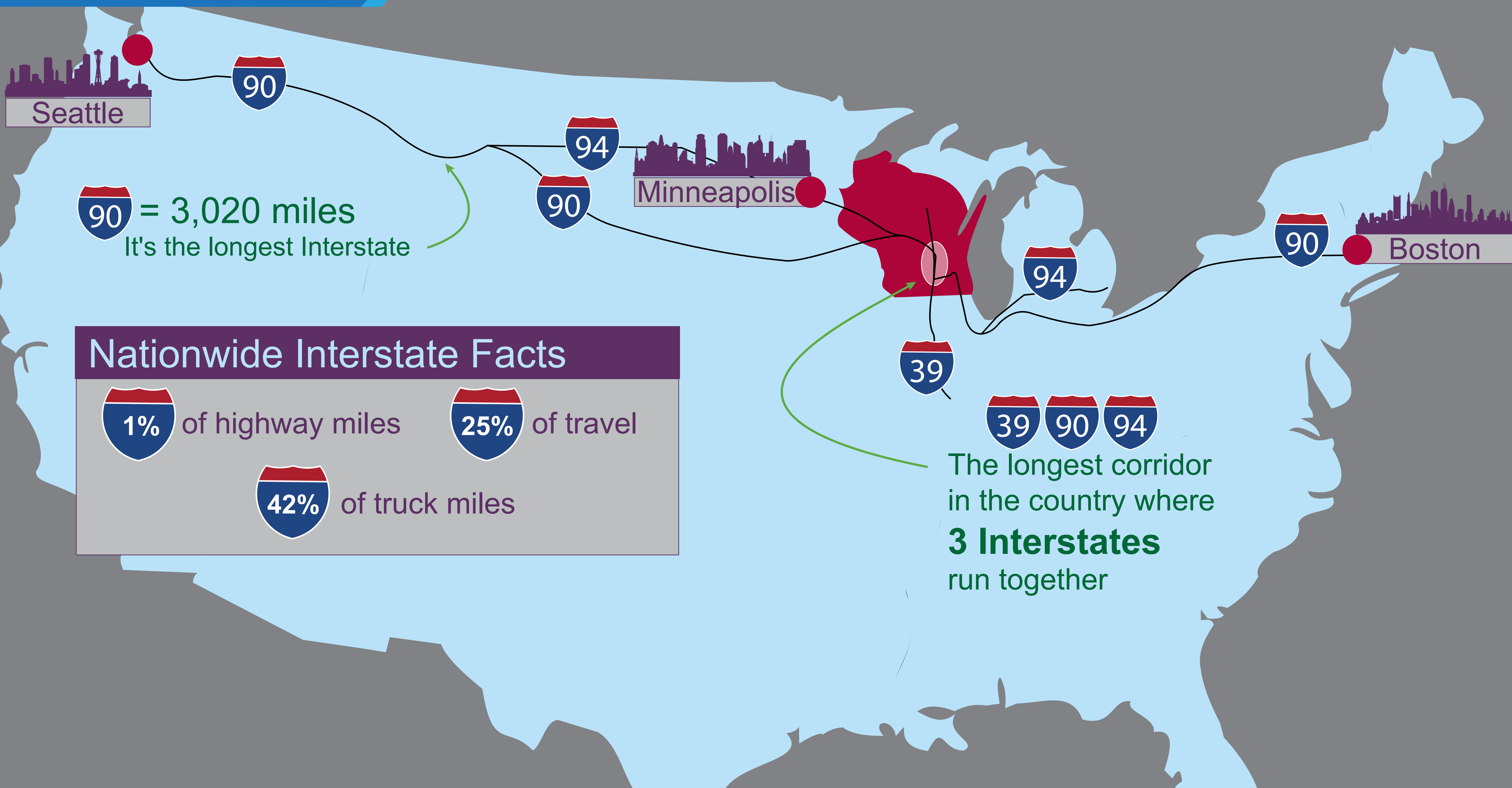




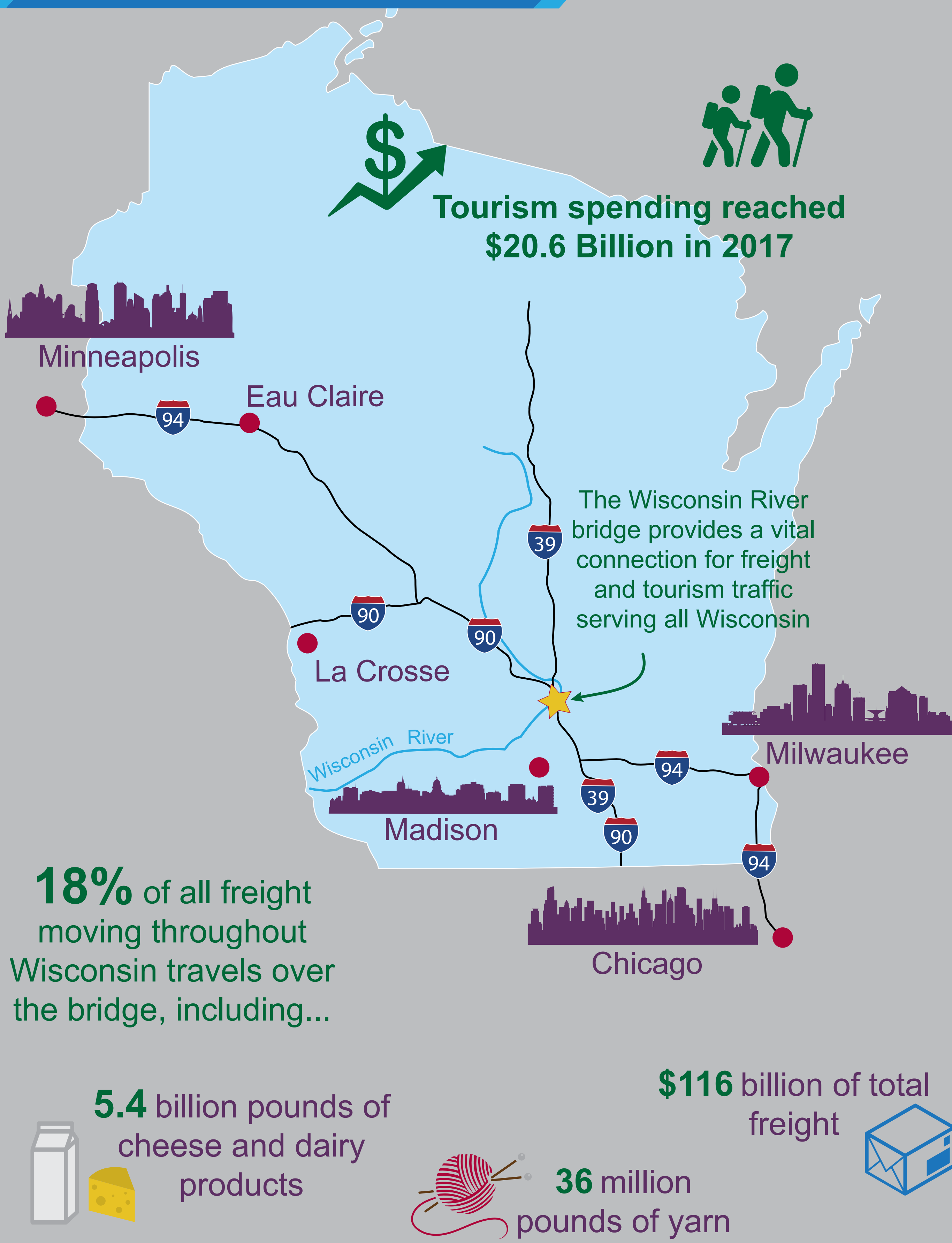


# I-39/90/94 Route Importance

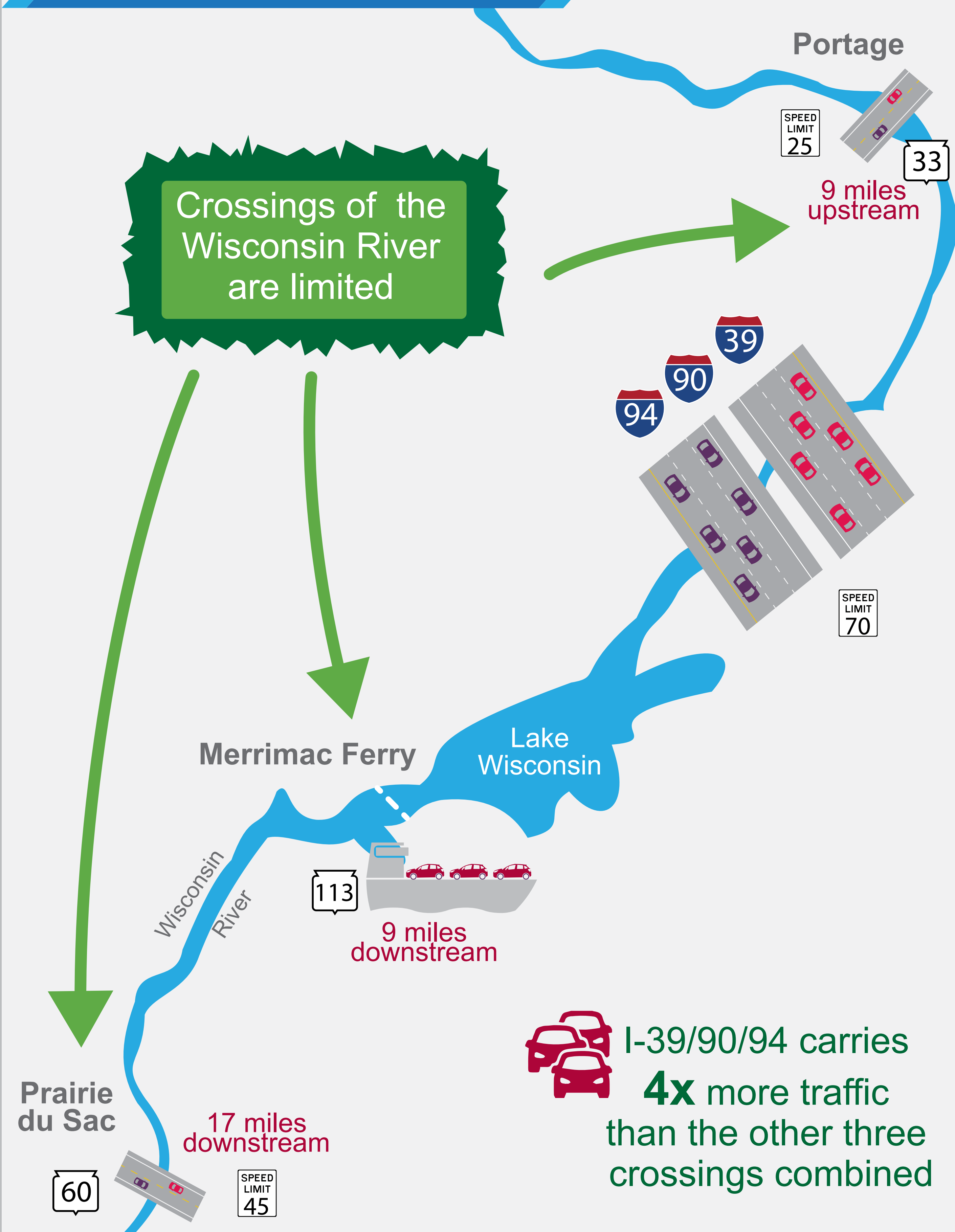
## National Importance



## Regional Importance



## Local Importance





# 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:

 Condition of the Wisconsin River Bridge

## Secondary Needs:

 Traffic Demands

 Roadway Geometrics





# Primary Need of the Project

## Wisconsin River Bridge Condition is Deteriorating

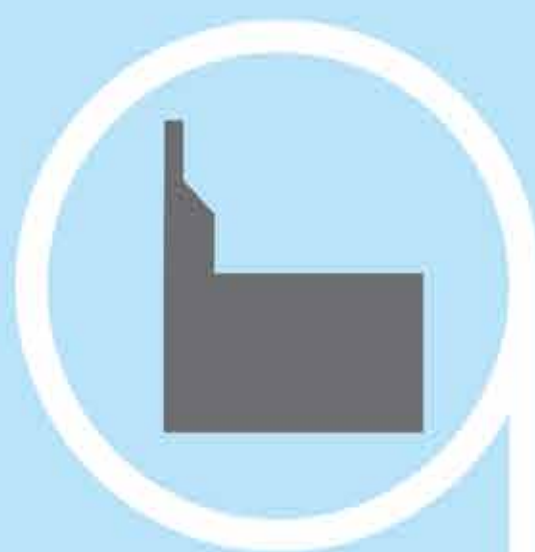
