

## Next Steps

The purpose of tonight's public meeting is to present the proposed project to the public and to collect public comments on the initial KY 480 interchange designs. After tonight's meeting, the following steps are planned for the project:

1. Continue to collect public comments for 15 days after this public meeting.
2. Compile the comments received about the KY 480 interchange alternatives and tabulate the preferences expressed by the public.
3. The KYTC Project Development Team will meet to review all of the comments received within the comment period, to review the preference tabulation, and to make a recommendation for the Preferred Alternative for the Project.
4. If a Build Alternative is selected, complete a Categorical Exclusion (CE) for the project and preliminary plans for the Preferred Alternative.
5. Proceed with development of final roadway and right-of-way plans.
6. Acquire the necessary additional right-of-way.
7. Relocate any utilities that are in the way of construction.
8. Advertise and let the project to construction.
9. Inspect the construction.
10. Open the new KY 480 interchange to traffic.

Thank you for your attendance and the input you have provided for this important highway project.

### Contact Person:

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**KENTUCKY**  
TRANSPORTATION CABINET

## Bullitt County

# I-65 / KY 480 Interchange Improvements

Item No. 5-391.30

June 2, 2016



**BURGESS & NIPLE**  
Engineers ■ Surveyors ■ Planners

**PARSONS**

# I-65 / KY 480 Interchange Improvements



## Welcome!

Welcome to the I-65 Interchanges public meeting!

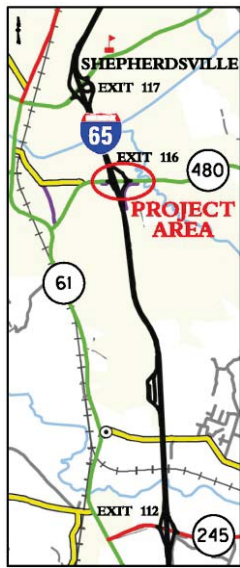
The Kentucky Transportation Cabinet (KYTC) continues to move forward with design of two roadway improvement project in your community – **reconstruction of the existing KY 480 interchange** (Item No. 5-391.30) and **construction of a new interchange near Mile Point 114** (Item No. 5-527.00) in central Bullitt County. **This informational brochure addresses the KY 480 interchange project.** The I-65 / KY 480 interchange reconstruction is one of many transportation projects approved for design and construction by the Kentucky General Assembly in the State's Biennial Highway Plan. The Biennial Highway Plan has the project scheduled as:

- Design FY 2016
- Right-of-way FY 2017
- Utility Relocation FY 2017
- Construction FY 2018

## The Project's Purpose and Need

According to data supplied by the Bullitt County Economic Development Authority, the Cedar Grove area employs over 8,000 people on a normal day. Many of the businesses located in the Cedar Grove Area are large warehouse distribution centers and large internet order fulfillment centers housed in office/warehouse type buildings with up to 1.3 million square feet under roof. Employment almost doubles during the seasonal peak from November through January. Improvements to the existing I-65 / KY 480 interchange are critical to maintaining the employment base and increasing the number of jobs in the Cedar Grove area.

Traffic counts taken in late 2015 showed an Average Daily Traffic (ADT) of 26,200 vehicles on KY 480 east of I-65 with 14 percent of those



vehicles being heavy trucks. By the 2040 design year, the traffic model developed for the project forecasts KY 480 traffic to grow approximately 59 percent to an ADT of 41,700 with 18 percent heavy trucks in the traffic stream. Level of service (LOS) is a measure of operational performance of a roadway ranging from A (best) to F (worst) that is used to evaluate the performance of roadway segments and intersections. In 2015, the I-65 / KY 480 southbound ramps

signalized intersection west of I-65 operates at a LOS C during the AM peak travel time and LOS D during the PM peak travel time. In the 2040 design year, it will operate at LOS D during the AM peak and LOS F during the PM peak, assuming that no improvements are made to the interchange. For the I-65 / KY 480 northbound ramps signalized intersection east of I-65, the 2015 AM and PM LOS of B will decline in operational performance to LOS E for the AM peak and LOS F for the PM peak in the 2040 design year.

