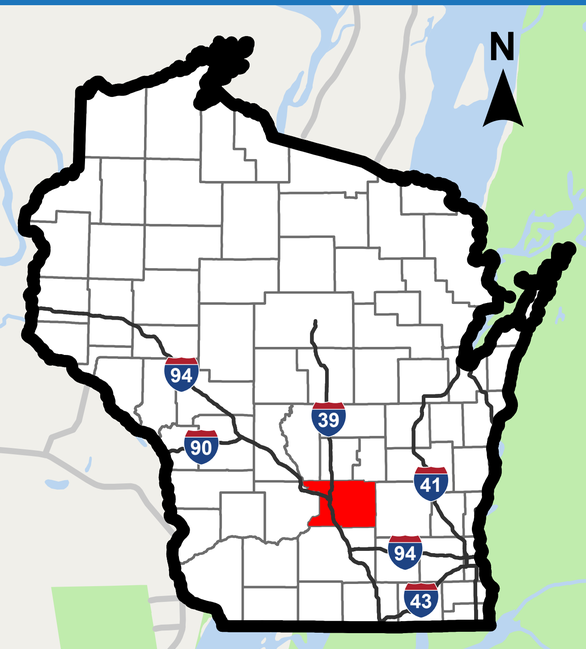
# Project Location




Baraboo River Waterfowl Production Area

90

94

39

Wisconsin Dells

Portage

Lost Lake State Natural Area

Project Limits

Potter Drive

Ziehmke Road

78

Town of Caledonia

Wisconsin Power & Light Company Property

River

Town of Dekorra

St. Lawrence Bluff Road

COUNTY V

COUNTY U

Wisconsin

Oak Knoll Drive

Dekorra Public Hunting Grounds

Rest Area 11

Rest Area 12

COUNTY J

Black Road

Project Limits

39

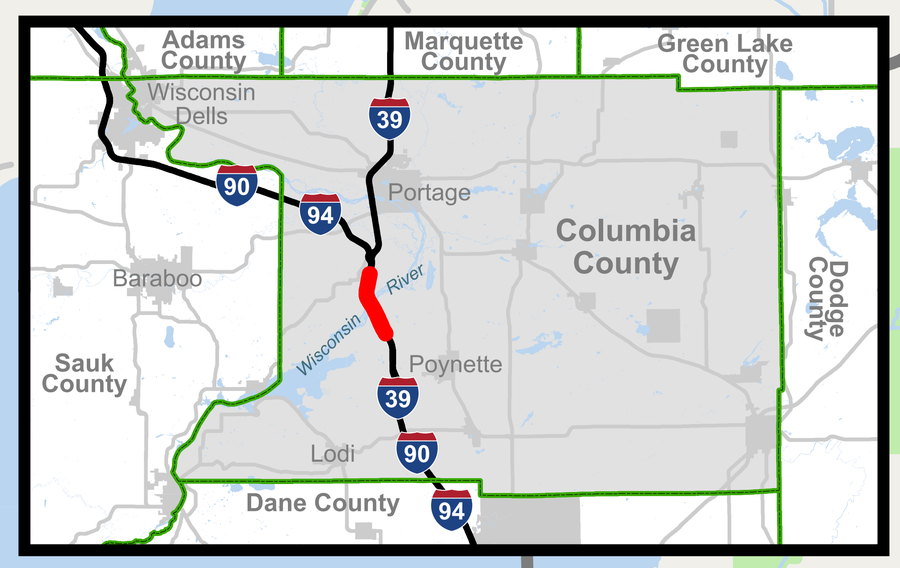
90

94

Hinkson Creek Fishery Area

Madison

Rowan Creek Fishery Area




Wisconsin Department of Transportation

I-39/90/94 Wisconsin River Bridge Project

# I-39/90/94 Route Importance

## National Importance

Seattle

90

94

90

Minneapolis

90 = 3,020 miles

It's the longest Interstate

### Nationwide Interstate Facts

1% of highway miles

25% of travel

42% of truck miles

94

90

Boston

39

39 90 94

The longest corridor in the country where **3 Interstates** run together

## Regional Importance

Traffic volumes increase up to 75% in summer due to recreational traffic

Minneapolis

94

Eau Claire

Wausau

39

90

90

La Crosse

Wisconsin River

Wisconsin River Bridge

All I-39/90/94 traffic travels across the Wisconsin River Bridge

Milwaukee

94

39

90

Madison

94

Chicago

Tourism spending reached $21.6 billion in 2018

**In 2017, freight crossing the I-39/90/94 Wisconsin River bridge included...**

**$2.6** billion of chicken products

**$2.8** billion of paper and wood products

**$116** billion of total freight

**$3.5** billion of cheese and dairy products

**$290** million of grain

## Local Importance

Crossings of the Wisconsin River are limited

Portage

SPEED LIMIT 25

33

9 miles upstream

39

90

94

SPEED LIMIT 70

Merrimac Ferry

Lake Wisconsin

Wisconsin River

113

9 miles downstream

Prairie du Sac

17 miles downstream

60

SPEED LIMIT 45

I-39/90/94 carries **4x** more traffic than the other three crossings combined

# Purpose and Need

## Purpose Statement

The purpose of the I-39/90/94 Wisconsin River Bridge Project is to address the needs of the aging I-39/90/94 structures and maintain vehicular traffic across the Wisconsin River in the towns of Dekorra and Caledonia located in Columbia County.

