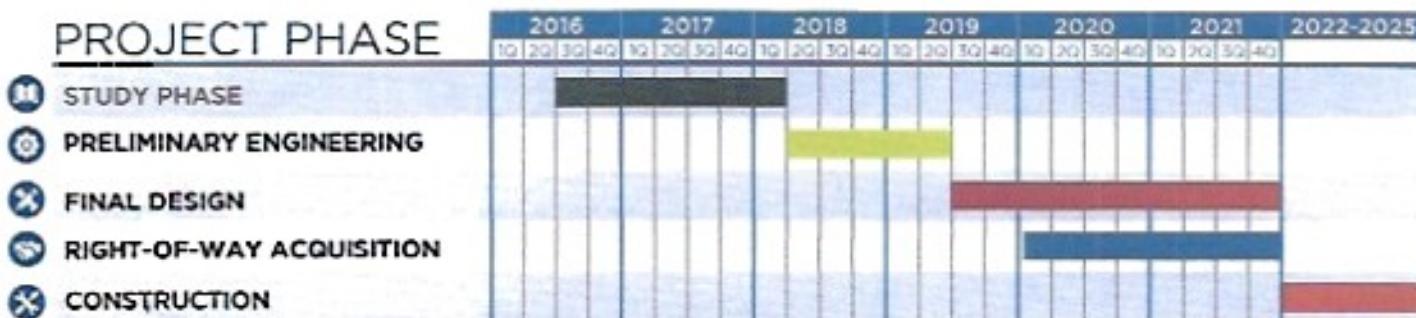


WHAT IS A DIVERGING DIAMOND INTERCHANGE (DDI)?

The DDI is similar to a conventional diamond interchange but it has three (3) distinct differences:

- ① Traffic on PA 51 will cross over to the opposite (left) side of the roadway within the interchange area.
- ② Left turn movements from PA 51 to the I-70 entrance ramps will occur from the far-left side of the roadways. Benefits are:
 - a. Do not cross opposing travel lanes
 - b. Free-flow left turns onto the I-70 ramps
 - c. Reduces traffic platooning at the I-70 entrance ramps merge
 - d. Eliminates need for dual left turn lanes
- ③ Left turn movements from the I-70 exit ramps do not need to cross opposing travel lanes - the turn is directly onto the left side of PA 51

ANTICIPATED PROJECT SCHEDULE



PURPOSE AND NEEDS

PURPOSE:

- Address Roadway, Traffic and Structure Conditions
- Improve Safety
- Upgrade the Aging Interstate/Interchange Facility
- Accommodate Planned/Approved Development

NEEDS:

- Substandard Interchange with Poor Level-of-Service
 - Stop Signs on Ramps
(No I-70 Accel/Decel/Weave Lanes)
- Numerous Crashes in Project Area
- Traffic Queuing on PA 51 at Finley Road
- I-70 Heavy Truck Traffic (30% trucks)

EXISTING CONDITIONS/DEFICIENCIES:

- Deteriorating and Substandard I-70
 - Nearly 60 Years Old
 - 4 ft. Median & 8 ft. to 10 ft. Shoulders
- Substandard Cloverleaf Interchange
 - Loop Ramps (25 mph)
 - Stop Signs at end of Ramps
 - No Acceleration or Deceleration Lanes
- PA 51 Bridge over I-70 Restrictions
 - Pier Located at Edge of Shoulder
 - 14'-2" Vertical Clearance
 - Bridge has been impacted by Vehicle
- Railroad Bridge Restrictions
 - Abutments at Edge of Travel Lane
 - 13'-10" Vertical Clearance
 - Bridge has been impacted by Vehicle
- I-70 Smithton Bridge Repairs and Preservation
- Drainage Issues along I-70 and PA 51

STAY CONNECTED TO THE PROJECT

VISIT THE PROJECT WEBSITE

<http://www.i-70projects.com/I-70andSR51.html>



 SCAN ME!

WATCH THE DDI INFORMATIONAL VIDEO

https://www.youtube.com/watch?v=khFoQ_Ic6CI



 SCAN ME!

ONLINE COMMENT FORM

www.surveymonkey.com/r/I-70pa51interchange



 SCAN ME!

CONTACT THE PROJECT TEAM

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I-70 at Route 51 Interchange



Phase: Construction



Location: Westmoreland County



Anticipated cost: \$120.7 million

Project Schedule

Preliminary Design:

Completed

Environmental Clearance:

Completed 11/13/2019

Right-of-way Acquisition:

Completed

Final Design:

Completed

Construction:

2022-2026

PennDOT Honors

District 12 Employees for Emergency Repair Efforts

Uniontown, PA (Dec. 2) - PennDOT recognized employees throughout District 12 with Innovation Awards commending their efforts to improve work practices and create efficiencies. Sixty eight District 12 employees were awarded with the George W. McAuley Innovation Award for their quick teamwork to repair the bridge carrying Route 51 over Interstate 70 in Rostraver Township after it was struck by an over-height truck. The damage caused by the incident required lane closures on I-70 and Route 51, requiring prompt response and collaboration among PennDOT's maintenance, design, and construction forces.

