

## Existing Conditions

The existing conditions for this portion of State Highway 116 consists of the following features:

- Minimal to no shoulders
- Steep side slopes
- Poor sight distance
- Hazards located immediately adjacent to roadway
- Steep hills and valleys which result in:
  - Non-compliant horizontal curves
  - Non-compliant vertical curves
- Angled side road connections
- Substandard two cell masonry box



## Current Features

- Two 12-foot wide driving lanes
- Minimal to no shoulders
- Posted Speed Limits of 55 mph, 45 mph, 35 mph, and 30 mph
- Current Traffic Volume in 2020
  - 1,330 vehicles per day
  - Including 14% truck traffic
- Projected traffic volumes for 2040
  - 1,700 vehicles per day



## History of Collisions

In the past 5 years, 12 total collisions have been documented on this stretch of road. This map shows

- 5 Property Damage
- 7 Injury
- 0 Fatalities



## **Project Constraints**

When evaluating alignments for a project, ODOT carefully considers the effects that will be caused by the new roadway. Below are some of the items (constraints) that are taken into consideration in the evaluation process.

### **Environmental Considerations**

- Cultural Resources (Section 106)
  - No known Historic Properties/Structures
  - No known Archaeological Sites
  - No known Cemeteries
- Hazardous Waste Sites
- Waters and Wetlands
  - Potential wetlands surrounding Cloud Creek and its tributaries
  - Six United States Army Corps of Engineers regulated waterways
- Threatened and Endangered Species
  - See slides below
- Critical Habitat
  - Karst features may be located within the project limits.
    - Please let us know if you are aware of any Karst features
- Section 4(f) and 6(f) Properties - Parks, Recreation, and Refuges
  - None Identified
- Noise Impacts
  - A noise study will be required if a new alignment is selected.

### **Bridges**

### **Right of Way (Property)**

**Relocations** - Commercial and Residential

### **Utilities**

- Overhead electric and communication lines (fiber optics/cable)
- Underground telephone
- Underground water
- Underground sewer

# Environmental Project Constraints

## Listed Threatened & Endangered Species Plus Critical Habitat



- American Burying Beetle
- Interior Least Tern
- Piping Plover
- Red Knot
- Ozark Cavefish
- Neosho Mucket
- **Gray Bat – Aquatic Dependent**
- Indiana Bat
- Northern Long-Eared Bat
- Ozark Big-Eared Bat



# Environmental Project Constraints

## Threatened & Endangered Species



- Ozark Cavefish
- Gray Bat
- Indiana Bat
- Northern Long-Eared Bat
- Ozark Big-Eared Bat



### Are you aware of any Karst Features along SH-116?

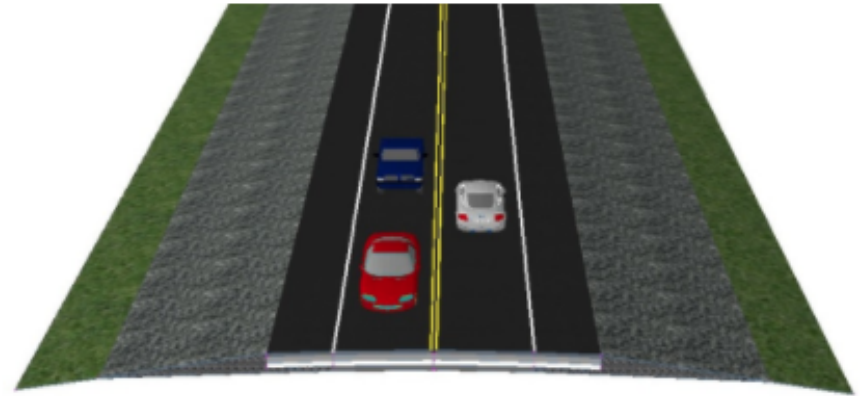
Karst Features - Karst terrain usually characterized by barren, rocky ground, caves, sinkholes, underground rivers, and the absence of surface streams and lakes. It results from the excavating effects of underground water on soluble limestone.

## Design Criteria

In order to improve the roadway and safety of travelers, ODOT expects to see the following incorporated into design:

- 12 foot wide driving lanes
- 8 foot wide paved shoulders
- Design for speeds of 55/45/35 mph
- Maintain 1 to 2 lanes of traffic during construction
- Improve sight lines and visibility throughout the length of the project

## Visual of the Proposed Typical Section



# Alignments

Numerous alignment alternatives have been developed and analyzed for this portion of State Highway 116. The alignments are presented in more detail below.

## Alternative A

Resurface the existing alignment and add 2-4 foot wide shoulders where possible.

No hill or curve corrections will be made with this alternative.



## Alternative B

A completely new alignment designed to minimize earthwork using a 45 mph design speed throughout the length of the project. This alignment requires a new bridge over Cloud Creek, but will allow for full use of the existing roadway during construction.

It will bypass the last two 90-degree curves as you come into Colcord by entering the town using Main Street.