## Primary Need

- Wisconsin River Bridge Condition

## Secondary Needs

- Traffic Demands
- Roadway Geometrics

# Primary Need of the Project

## Wisconsin River Bridge Condition is Deteriorating

The bridge is inspected every two years to assess the condition of each bridge element. Inspectors assign multiple condition ratings to each bridge element. A portion of the following bridge elements were given a rating of poor or severe. While these deficiencies currently do not deem the bridge unsafe, deterioration will continue to occur if not addressed.

| Good | Fair | Poor | Severe |
|---|---|---|---|
| No or minimal deterioration | Minor deterioration | Advanced deterioration | Major deterioration |

### Concrete Deck

**Poor condition:**

- Cracks in the concrete
- Pieces of concrete chipping off
- Rusting of the reinforcing steel

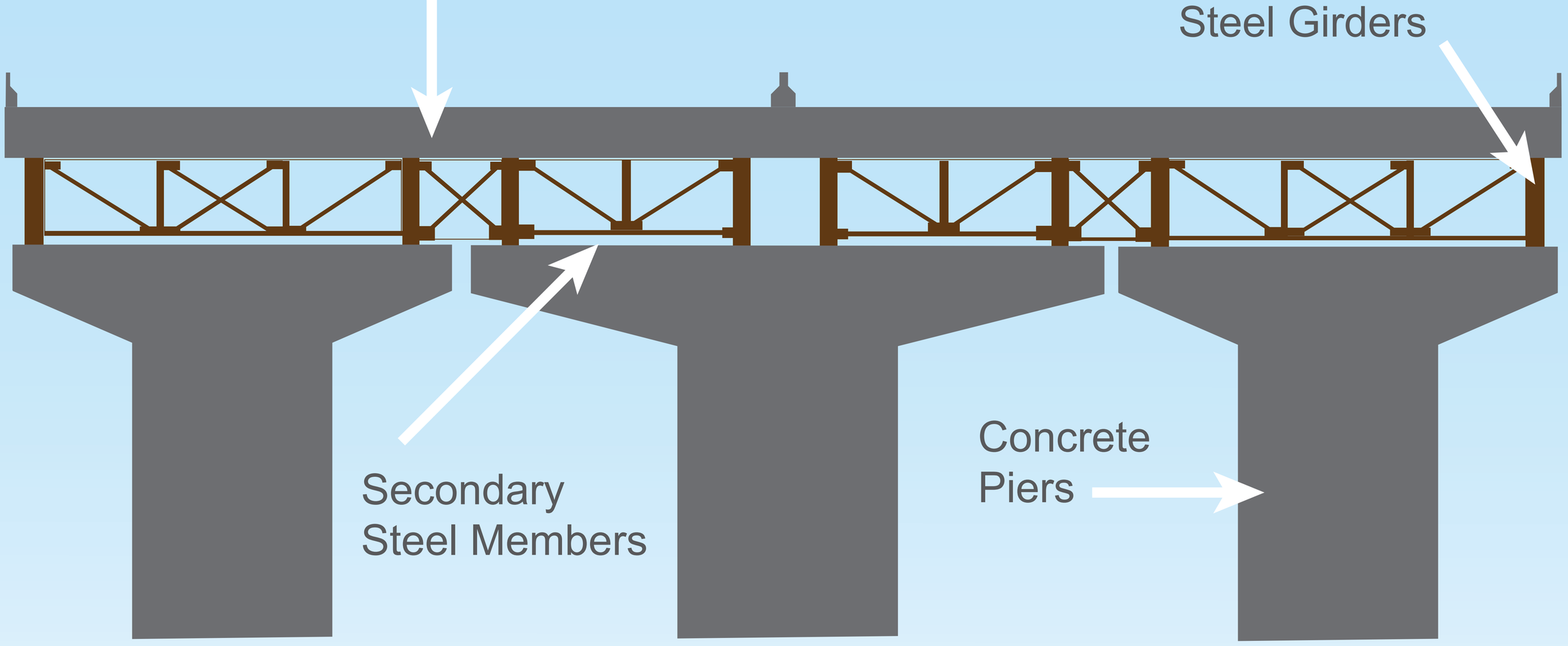
### Steel Girders

**Poor condition:**

- Rust
- Thinning of the girders as the steel rusts and flakes off

**Severe condition:**

- Heavy rust
- Loss of the protective coating over the steel




### Secondary Steel Members

**Poor condition:**

- Heavy rust
- Warping at the connections
- Deterioration of the steel
- Loss of protective coating over the steel

### Concrete Piers

**Poor condition:**

- Cracks in the concrete
- Pieces of concrete chipping off
- Exposed reinforcing steel

# Primary Need of the Project

## Example Bridge Deficiencies

The pictures below show examples of current deficiencies. While these deficiencies currently do not deem the bridge unsafe, deterioration will continue to occur if not addressed.

Severe condition

Loss of protective coating over steel elements and connections.

Poor condition

Cracking of the asphalt overlay causes deterioration of the bridge deck.

Poor condition

Concrete on the bottom of the bridge deck is cracking and chipping off, exposing the reinforcing steel.

Poor condition

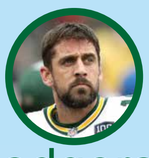
Pack rust has formed between steel elements causing bulging and distortion, leading to added stress and cracking in the concrete deck.

## History of Repairs

The Wisconsin River Bridge has been repaired seven times since it was constructed in 1961. The past repairs have served as solutions to preserve and extend the service life of the bridge. However, even with the past repair work, deficiencies remain with the existing bridge due to the nature of how bridge elements deteriorate over time.

