# Presentation Agenda

1. Hearing Called to Order (6:30 PM)
   * Introduction of Project Team
   * Hearing Comment Process
   * Hearing Purpose
   * Project Location and Description
   * Overview of the Environmental Documentation Process
2. Review of Design Information
   * Purpose and Need
   * Alternatives
   * Proposed Design
   * Maintenance of Traffic
   * Right-of-way Requirements
   * Estimated Project Cost & Schedule
3. Conclusion
   * Public Comment Reminders
   * Wrap-Up / Closing
4. Public Statement Session
5. Informal Session

# Adjournment

## PROJECT DESCRIPTION

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), is proposing to proceed with a historic bridge rehabilitation project located on US 421, approximately 2.24 miles south of SR 38 in Union Township, Clinton County, Indiana. The proposed project includes rehabilitating Bridge No. (421)39-12-01792B, which is specifically located in Section 29, Township 21 North, Range 1 West as shown on the Frankfort USGS 7.5 Minute Topographic Map.

## Purpose and Need

The need for this project is due to the deterioration of the existing structure (421)39-12-01792B, as documented in the February 13, 2017 Bridge Inspection Report. At that time, the structure was noted to have an overall sufficiency rating, the numeric value which is indicative of the bridge sufficiency to remain in service, of 46.7 out of 100. This sufficiency rating of 46.7 indicates that the bridge is in overall “fair” condition. The three main elements of the bridge (deck, superstructure, and substructure) were evaluated on a scale ranging from “0” to “9” (“0” being a failed structure and “9” being a structure in excellent condition). The bridge deck received a rating of “6” indicating that it is in satisfactory condition with minor deterioration such as spalling, transverse, longitudinal and diagonal cracking with efflorescence on the underside. Both the superstructure and the substructure received a rating of “5” which indicates “fair” condition. The superstructure showed signs of minor section loss. Span A, Beams 1 and 5 near Pier 2, and Span C, Beams 1 and 5 near Pier 3, are both spalled with exposed rebar and have longitudinal cracking with efflorescence. Span C, Beam 5 also has a large spall with exposed rebar with section loss mid-span. In addition, the truss in Span B has widespread light rusting with severe rusting and section loss at the four corner connections. The substructure exhibited minor section loss, with both interior piers having cracking and spalling with exposed rebar and minor section loss.

The purpose of this project is to correct the advanced deterioration of the structure as noted in the Bridge Inspection Report. By correcting these deficiencies, the life of the structure carrying US 421 over South Fork Wildcat Creek will be extended by approximately 25 years and will result in restoring the bridge to “good” overall condition. This will also ensure safe vehicular crossing over South Fork Wildcat Creek.

## Existing Conditions

US 421 is functionally classified as a minor arterial United States highway. The existing roadway is a two-lane rural roadway that runs north to south through the project area. This section of US 421 includes a 29-foot (ft.) roadway width, accompanied by 2 ft. shoulders and 6-inch (in.) curbs on both sides of the roadway. The roadway surface is comprised of bituminous pavement and the posted speed limit is 55 miles per hour (mph).

The existing bridge Structure No. (421)39-12-01792B) is a 3 span, 194 ft. long, steel truss-thru, concrete beam bridge that was built in 1941 and reconstructed in 1985. The existing bridge carries US 421 over South Fork Wildcat Creek.

Surrounding land use is devoted primarily to agriculture. However, within the immediate project area, there are large forested tracts the line the banks of South Fork Wildcat Creek that would be considered riparian habitat.

According to the Indiana Historic Bridge Inventory (HBI, December 2010), Bridge No. (421)39-12-01792B is identified as a Select bridge and is eligible for listing on the National Register of Historic Places (NRHP) for its engineering significance, as well as being an uncommon highway bridge type in Indiana. According to the INDOT Bridge Inspection Report dated February 13, 2017, the existing structure is showing signs of deterioration. This inspection noted the following:

* Bridge Deck: The bridge deck documented transverse and diagonal cracking and white efflorescence in the underside of the bridge deck, along with rust staining and full depth

patching and spalling.