The bridge is inspected every two years to assess the condition of each bridge element. Inspectors assign multiple condition ratings to each bridge element. A portion of the following bridge elements were given a rating of poor or severe.

**Good**  
No or minimal  
deterioration

**Fair**  
Minor  
deterioration

**Poor**  
Advanced  
deterioration

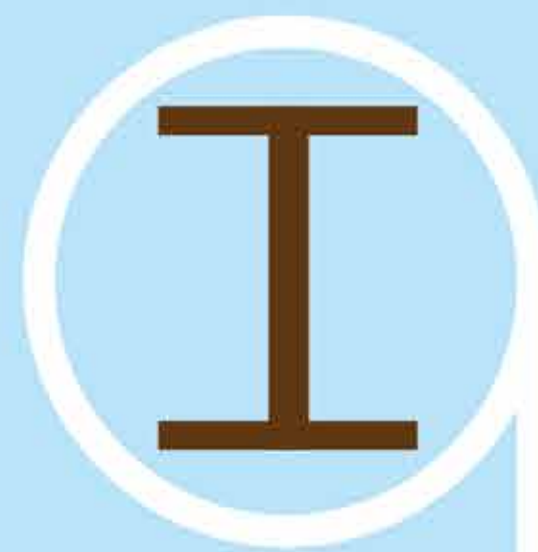
**Severe**  
Major  
deterioration



### Concrete Deck

#### Poor condition:

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



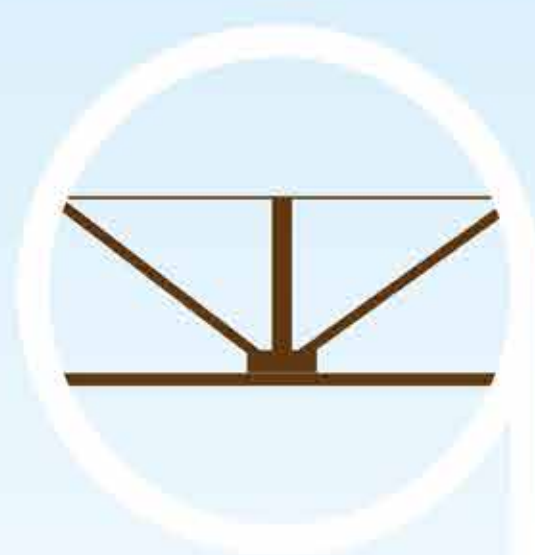
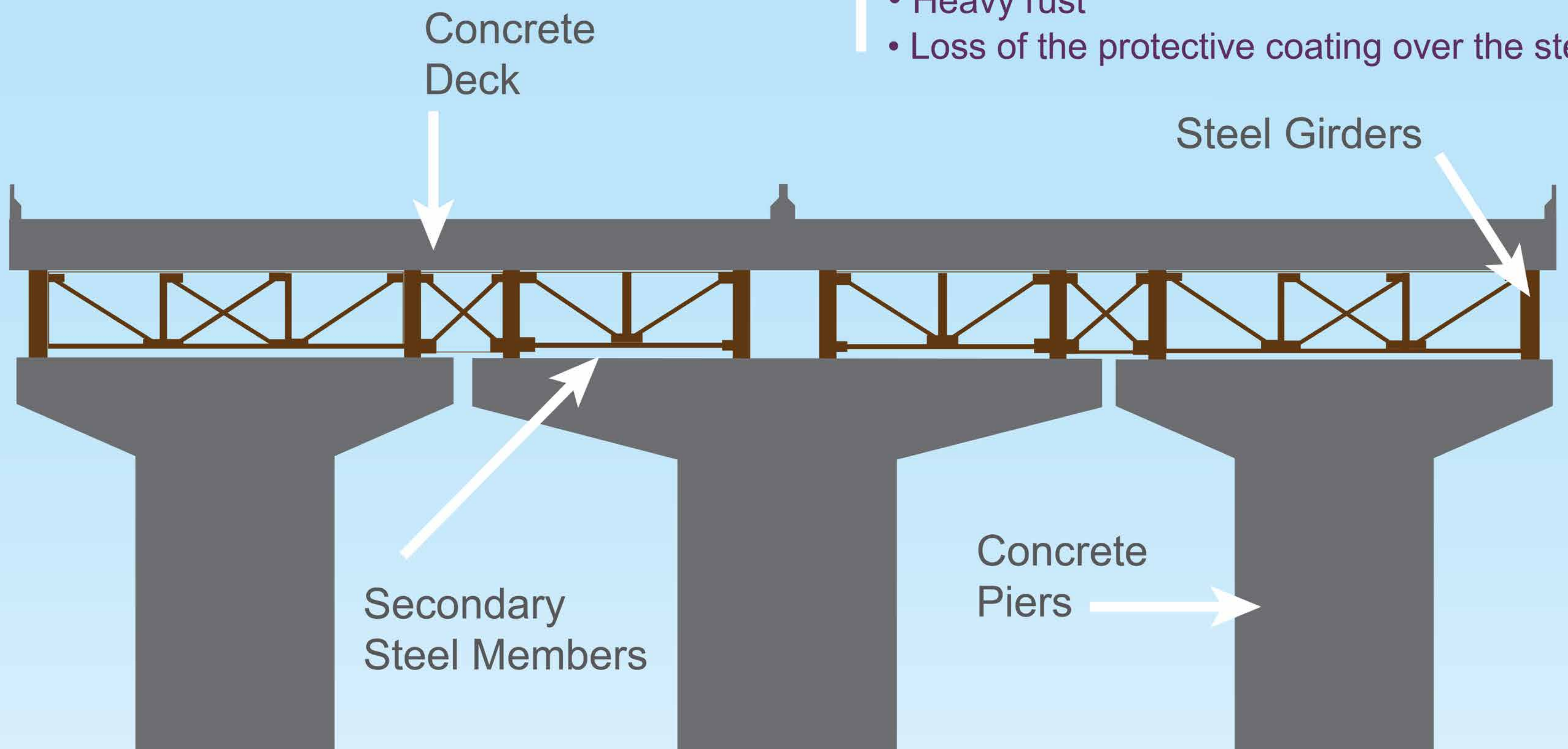
### Steel Girders