Bart Starr
Packers quarterback

Brett Favre
Packers quarterback



Aaron Rodgers
Packers quarterback

1961 Bridge is built

1975 Girder repair

1981 Girder repair

1984 New deck widen bridge

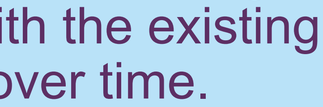
1993 Deck repair

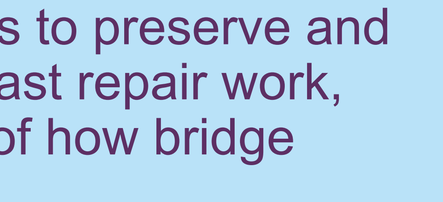
1995 Girder repair

2002 Girder repair

2012 Girder repair deck repair pier repair





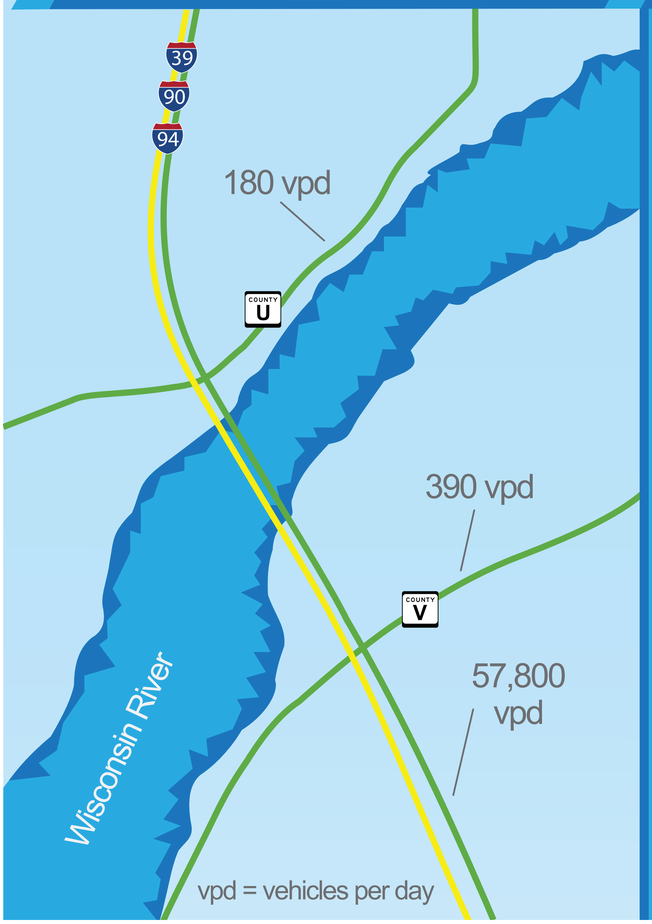


1960 1970 1980 1990 2000 2010 2020

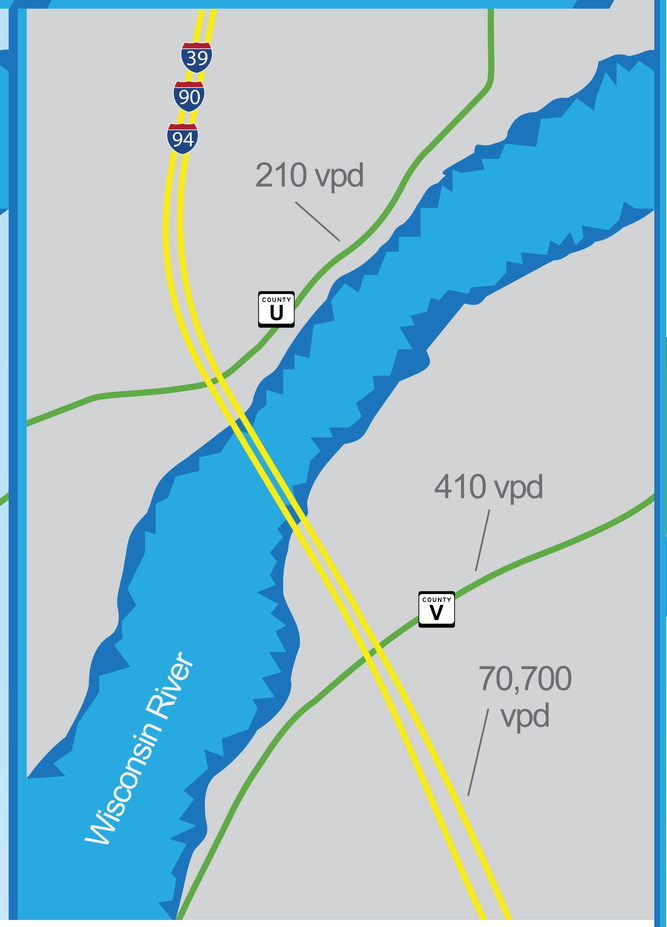
# Secondary Needs of the Project

## Traffic Demands

### Traffic in 2017




### Traffic in 2045




Level of Service — C or better *Minimal congestion* | D *Moderate congestion* | E | F *Severe congestion*

Traffic analysis was completed using the most recent traffic counts from 2017 and for the design year 2045 (20 years after construction).