* Superstructure: The superstructure had diagonal cracking and white efflorescence in the

underside of the bridge deck, along with rust staining and full depth patching and spalling.

The superstructure exhibited spalling, exposed rebar and cracking with efflorescence in

beams 1 and 5 in span A. Beams 1 and 5 in Span C also show signs of spalling and

exposed rebar with section loss mid span. Span B has widespread rusting and section loss

in the truss.

* Substructure/Foundation: The substructure showed signs of patch work of the interior

piers, cracking with efflorescence, and spalling with exposed rebar and minor section loss.

* Channel/Channel Protection: The spill slopes appeared stable but had little scour

protection.

A new INDOT Bridge Inspection Report was completed on February 6, 2019, after submittal of the Historic Bridge Alternative Analysis (HBAA), and no new deficiencies were identified.

## Proposed Improvements

This alternative seeks to preserve as much of the existing bridge as feasible and detail the structural repairs necessary to extend the useful service life of the bridge components preserved and incorporated into the rehabilitated structure. This alternative consists of rehabilitating the existing bridge for continued use as a two-way structure as close to the Secretary of the Interior’s Standards for Rehabilitation, as practicable. The scope of the required work that would be necessary to rehabilitate the structure for continued two-way vehicular use would include:

* Replace reinforced concrete pier pedestals for Spans A and C.
* Replacing end abutment caps.
* Replace the end spans A and C, with new prestressed concrete box beam superstructures, a new reinforced concrete deck and new type FC concrete railing.
* Abutments 1 & 4 would become semi-integral. New joints would be installed at Pier 2 and Pier 3 where superstructure type changes.
* Replacing the existing reinforced concrete deck on the steel pony truss main span. In order to meet current level one criteria, the new deck will be constructed with a 28’-0” clear-roadway width to accommodate two 12’-0” lanes with 2’-0” shoulders on each side of the road. The new deck will also be constructed to a 2% cross slope.
* Installing new bridge deck drains
* Repairing the existing steel pony truss by:
  + Replacing steel elements in-kind
  + Replacing deteriorated rivets with round-headed bolts
  + Repairing deteriorated members by attaching additional steel plates to restore member’s original cross-sectional area
* Clean and paint the existing steel pony truss and attached existing metal bridge railing.
* Construct new reinforced concrete bridge approaches with type TFC concrete bridge railing transitions.
* Replace existing guardrail at all four bridge corners.
* Wedge and level and/or replacing existing asphalt pavement as necessary to tie back into existing.
* Construct riprap turnouts at the ends of the concrete bridge railing transitions
* Adding channel scour protection per the approved hydraulics scour report.
* Surface seal the deck, bridge rail, copings, exterior concrete beam faces, approach slabs, and bridge rail transitions.

These repairs would result in restoring the bridge to a “good” overall rating and will extend the service life of the structure by approximately 25 years.

Based on the above information, the preferred alternative will function as a standalone project that meets the Purpose and Need of the project by preserving as much of the existing bridge as feasible, while correcting all of its deficiencies and therefore extending its lifespan in a prudent and feasible manner.

Impacts to S. Fork Wildcat Creek will be minor in nature an no permanent impacts will occur. Temporary impacts will equal 57 linear feet impacts and/or 0.005 which include the installation of temporary cofferdams and placement of jacking pads.

Only minor impacts in the amount of 0.028 acre will occur to wetlands for construction access and installation of erosion control measures such as silt fence. The only permanent impacts will be to Wetland B in the northwest quadrant and will consist of riprap placement for scour protection and will equal 0.005 acre.

This project will occur within existing right-of-way. No permanent or temporary right-of-way will be required for this project.

The total estimated cost of the project is $824,000.00 (2020 dollars).

## Maintenance of Traffic during Construction

The Maintenance of Traffic (MOT) for this project will utilize a road closure with a detour route. The MOT plans intend to detour traffic along State Road (SR) 26 and SR 75. This detour route would add approximately 2.84 miles for motorists over the current straight-line travel distance of 8.14 miles. Please refer to plan sheet illustrating the MOT in Appendix B, page B10. The closures/lane restrictions will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion. Delays may occur during construction but will cease with project completion.