## Alternative C

This alignment will improve the roadway by eliminating the sharp curves around the bluff at the beginning of the project using a portion of new alignment which will continue down the section line and tie into the existing bridge over Cloud Creek using a 55 mph design speed. Following the bridge, the curves through the middle of the project are softened by using a 45 mph design speed before matching back to the existing roadway near the Colcord town limits and slowing to a 35 mph design speed. Construction will be phased using shoo-fly detours and short closures.



## Alternative D

This alignment is very similar to Alternative C. It begins by projecting the new alignment down the section line using a 55 mph design speed to eliminate the sharp curves around the bluff, and ties into the bridge over Cloud Creek. This alignment then continues on using a 55 mph design speed to further reduce the severity of the curves in the middle of the project before lowering the speed limit down to 35 mph for the roadway in town. Construction will be phased using shoo-fly detours and short closures.





## Alternative E

This alignment was developed using Alternative C as a starting point but introduces some curves near the beginning of the project in an effort to reduce earthwork. This alignment uses a set of three curves, and 55 mph design speed, at the beginning of the project to shift the roadway to the south at the face of the bluff to take advantage of a 30 foot fall in elevation before tying into the bridge over Cloud Creek. Following the bridge, the curves through the middle of the project are softened by using a 45 mph design speed before matching back to the existing roadway near the Colcord town limits and slowing to a 35 mph design speed. Construction will be phased using shoo-fly detours and short closures.



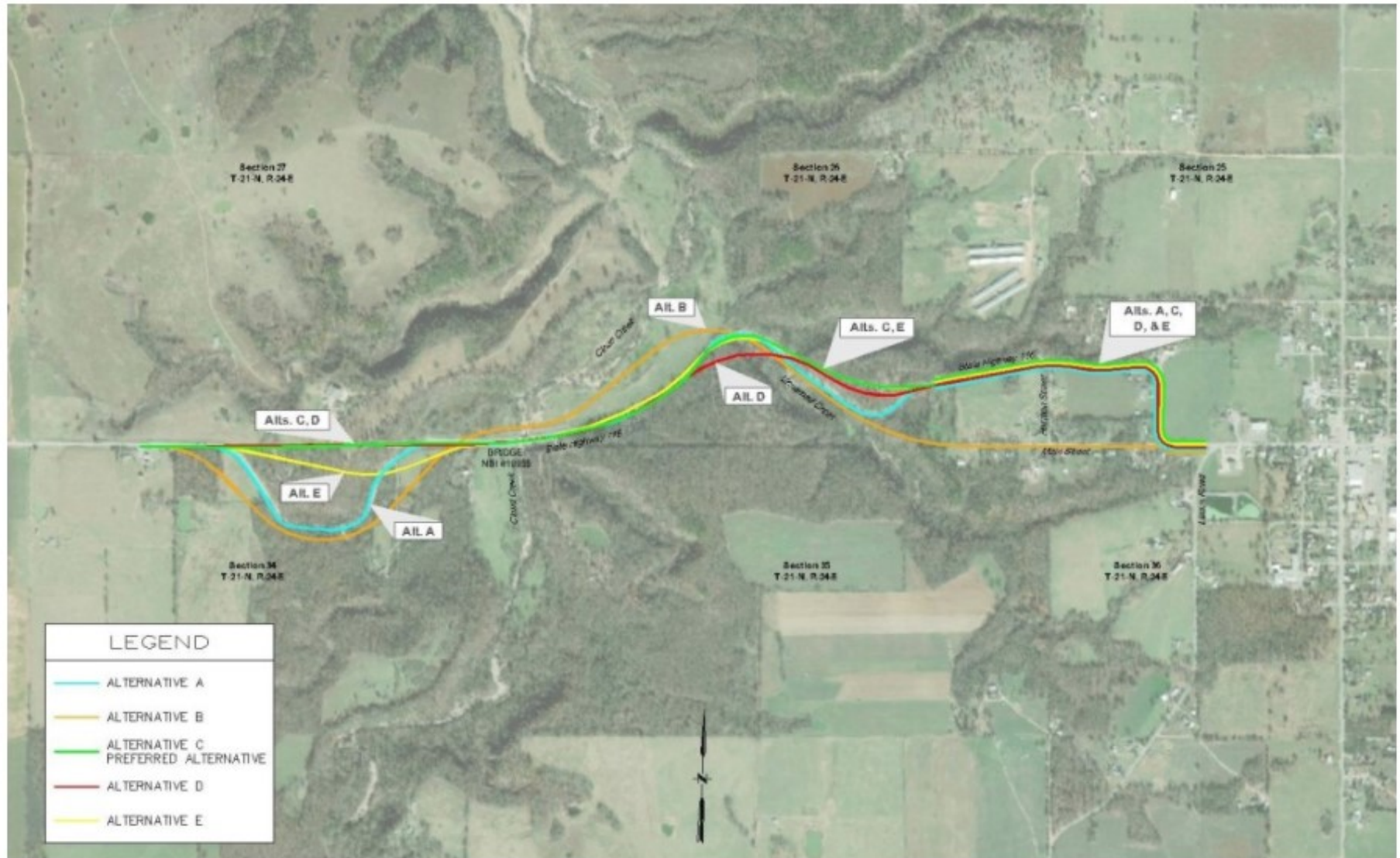
## Alternative F

This alternative is the "Do Nothing" alternative.