**Traffic volumes increase in the summer due to tourist travel**

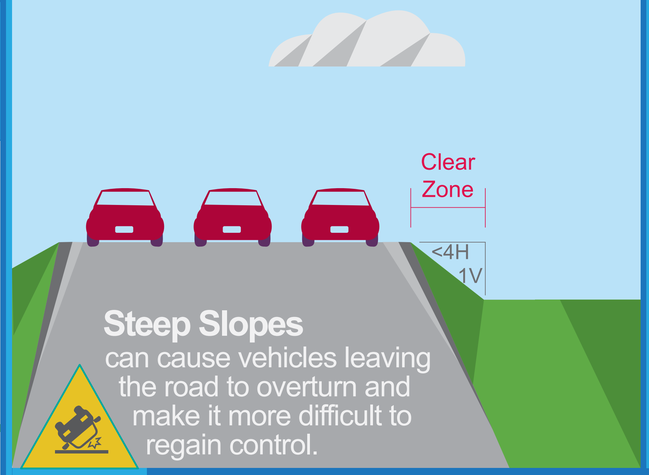
**Lane closures due to past bridge repairs created lengthy delays**

**23% of daily traffic (2017) is trucks**

**22% increase in traffic volumes by 2045**

## Roadway Geometrics

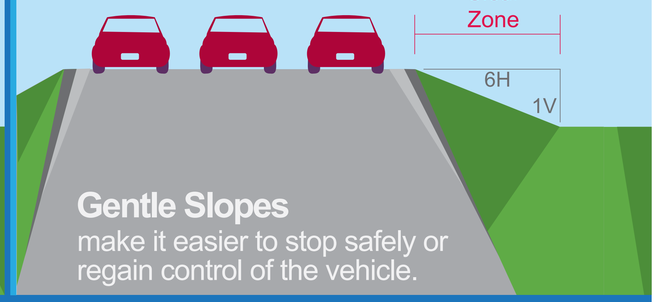
### Existing Clear Zone I-39/90/94




**Steep Slopes** can cause vehicles leaving the road to overturn and make it more difficult to regain control.

### Current WisDOT Clear Zone Standard

A **wider, flatter** area free of obstructions makes the roadway safer.




**Gentle Slopes** make it easier to stop safely or regain control of the vehicle.

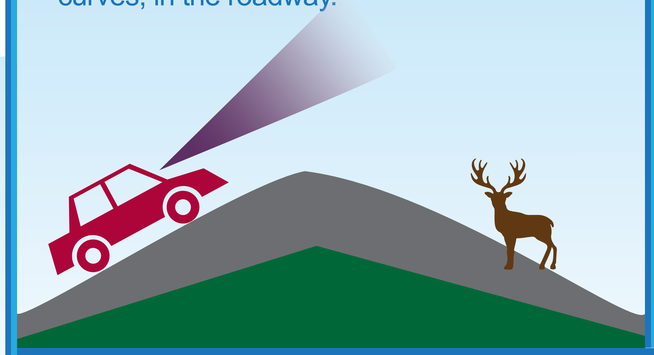
**48%** of crashes within the project termini were run-off-the-road crashes between 2013 and 2017

A 5- year crash analysis was completed using the most recent crash data (2013-2017).

### Decision Sight Distance

Decision sight distance is needed for a driver to:
(1) detect a condition in a roadway and recognize its threat
(2) select and complete appropriate avoidance maneuver

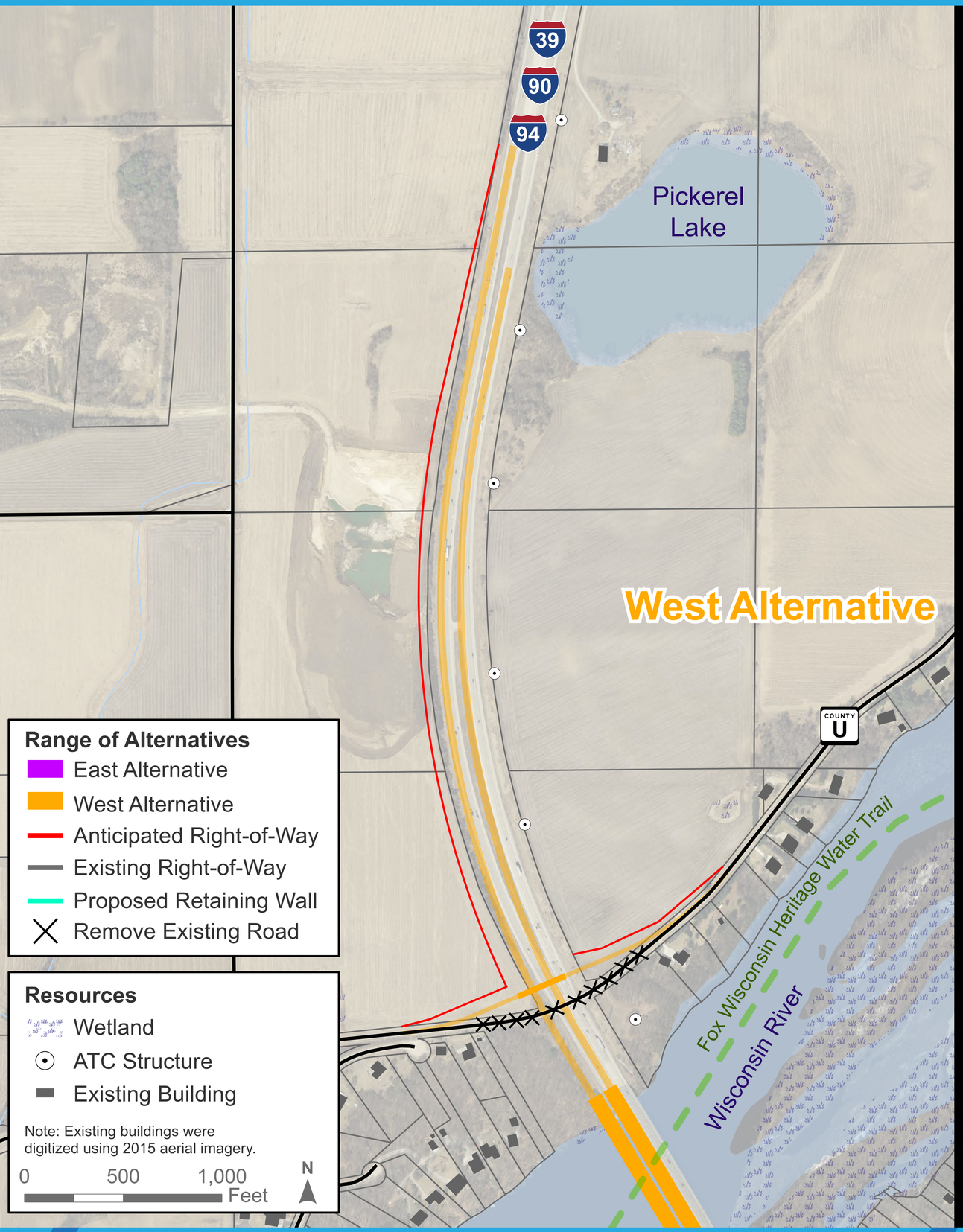
The driver cannot see the object on sharp curves, in the roadway.