The purpose of this project is to reduce future traffic congestion at the I-65 / KY 480 (Cedar Grove Road) interchange to acceptable levels of service (i.e., A, B, C, or D) and to improve access to existing and committed businesses in the Cedar Grove Business Park and surrounding area.

## Nearby Roadway Projects Underway:

Three other roadway improvement projects are currently underway in the KY 480 corridor. The first is the KYTC relocation of the Love's Travel

Stop Access Road 800 feet further east to align with the proposed intersection for Alpha Way. Construction of the entrance relocation is underway and is expected to be completed in November 2016. The second project by the City of Shepherdsville is construction of Alpha Way from KY 480 south to Ohm Drive. Alpha Way is planned to be open to traffic in October 2016. The third project that is nearing construction is KYTC widening of KY 480 from Cedar Grove Elementary School to Valley View Drive. These three pending roadway projects have been accounted for during the development of the I-65 / KY 480 interchange alternatives.

## KY 480 Interchange Alternatives Considered:

- Several interchange types were considered for the I-65 / KY 480 interchange, but many were dismissed due to high cost or for other reasons. Besides the No Build Alternative, three build alternatives were considered worthy of more detailed study. Those alternatives included:
- A Loop Ramp Alternative with the loop ramp placed in the southwest quadrant of the interchange to serve the high southbound to eastbound traffic movement
  - A Double Crossover Diamond (DCD) Interchange Alternative, also known as a Diverging Diamond Interchange (DDI)
  - A Hybrid Texas U-Turn Alternative

Conceptual stage plans and cost estimates were developed for each of the three alternatives. Those plans and cost estimates were reviewed by the KYTC Project Development Team which recommended that the Loop Ramp Alternative be dropped from further consideration due to its higher cost, greater right-of-way impacts, greater environmental impacts and operational concerns.

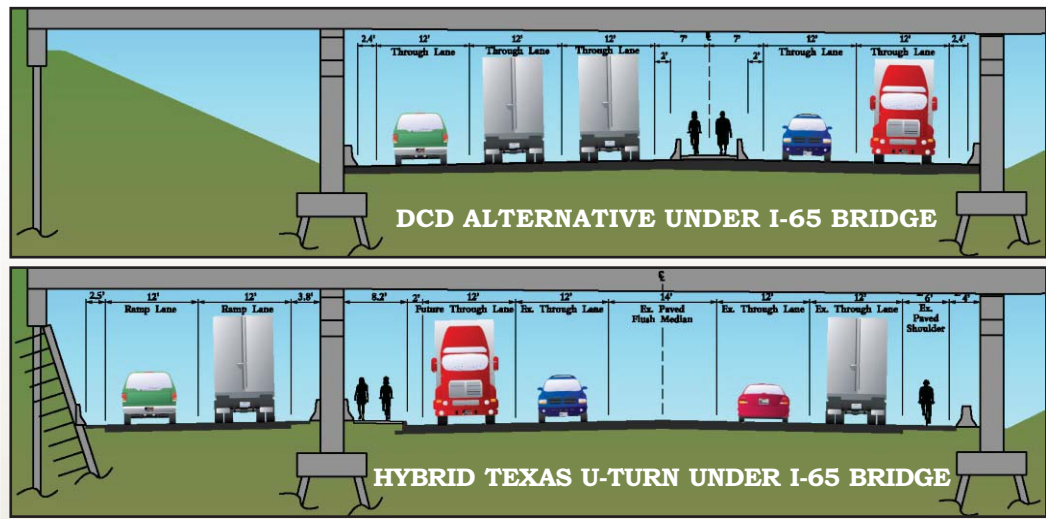
## FINALIST ALTERNATIVES:

### No Build Alternative:

Under this alternative, no modifications would be made to the existing I-65 / KY 480 interchange except for normal resurfacing and other routine maintenance activities.