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Left to right: Yassmin Gramian, PennDOT Secretary; Bill Kovach, District 12 District Executive; Dave Forkey, District 12 Westmoreland County Maintenance Manager; Rachel Duda, District 12 Assistant District Executive - Design; Bryan Walker, District 12 Assistant Traffic Engineer; Jeremy Hughes, District 12 District Bridge Engineer; Melissa Batula, PennDOT Executive Deputy Secretary

Project Overview

This project includes improvements to I-70 and SR 51. I-70 will be reconstructed to make this section of I-70 similar to other reconstructed sections of I-70 to the east and west. A Diverging Diamond Interchange (DDI) will be constructed to replace the current substandard cloverleaf interchange at I-70/SR 51.

One mile of SR 51 will be reconstructed and widened from south of Ridge Road to north of Concord Lane/Pfile Lane. SR 51 will also be milled and paved from Concord Lane/Pfile Lane to Harper Drive. Finley Road will be relocated behind the GetGo to form a four-way intersection at Route 981 and a left-turn lane will be added from SR 51 to Ridge Road. Planned improvements are detailed in the project overview video below.

An [informational project brochure](#) is available to view online or download and print to share project information with the community.

□

Project Mapping

View project mapping to learn more details about this area.

 [Download](#)

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Project Overview Video

I-70 and Route 51 Improvement Project Rendering



I-70 Mainline Improvements

2.1 miles of the I-70 mainline will be improved, including wider medians and shoulders and drainage and stormwater improvements. This project will upgrade the typical section to include 10-foot-wide medians, two 12-foot-wide travel lanes in each direction, 12-foot-wide outside shoulders and new concrete pavement. These upgrades will make this section of I-70 similar to other reconstructed sections of I-70 to the east and west.

Diverging Diamond Interchange

A DDI will be constructed to replace the substandard cloverleaf interchange. Traffic on SR 51 will cross (or diverge) to the opposite side of the road at the interchange and back again, allowing drivers to turn left directly onto the interchange ramps to access I-70 without crossing oncoming traffic. Curbed islands will guide traffic through the DDI intersections. Exiting and entering I-70 at the interchange will be safer with up-to-date deceleration and acceleration lanes. This DDI design fits almost entirely within the existing interchange area, minimizing right-of-way impacts. The new interchange will also include highway lighting. DDIs move traffic more efficiently than a standard diamond interchange and reduces conflict points resulting in reduced crashes. Approximately 130 DDIs are open to traffic in the United States.

Interstate 70 Roadway Design with a Jersey Barrier*
Artist's Rendering



I-70 Typical Section

Benefits of a DDI

- Motorists will see reduced delay with two new traffic signals.
- Traffic can make left turns directly to the I-70 on-ramps more easily without stopping at signals to cross opposing traffic lanes.
- Traffic can turn left from the off-ramps directly into the lane.
- This design reduces conflict points resulting in a reduction in crashes.
- Minimizes right-of-way-impacts

The interchange improvements will also include the replacement of the existing bridge carrying SR 51 over I-70 with dual bridges. The new bridges will provide the necessary width for the improved SR 51 and I-70 and accommodate traffic movements through the DDI. The new bridges will also provide the required underclearance of 16 feet, six inches over I-70.

SR 51 Improvements

Improvements to SR 51 will include widening, replacement of a railroad bridge, an intersection relocation, and other safety improvements.

Finley Road Improvements

Finley Road will be relocated behind the GetGo station to create a four-way intersection with SR 981, eliminating the existing Finley Road intersection. There will be a new southbound right-turn lane from SR 51 to the relocated Finley Road, and a new access point to GetGo from the relocated Finley Road. This intersection will also be widened to allow larger vehicles to turn more easily.



Diverging Diamond Interchange Detail



Finley Road Improvements



Ridge Road Improvements

Ridge Road Improvements

At Ridge Road, a new 125-foot-long northbound left turn lane will be added on SR 51 and the intersection will be widened to better accommodate turning vehicles. Also, the new railroad bridge just north of the intersection will improve the intersection's sight distance.

Wheeling & Lake Erie (W&L.E) Railroad Bridge

The existing W&LE Railroad bridge has a short span length, which creates a pinch point on SR 51. It also has a restrictive vertical underclearance and has been hit and damaged by large vehicles traveling under the bridge on SR 51. The new bridge will have a span length roughly double that of the existing bridge, which will support the widening of SR 51. The width of SR 51 pavement under the bridge will increase from the existing 47 feet to 84 feet wide and the vertical clearance under the bridge will increase to the standard 16 feet, six inches. Approximately 1,900 feet of the railroad line will be relocated to accommodate the new bridge alignment. Drainage and stormwater improvements will also be made in this area.

Traffic Signal Improvements



Wheeling & Lake Erie Railroad Bridge



pennsylvania

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Traffic Signal Improvements

Two new signals will be installed at the interchange ramp intersections and the current Finley Road traffic signal will be eliminated. The signal at the new Finley Road/SR 981 intersection will be replaced, and the signals at the Concord Lane and Harper Drive intersections with SR 51 will be updated. The five traffic signals will be interconnected to provide efficient traffic flow along SR 51. New post-mounted and overhead signing along with updated pavement markings and guiderail will also be installed.