#### 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

1961  
Bridge is built



1975  
Girder repair

1981  
Girder repair

Brett Favre  
Packers quarterback

1984  
New deck  
widen  
bridge



1993  
Deck  
repair

1995  
Girder  
repair



Aaron Rodgers  
Packers quarterback

2012  
Girder repair  
deck repair  
pier repair

2002  
Girder  
repair



1960

1970

1980

1990

2000

2010

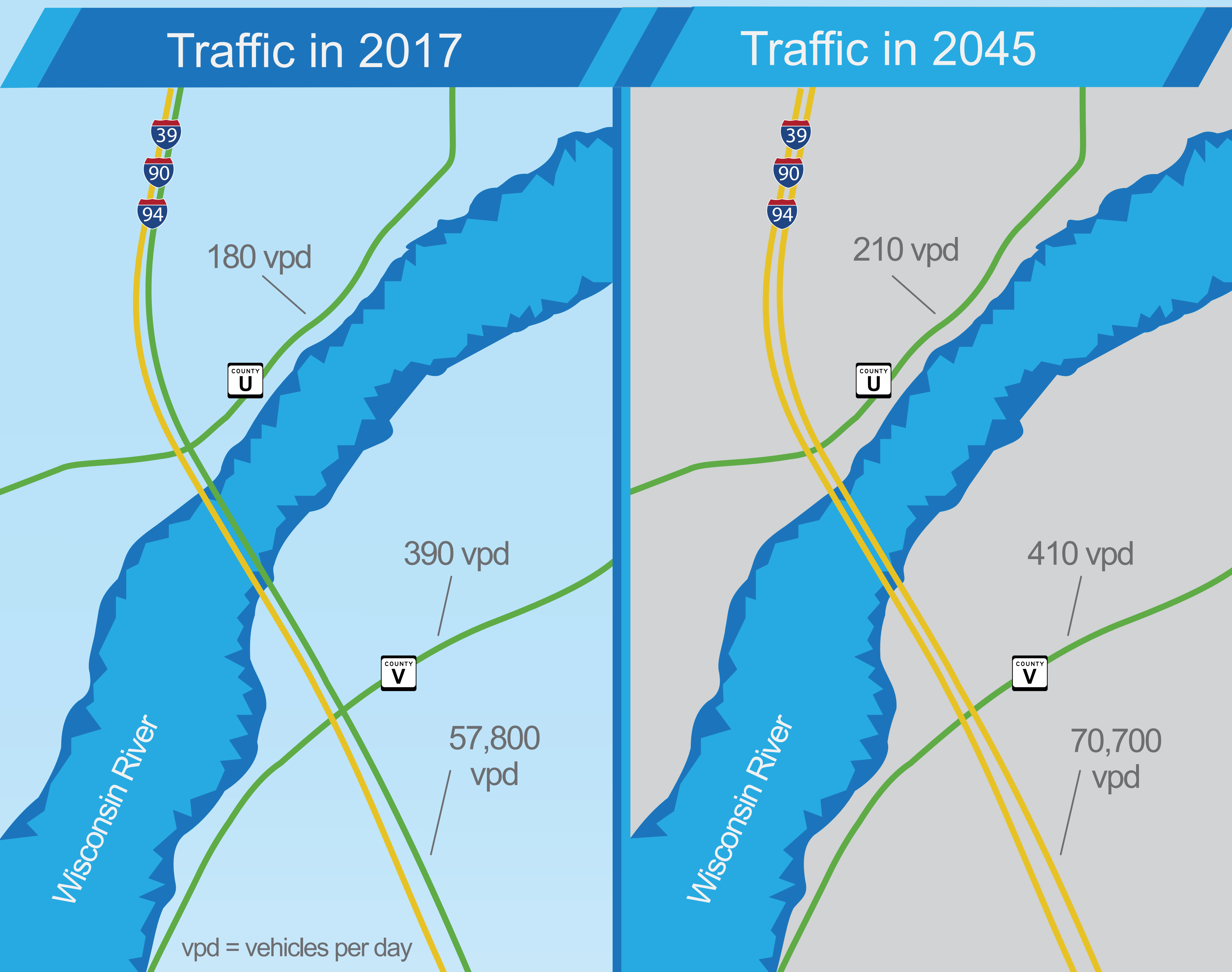
2020





# Secondary Needs of the Project

## Traffic Demands



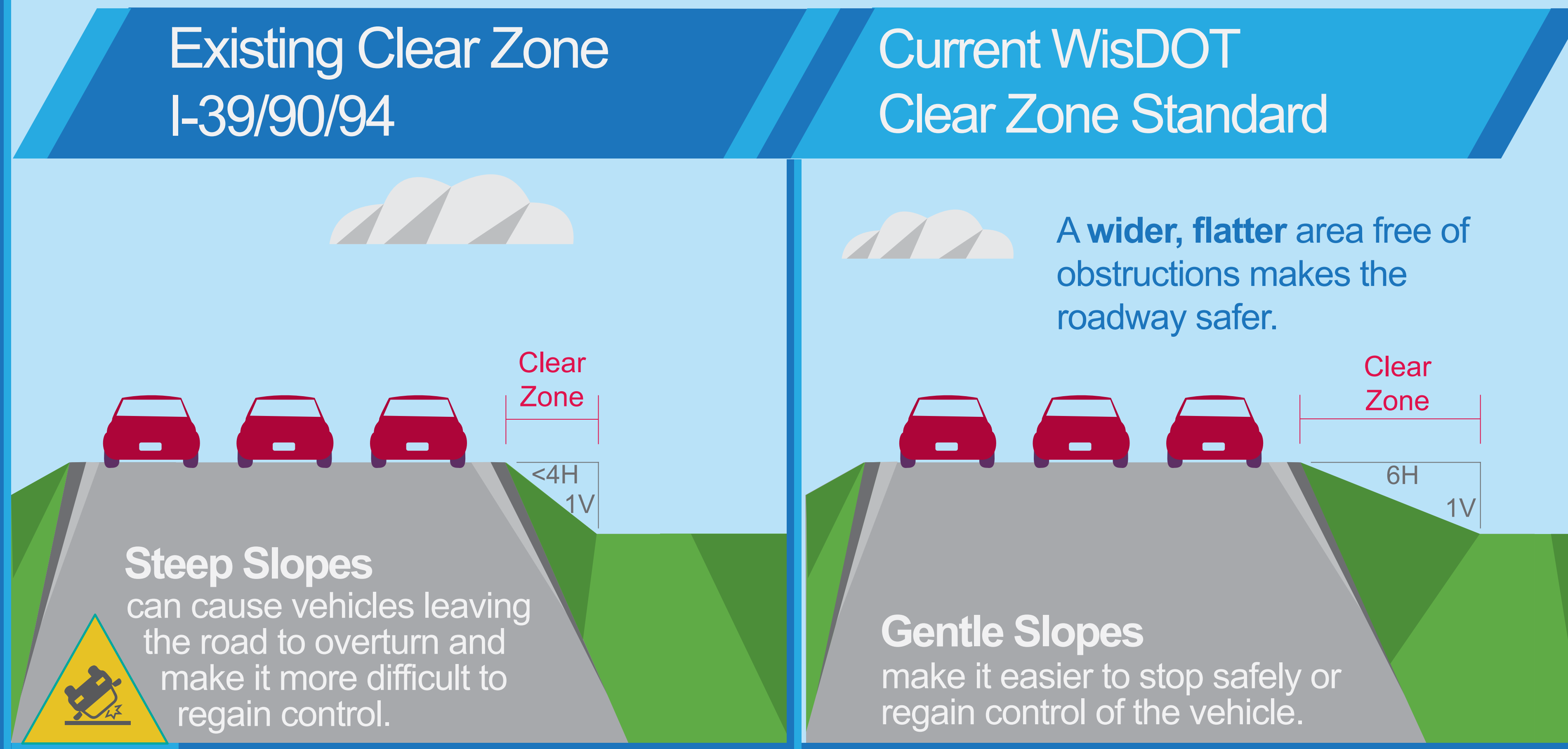
Traffic volumes increase in the summer due to tourist travel