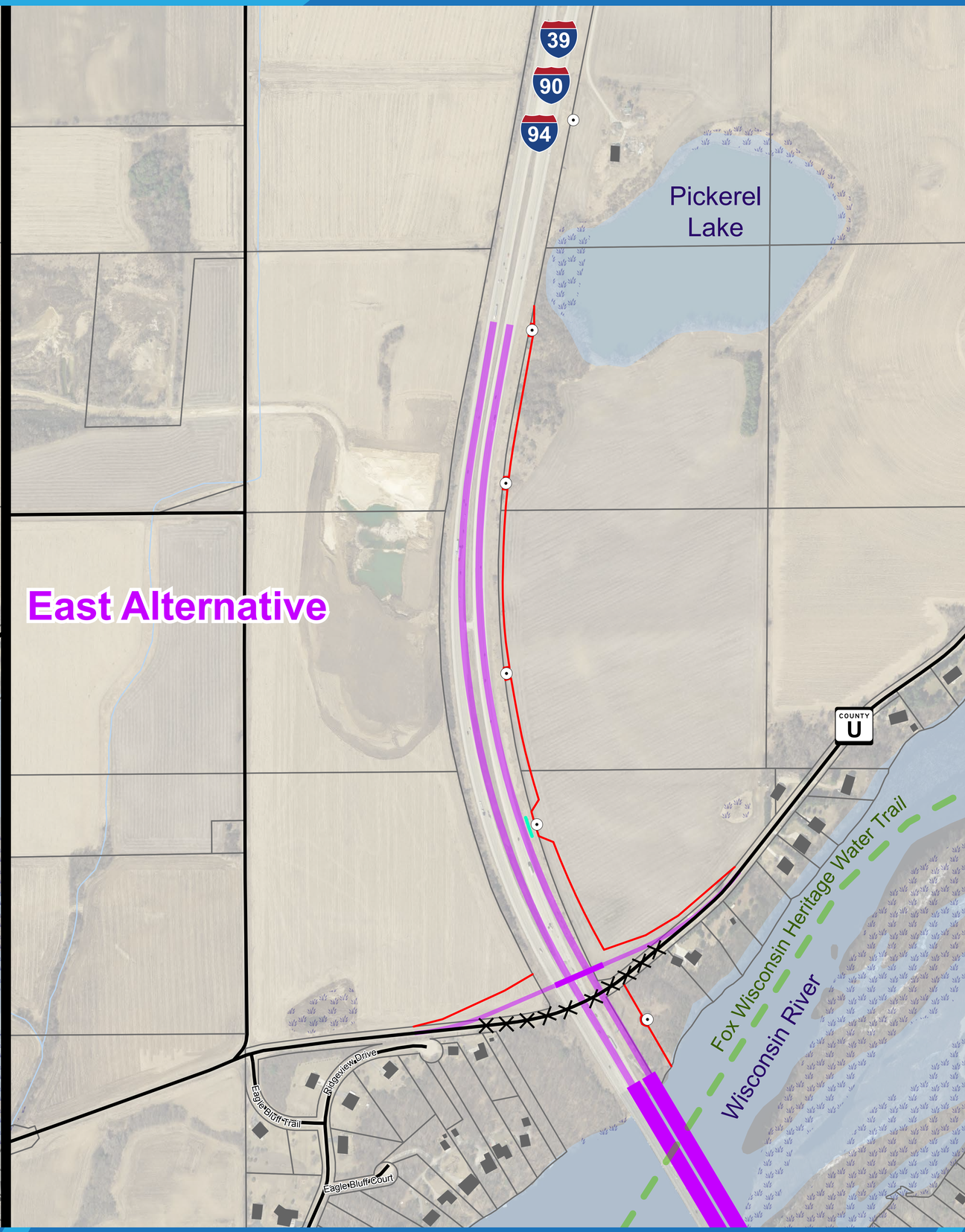


When the curve is flatter, the driver can see the object in the roadway with enough time to maneuver.