This would simply allow the road to continue to exist in its current form. In some instances, this is used as a baseline comparison tool, but it does not meet the project's need nor goals and for that reason it is no longer being considered.

# All Alternatives Comparison Map

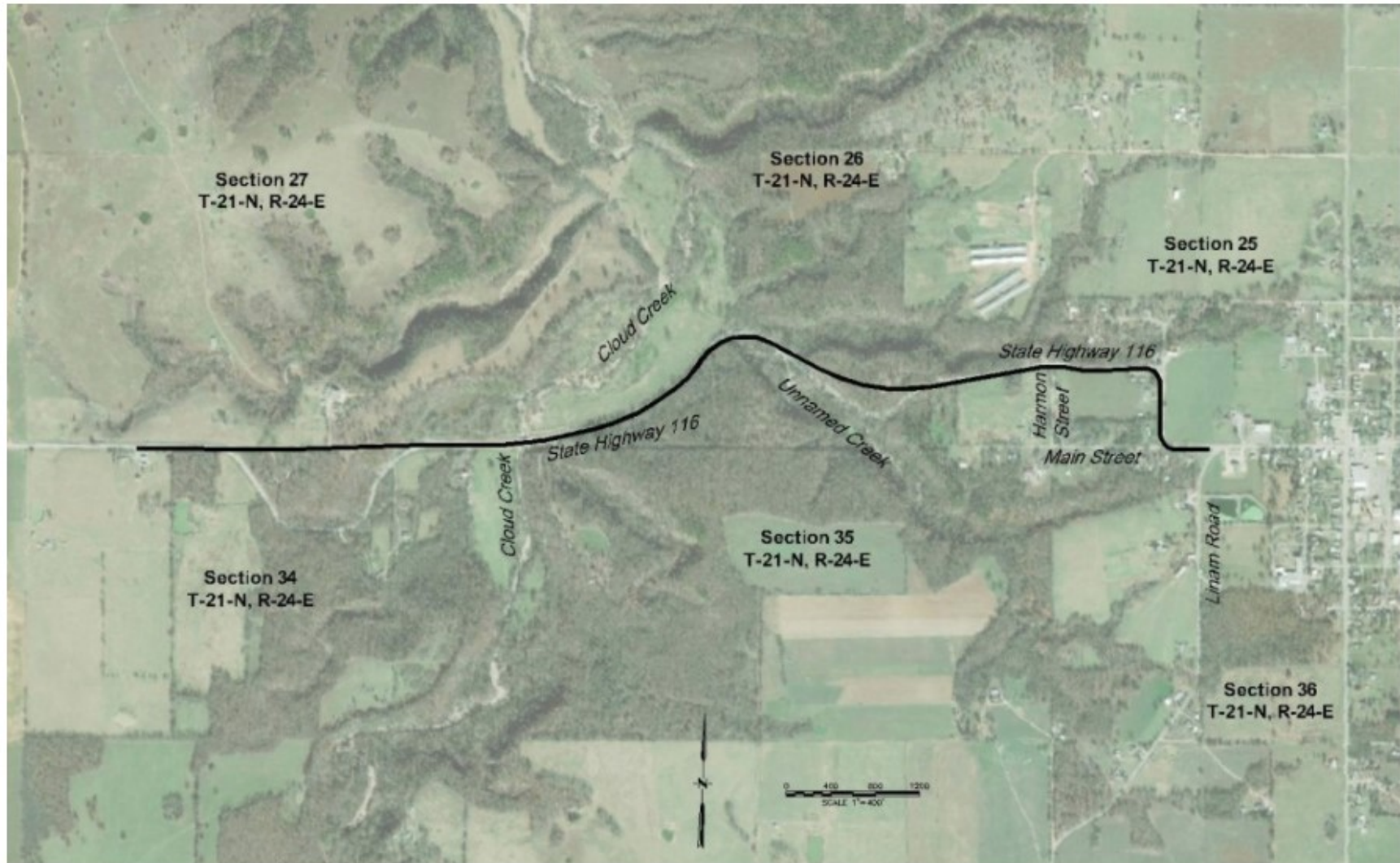
The following map provides you a quick glance of all alternative options overlaid onto the same map for easy comparison.



## Preferred Alternative

Based on the alternative matrix, the preferred alternative for this project at this time is **Alternative C**.

This alternative provides the greatest relief from excessive curves, minimizes effects to environmental considerations, and most closely meets the project's goals.



# Linam Road Realignment

One topic of concern is the angled connection where Linam Road intersects State Highway 116. This could be remedied by realigning Linam Rd. to intersect SH-116 at a right angle. ODOT seeks your input on whether or not this improvement would add value to the drivers who travel this road.