Lane closures due to past bridge repairs created lengthy delays

**23%** of daily traffic is trucks

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

## Roadway Geometrics

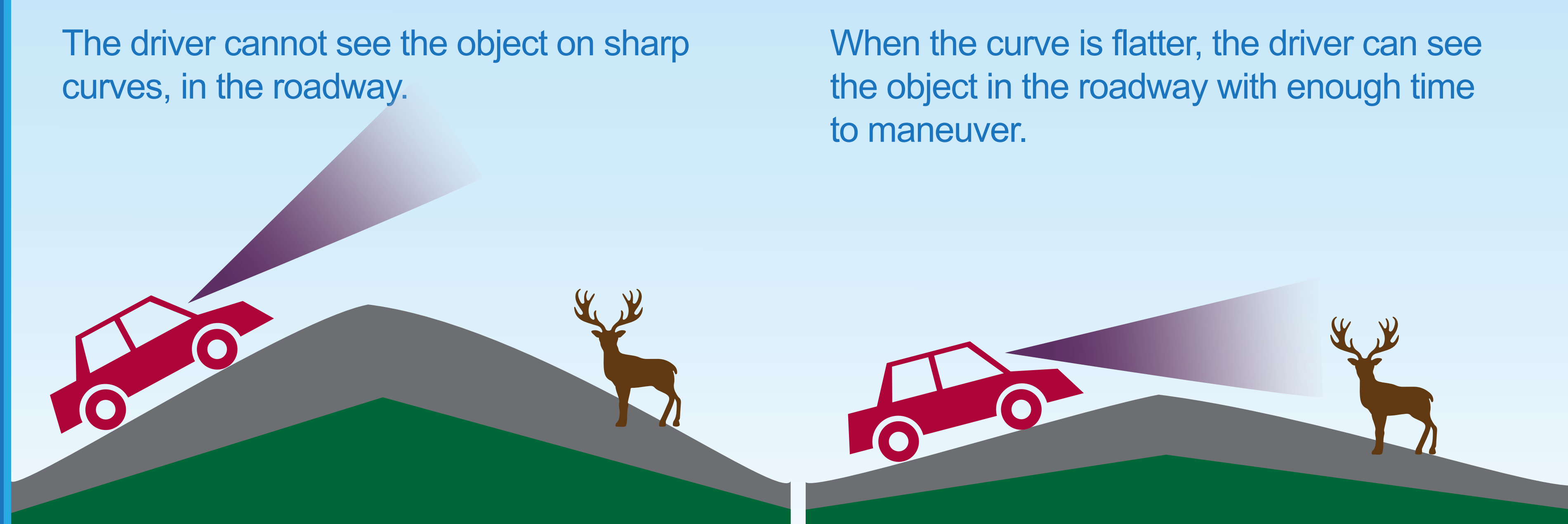


**48%** of crashes within the project termini were run-off-the-road crashes between 2013 and 2017

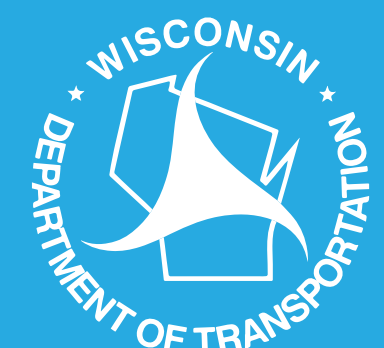
**Decision Sight Distance**

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

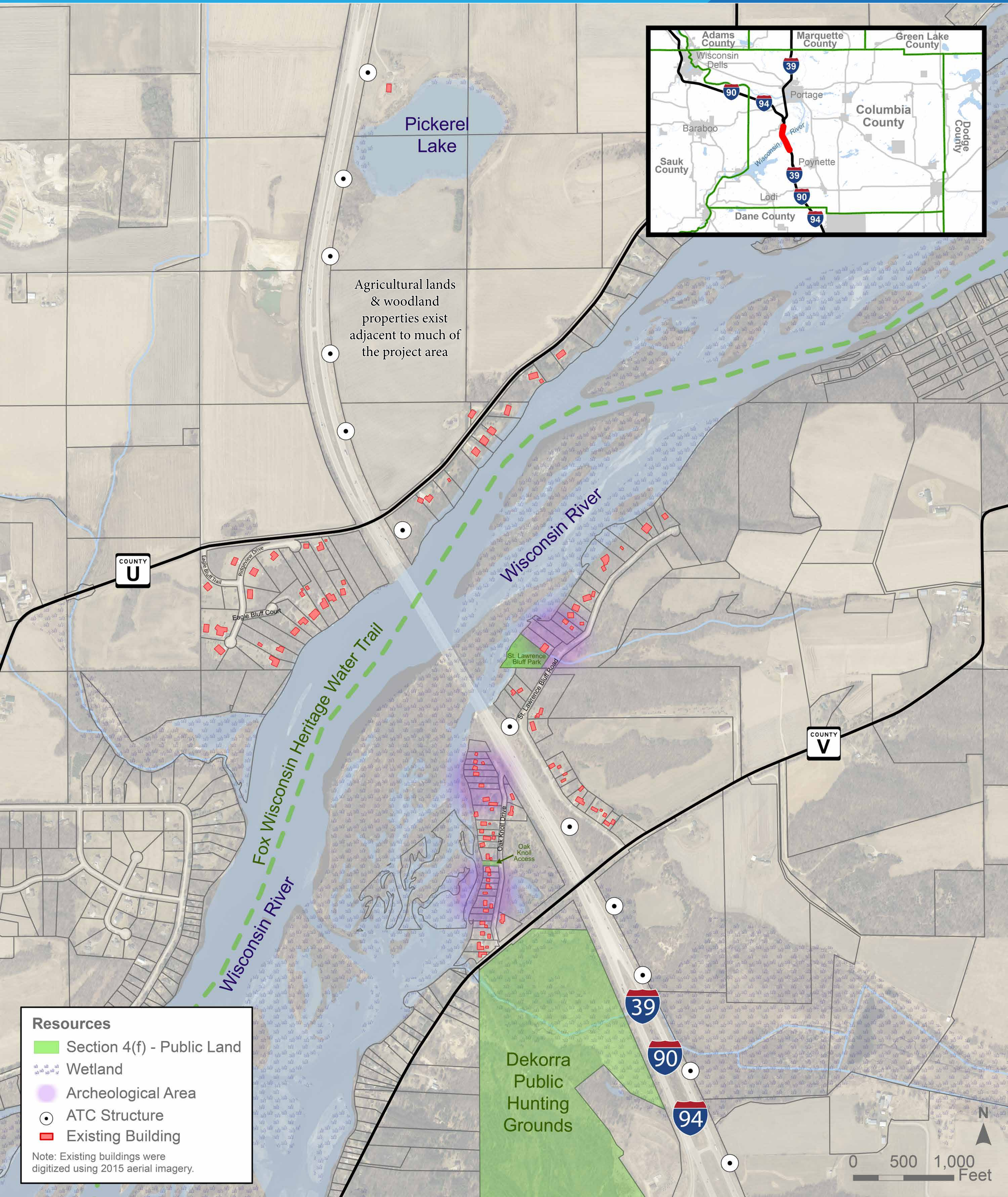


Three I-39/90/94 vertical curves in the project area do not meet decision sight distance standards





# Known Project Area Resources

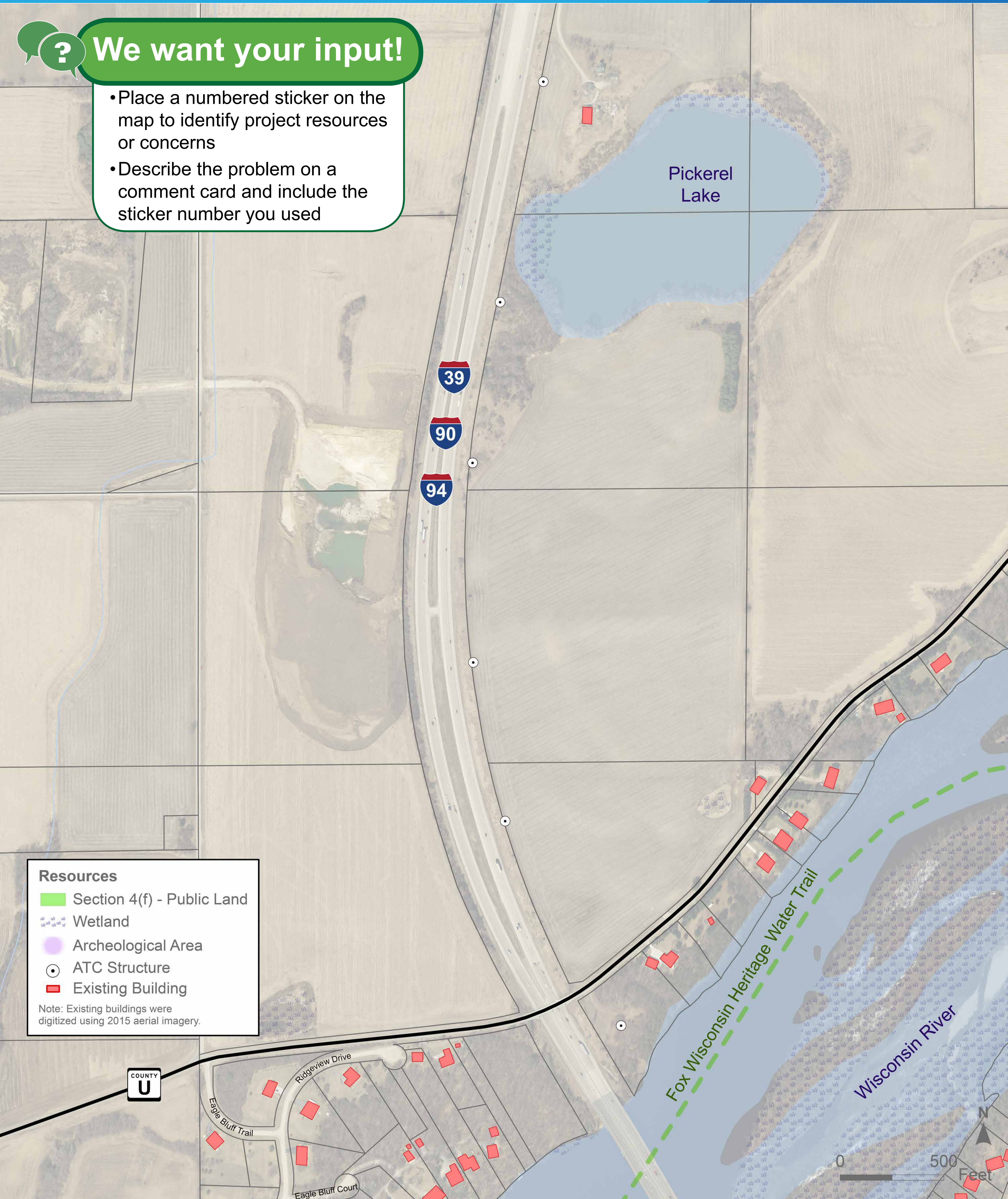




# Public Input Map (North of the Bridge)

**? We want your input!**

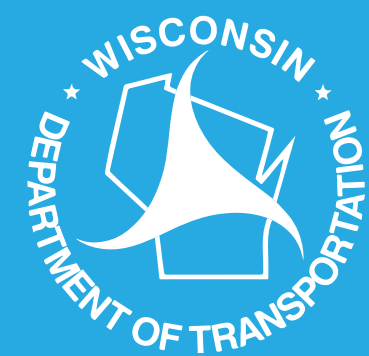
- Place a numbered sticker on the map to identify project resources or concerns
- Describe the problem on a comment card and include the sticker number you used



## Resources

- Section 4(f) - Public Land
- Wetland
- Archeological Area
- ATC Structure
- Existing Building

Note: Existing buildings were digitized using 2015 aerial imagery.





# Public Input Map (South of the Bridge)

Fox Wisconsin  
Heritage Water Trail  
Wisconsin River



## We want your input!

- Place a numbered sticker on the map to identify project resources or concerns
- Describe the problem on a comment card and include the sticker number you used

St. Lawrence Bluff Park

St. Lawrence Bluff Road

Oak Knoll Drive

Oak Knoll Access

Dekorra  
Public  
Hunting  
Grounds

COUNTY  
V

39

90

94

### Resources

Section 4(f) - Public Land

Wetland

Archeological Area

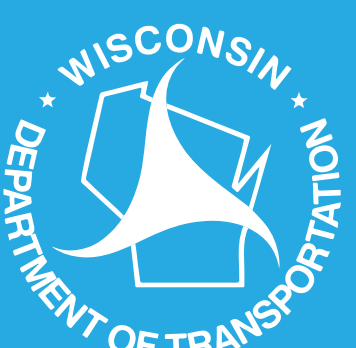
ATC Structure

Existing Building

Note: Existing buildings were digitized using 2015 aerial imagery.