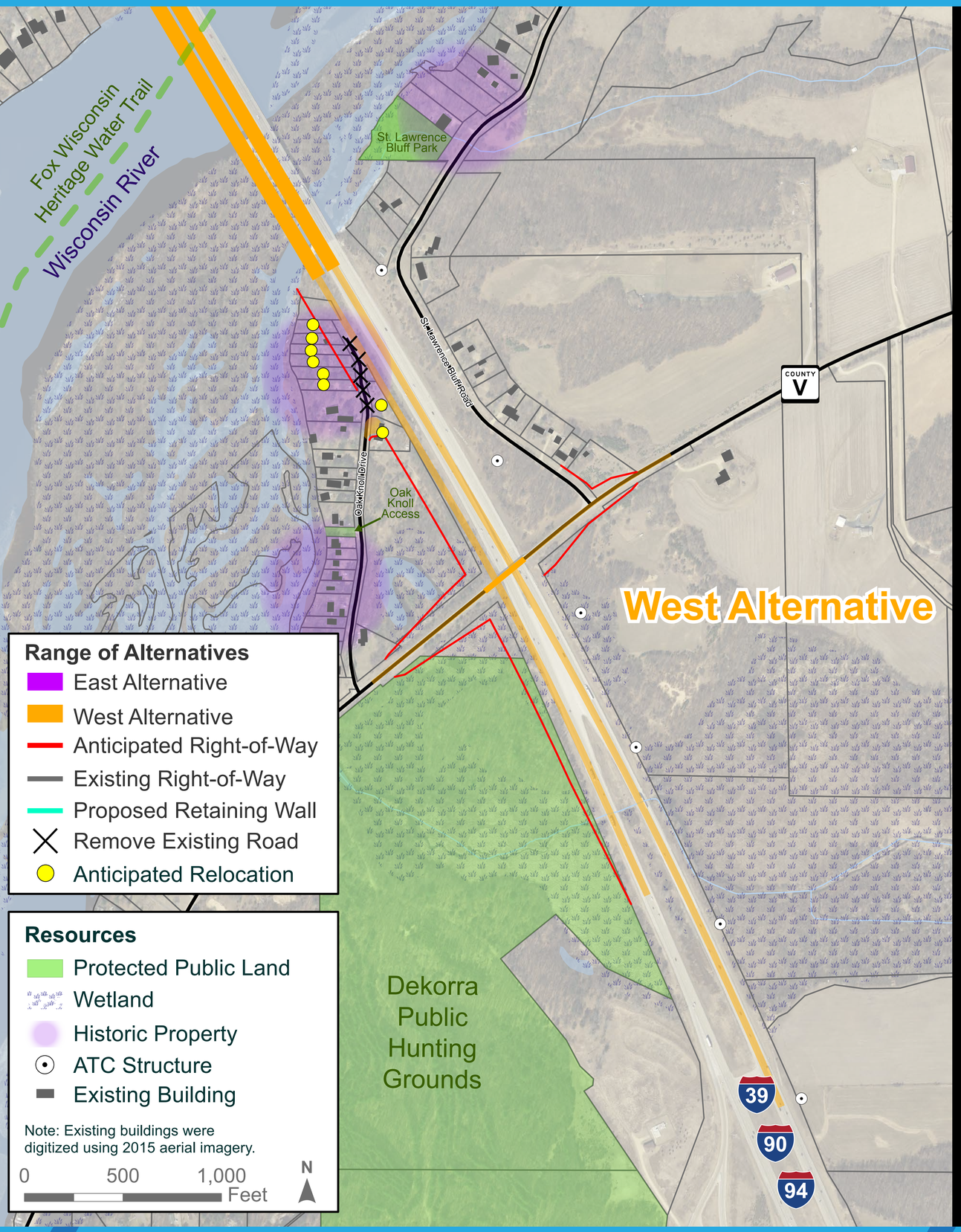
Three I-39/90/94 vertical curves in the project area do not meet decision sight distance standards