### Double Crossover Diamond (DCD) Interchange Alternative:

The concept for a DCD interchange is to allow the two directions of traffic on the crossroad to temporarily divide and cross to the opposite side to gain access to and from the freeway more easily. A DCD features two-phase traffic signals that typically allow more traffic to flow through the interchange,



and fewer conflict points contribute to a reduced number of crashes. The benefits of a DCD include: improved interchange capacity due to the two-phase signals and the elimination of left-turn phases, improved safety due to the reduction in conflict points, and often lower cost due to the smaller interchange footprint and the ability to salvage existing bridges. The DCD is becoming more common in the United States each year, and at least one is currently operational in 24 states. Kentucky has a DCD in operation at the New Circle Road & Harrodsburg Road interchange in Lexington. At least three other DCDs are in preliminary or final design in Kentucky.

In the DCD Alternative, traffic on eastbound KY 480 crosses over at the southbound ramps intersection to the north side to enable free-flow left-turns to I-65 northbound or to continue east on KY 480 by crossing back over at the northbound ramps intersection. Westbound KY 480 traffic crosses temporarily to the south side to enable free-flow left-turns to the I-65 southbound entrance ramp. Traffic signals would be provided at both crossover intersections. Opposing traffic would be

separated by barrier medians or concrete barrier walls.

**Hybrid Texas U-Turn Alternative:** Texas U-Turn interchange designs are frequently used on freeways flanked by one-way frontage roads. At freeway interchanges, exiting ramp traffic that desires to access the frontage road on the opposite side of the freeway is routed under the bridge without crossing the opposing traffic on the crossroad – essentially a U-turn movement positioned tight against the bridge abutment. This type of design eliminates several traffic conflict points common with more traditional interchange designs.

For the KY 480 interchange, the normal Texas U-Turn design is modified to address the heavy southbound to eastbound ramp movement. The southbound to eastbound movement is routed under the northern span of the I-65 bridge by constructing a retaining wall in front of the north end bent. That movement is then "crossed over" at the three-phase signalized intersection east of I-65. Opposing traffic would be separated by a barrier median or concrete barrier wall. In the Hybrid Alternative, the KY 480 eastbound to I-

65 northbound movement is addressed as a standard left-turn lane at the signalized intersection east of I-65. The existing traffic signal on KY 480 west of I-65 could be removed with the Hybrid Alternative.

## Other KY 480 Improvements:

To provide an acceptable Level of Service on KY 480 in the 2040 design year, additional lanes will be needed on KY 480 east of I-65. If a new interchange on I-65 near Mile Point 114 is not constructed, a third lane will be needed on eastbound KY 480 from the I-65 northbound ramps to Alpha Way, including dual right-turn lanes to Alpha Way and an additional southbound receiving lane on Alpha Way. In the KY 480 westbound direction, an additional lane will be needed from the I-65 northbound ramps eastward to near Orion Drive, and a second westbound lane will be needed from the I-65 northbound ramps to a point east of the Love's right-out exit. If a new interchange near Mile Point 114 is constructed, some traffic will be drawn away from KY 480, reducing the need for adding some of the additional lanes along KY 480.

## We Need Your Input

Please review the conceptual stage interchange designs for KY 480, and feel free to ask questions to KYTC staff or to representatives of Burgess & Niple, Inc., the KYTC's consulting engineering firm that is managing design work on the project. After you have reviewed the KY 480 interchange designs, **please complete a KY 480 interchange questionnaire**. You are encouraged to complete a public meeting questionnaire and leave it at the sign-in table or take it with you to complete at your leisure. The questionnaire can be folded and mailed to the Kentucky Department of Highways Office at the address provided. Comments will be accepted for 15 days following the public meeting. Your comments, driving experience and local knowledge are always valuable to our efforts.

All comments received will be considered by the Project Team.

All exhibits, displays, and materials presented at this meeting are available to the public upon their request from the District Office. A nominal charge may be made for the reproduction of these displays.

Thank you for your participation in helping the Kentucky Transportation Cabinet develop the best design for a reconstructed KY 480 interchange!