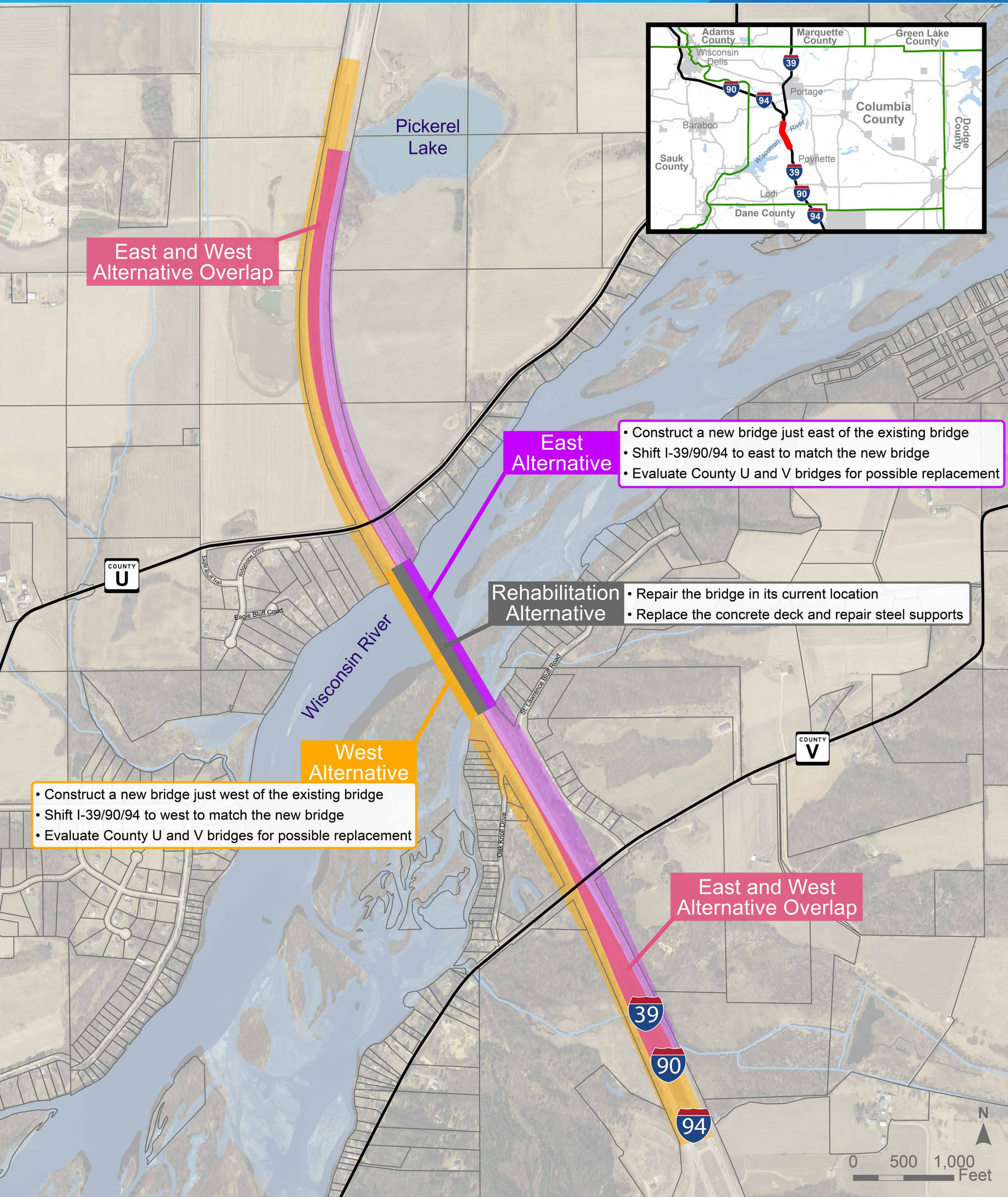
0 500 Feet

N





# Preliminary Alternatives



East and West Alternative Overlap



East and West Alternative Overlap

**East Alternative**

- Construct a new bridge just east of the existing bridge
- Shift I-39/90/94 to east to match the new bridge
- Evaluate County U and V bridges for possible replacement

**Rehabilitation Alternative**

- Repair the bridge in its current location
- Replace the concrete deck and repair steel supports

**West Alternative**

- Construct a new bridge just west of the existing bridge
- Shift I-39/90/94 to west to match the new bridge
- Evaluate County U and V bridges for possible replacement

East and West Alternative Overlap

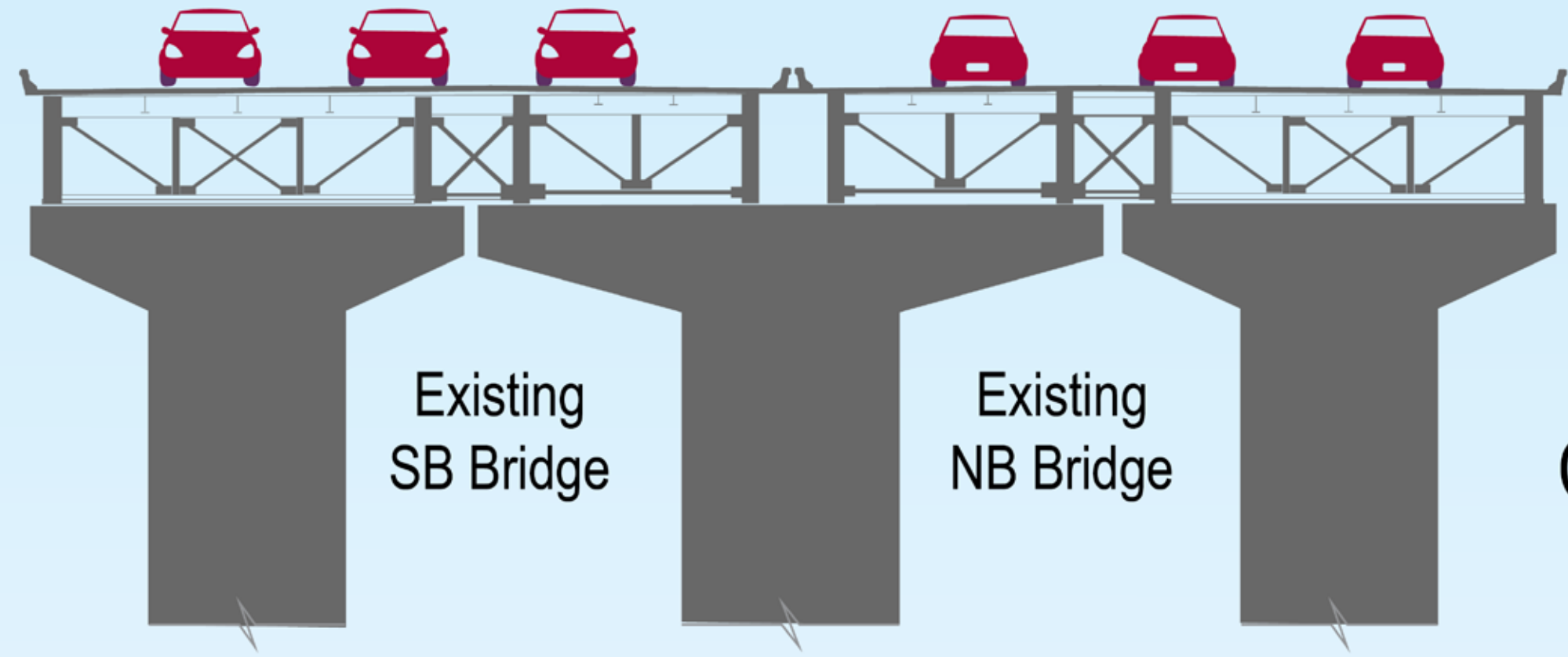
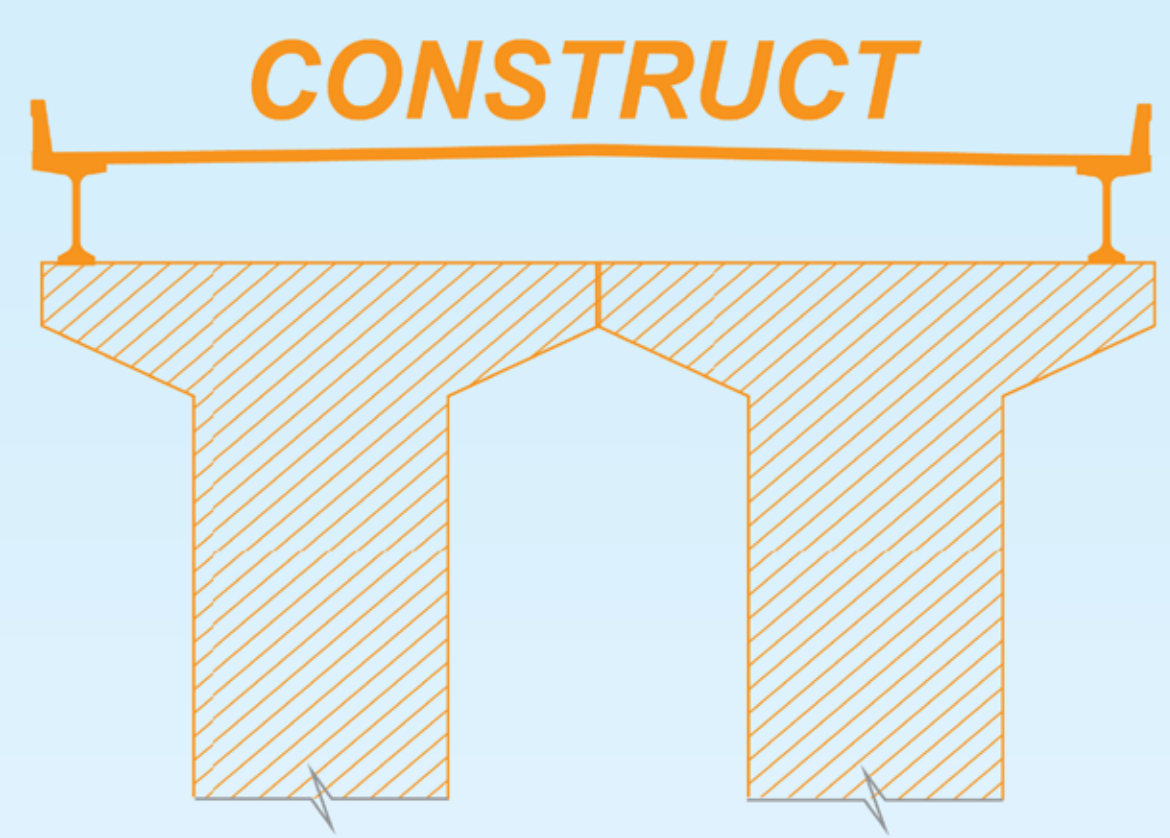