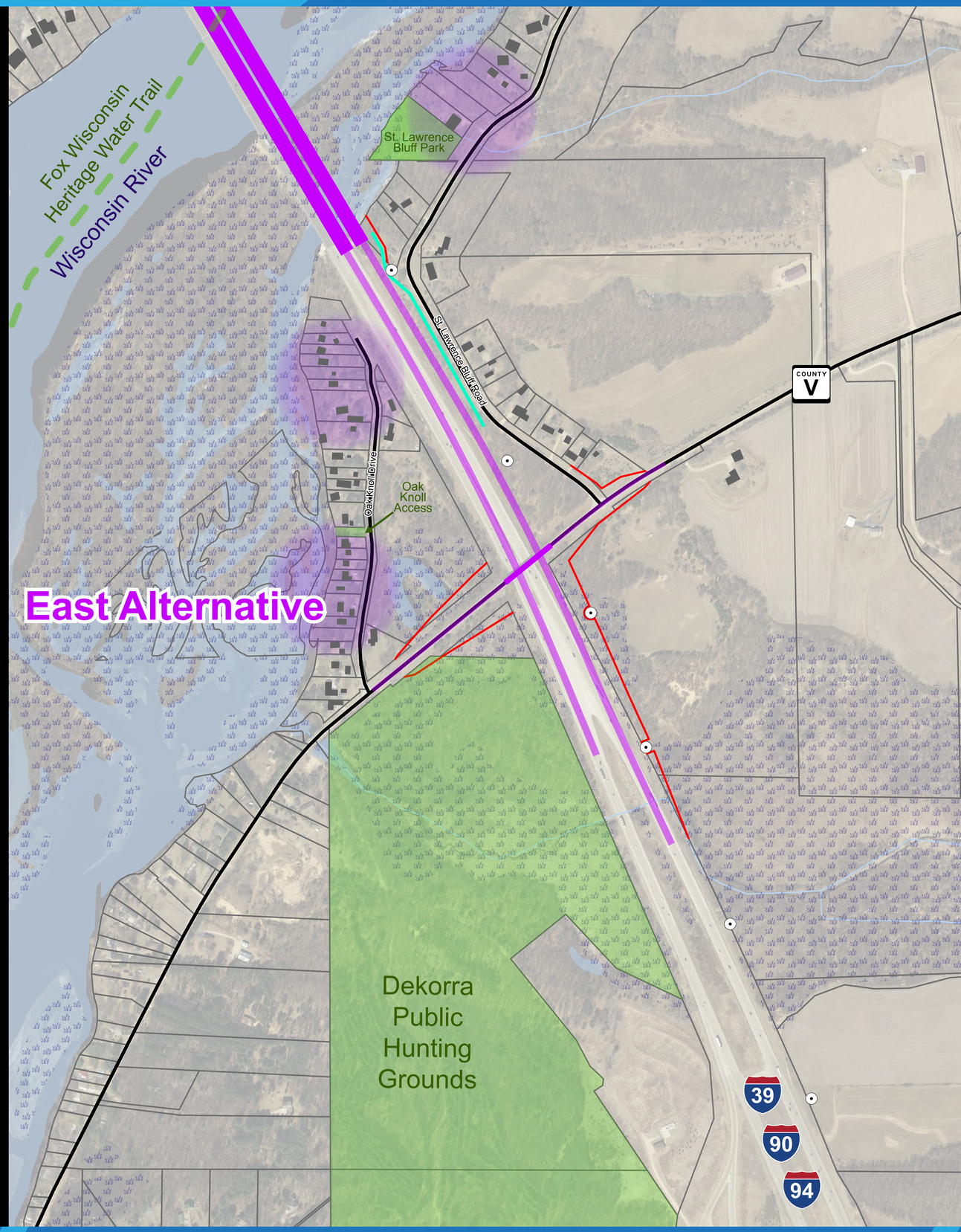
# Range of Alternatives (North of Wisconsin River)



# Range of Alternatives (South of Wisconsin River)



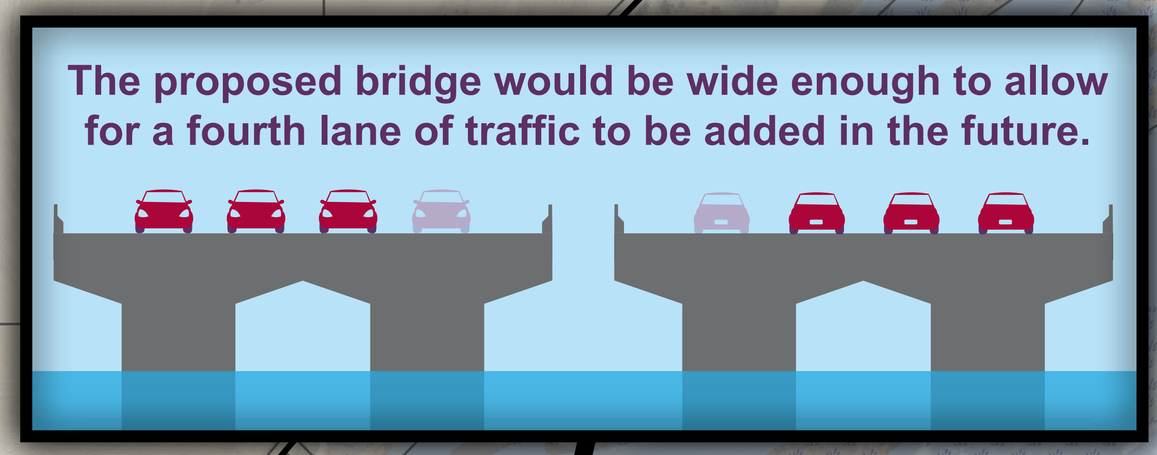



# Range of Alternatives Anticipated Impacts

| Item of Anticipated Impact | No Build | West Alternative | East Alternative (WisDOT 2019 Recommended) |
|---|---|---|---|
| **Alternative Length** | N/A | 2.0 miles | 1.8 miles |
| **Bridge Length** | 1,690 feet | 1,840 feet | 1,760 feet |
| **ATC Pole Impacts** | No | No | Avoided |
| **Historic Properties** | 0 | 1 | 0 |
| Likely to Affect **Fox-Wisconsin Heritage Water Trail** | No | Yes | Yes |
| Likely to Affect **Threatened or Endangered Species** | No | Yes | Yes |
| **Relocations** | 0 | 8 | 0 |
| **Right-of-Way Required** | 0 acres | 15.7 acres | 10.4 acres |
| Agricultural Land | 0 acres | 4.1 acres | 4.1 acres |
| Protected Public Land | 0 acres | 1.2 acres | 0.1 acres |
| **Water Crossings** | N/A | 2 | 2 |
| **Wetlands** | 0 acres | 5.8 acres | 5.6 acres |
| **Planning Level Cost Estimate (million)** * | $0 | $140-190 | $140-190 |

* In-depth cost analysis was completed on the selected alternative and included in the final environmental document.