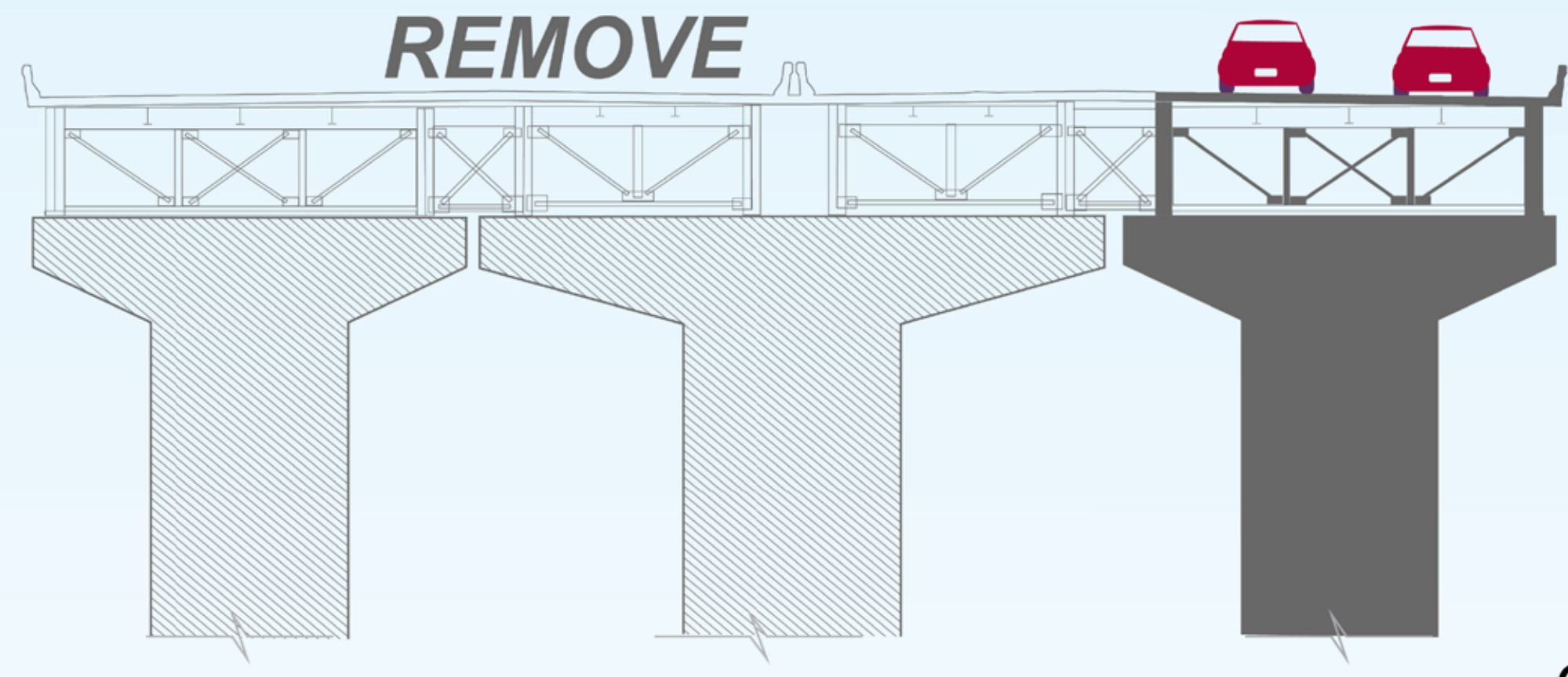
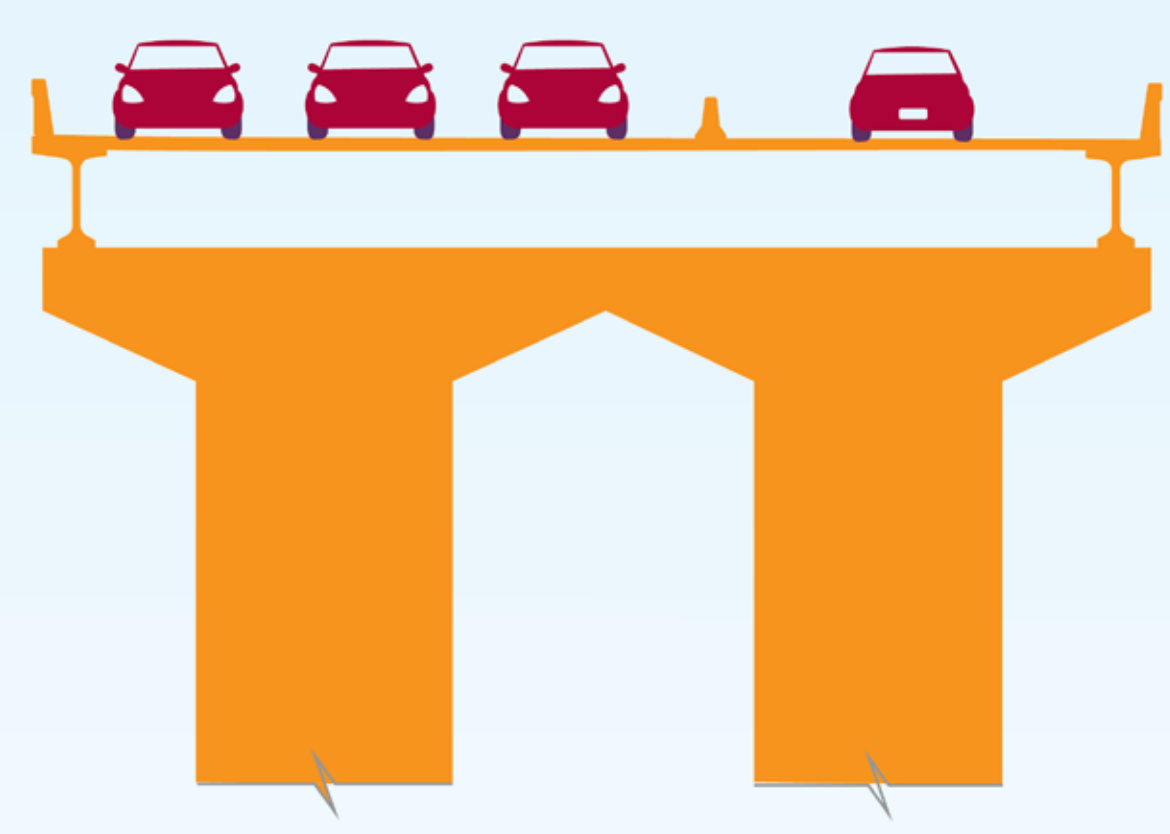
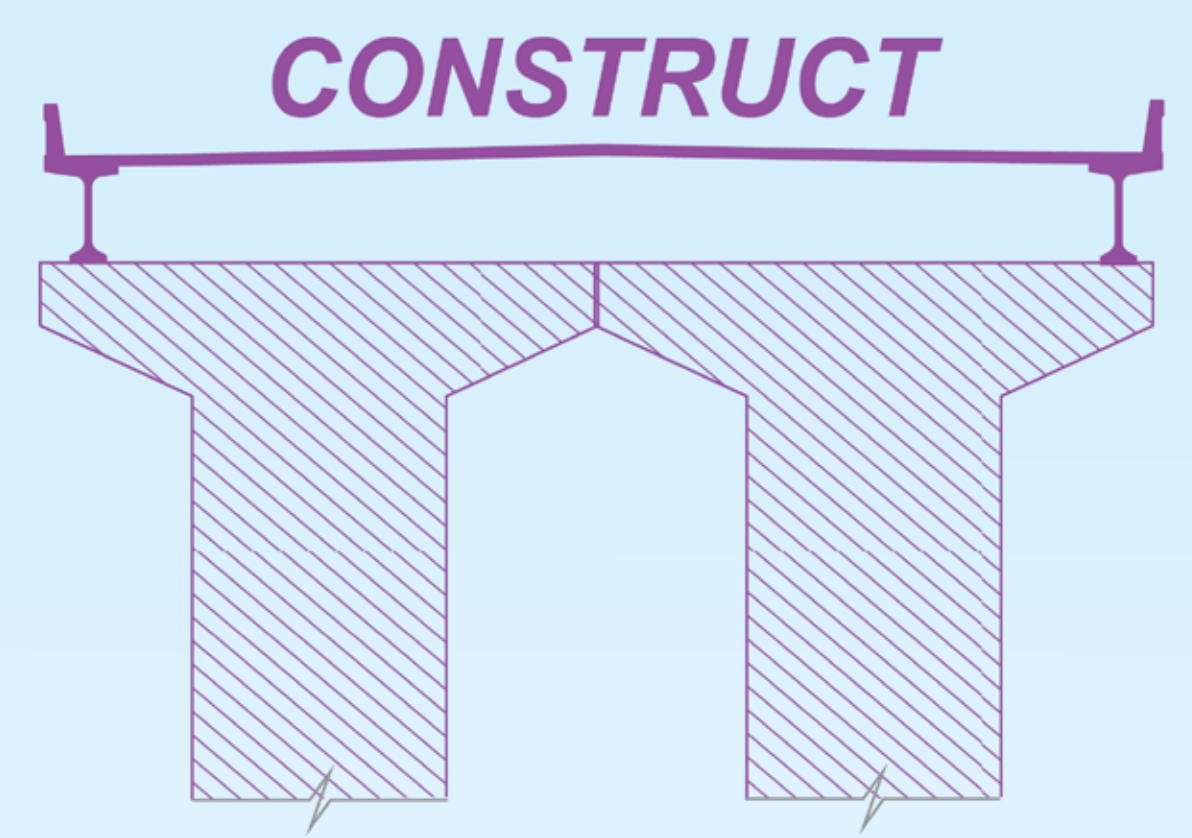
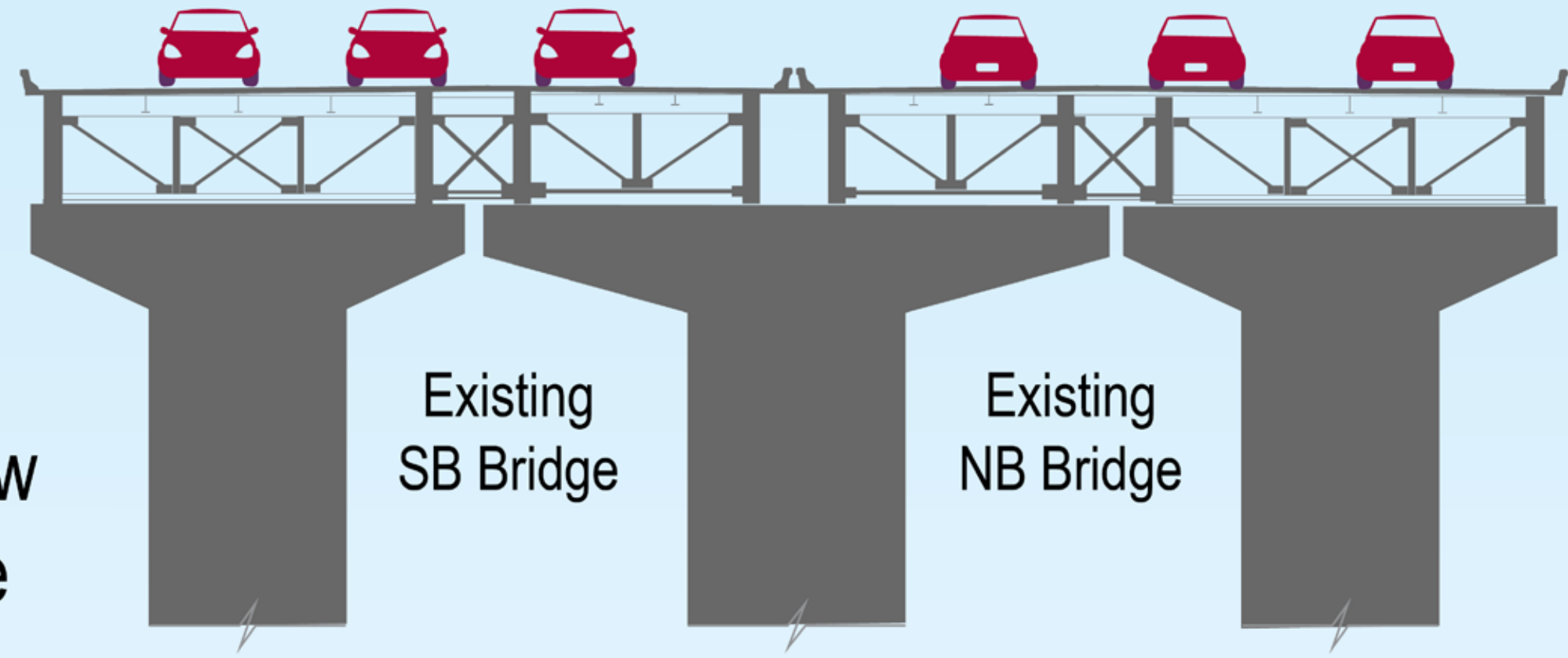
# Construction Staging

## West Alternative

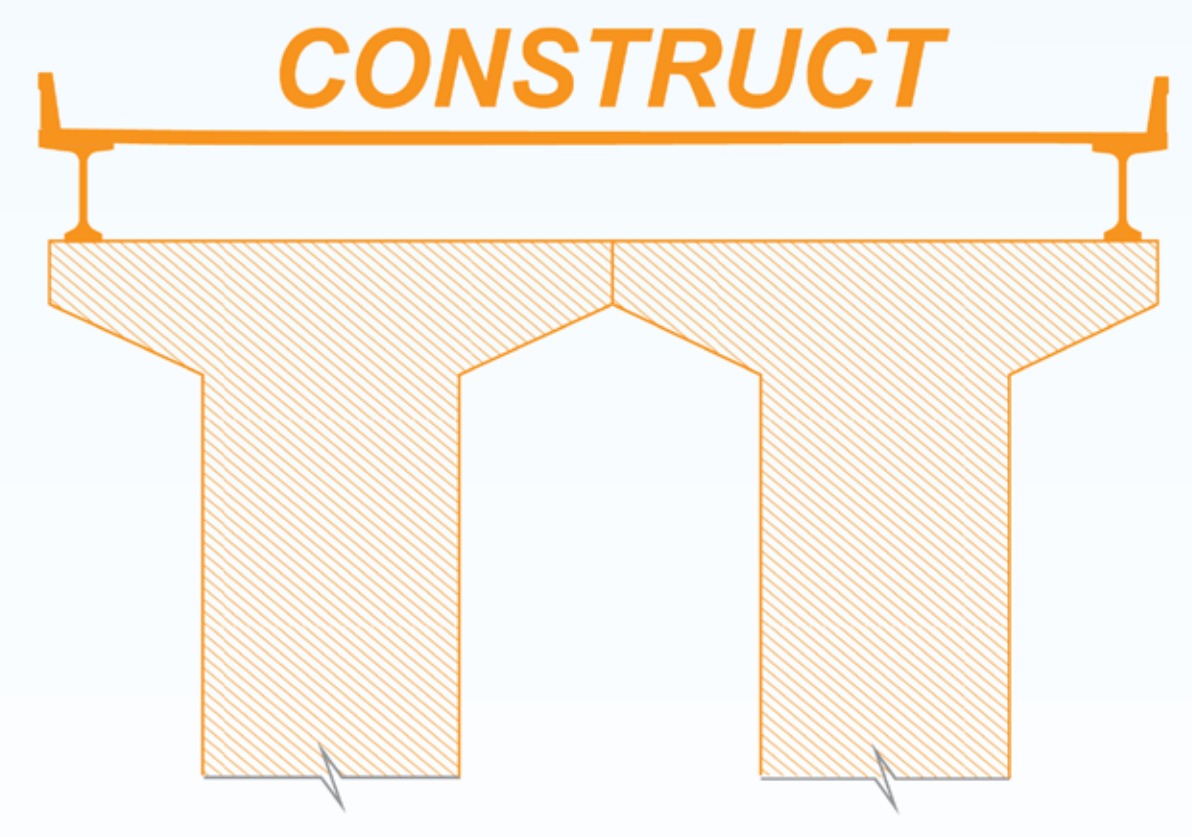
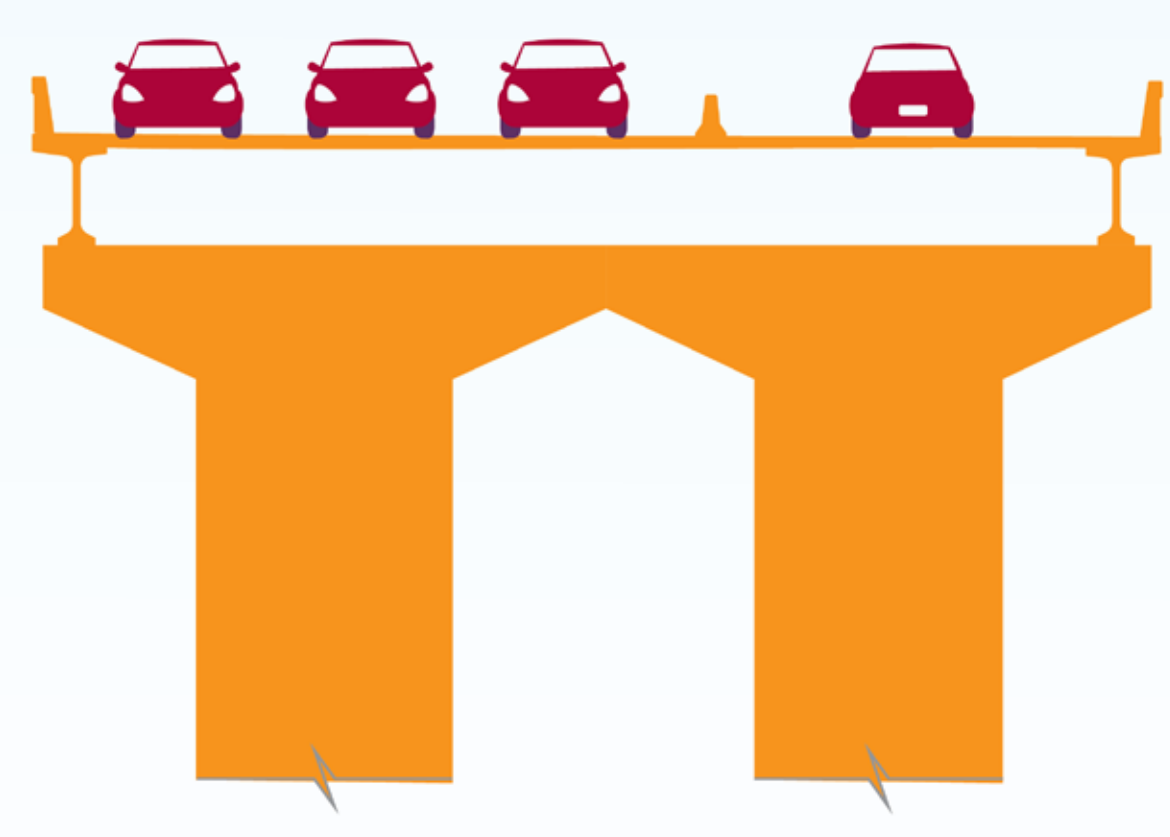
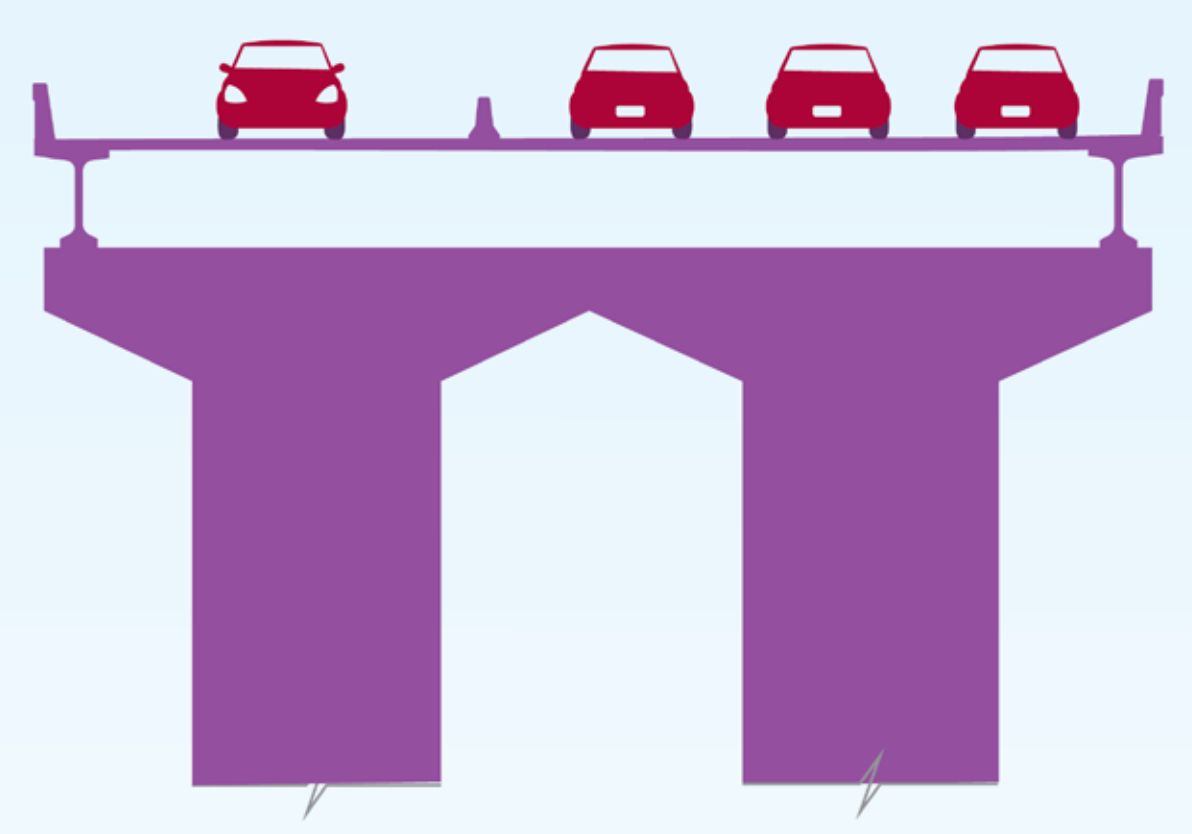
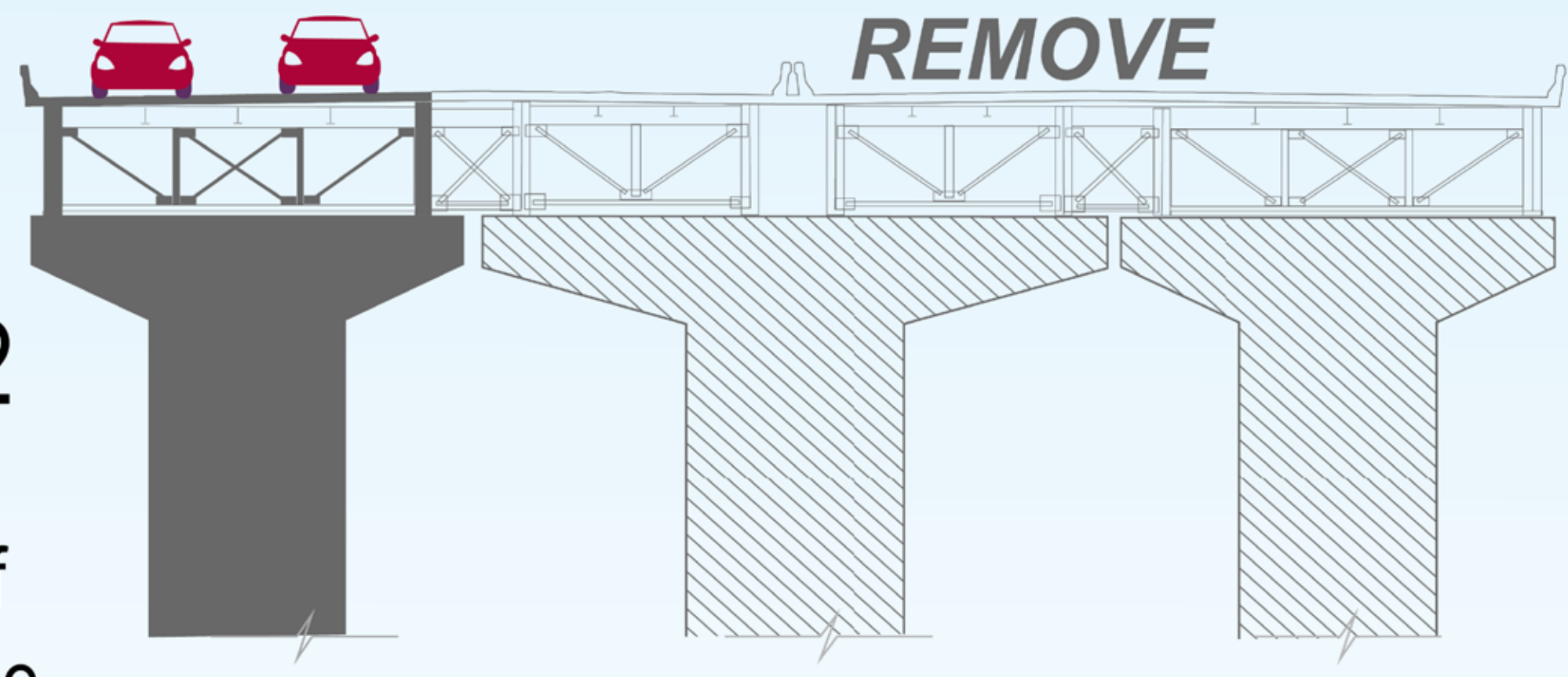
## East Alternative