# Preferred Alternative




| Item of Anticipated Impact | Preferred Alternative (change in impacts)* |
|---|---|
| **Alternative Length** | 1.8 miles |
| **Bridge Length** | 1,760 feet |
| **ATC Pole Impacts** | Avoided |
| **Historic Properties** | 0 |
| Likely to Affect **Fox-Wisconsin Heritage Water Trail** | Yes |
| Likely to Affect **Threatened or Endangered Species** | Yes |
| **Relocations** | 0 |
| **Right-of-Way Required** | 15.1 acres (+4.7 acres) |
| Agricultrual Land | 4.1 acres |
| Protected Public Lands | 0.7 acres (+0.6 acres) |
| **Water Crossings** | 2 |
| **Wetlands** | 5.9 acres (+0.3 acres) |
| **Cost Estimate (million)** **2020 dollars* | $141 |

** Compared to 2019 Recommended Alternative*

The County V bridge will be rebuilt just south of its existing location to allow the existing bridge to remain open to traffic during construction.

**Preferred Alternative**
- Preferred Alternative
- Anticipated Right-of-Way
- Existing Right-of-Way
- Proposed Retaining Wall
- Remove Existing Road

**Resources**
- Protected Public Land
- Wetland
- Historic Property
- ATC Structure
- Existing Building

Note: Existing buildings were digitized using 2015 aerial imagery.

# Project Schedule

## Development of Purpose and Need

Define the issues and goals.

Spring 2019

## Preliminary Alternatives

Consider all reasonable solutions.

Spring 2019

## Range of Alternatives

Conduct a screening and evaluation
to identify the viable solutions.

Summer 2019

## Preferred Alternative

Identify the preferred solution.

Fall 2020

## Environmental Document Complete

Document the project in the final study report.

Spring 2021

## Final Design / Real Estate Acquisition

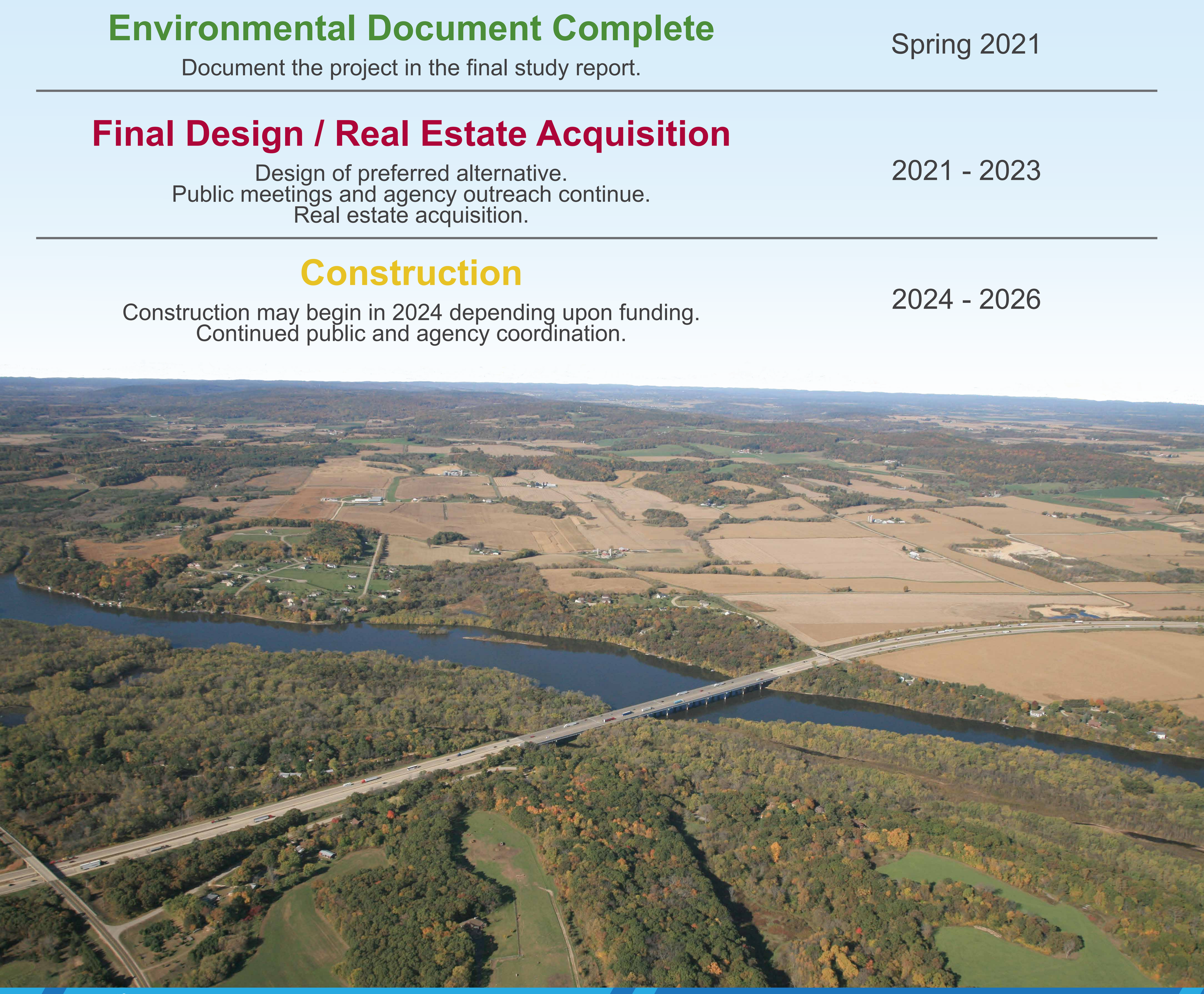
Design of preferred alternative.
Public meetings and agency outreach continue.
Real estate acquisition.

2021 - 2023

## Construction

Construction may begin in 2024 depending upon funding.
Continued public and agency coordination.

2024 - 2026



Wisconsin Department of Transportation

I-39/90/94 Wisconsin River Bridge Project