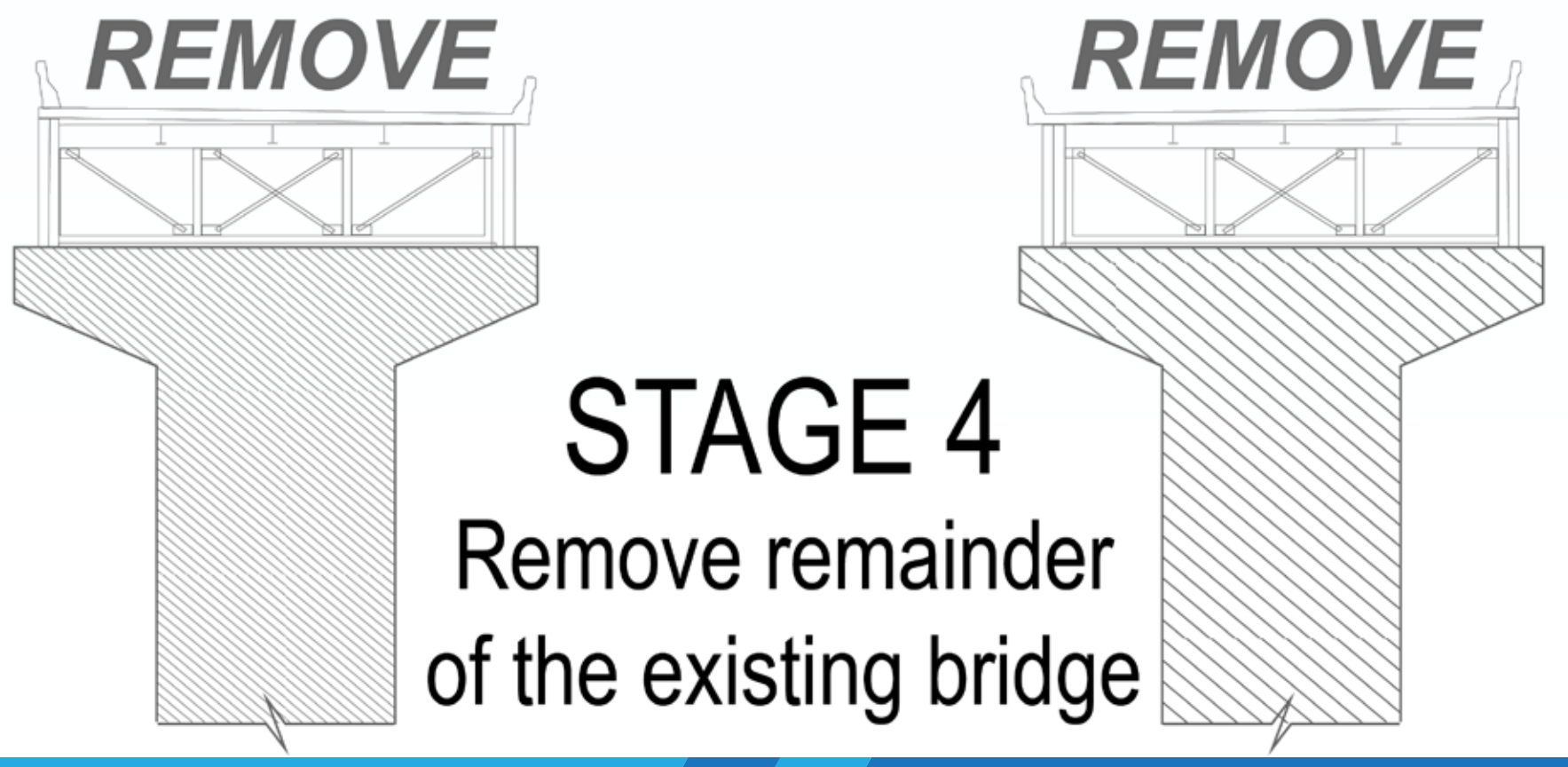
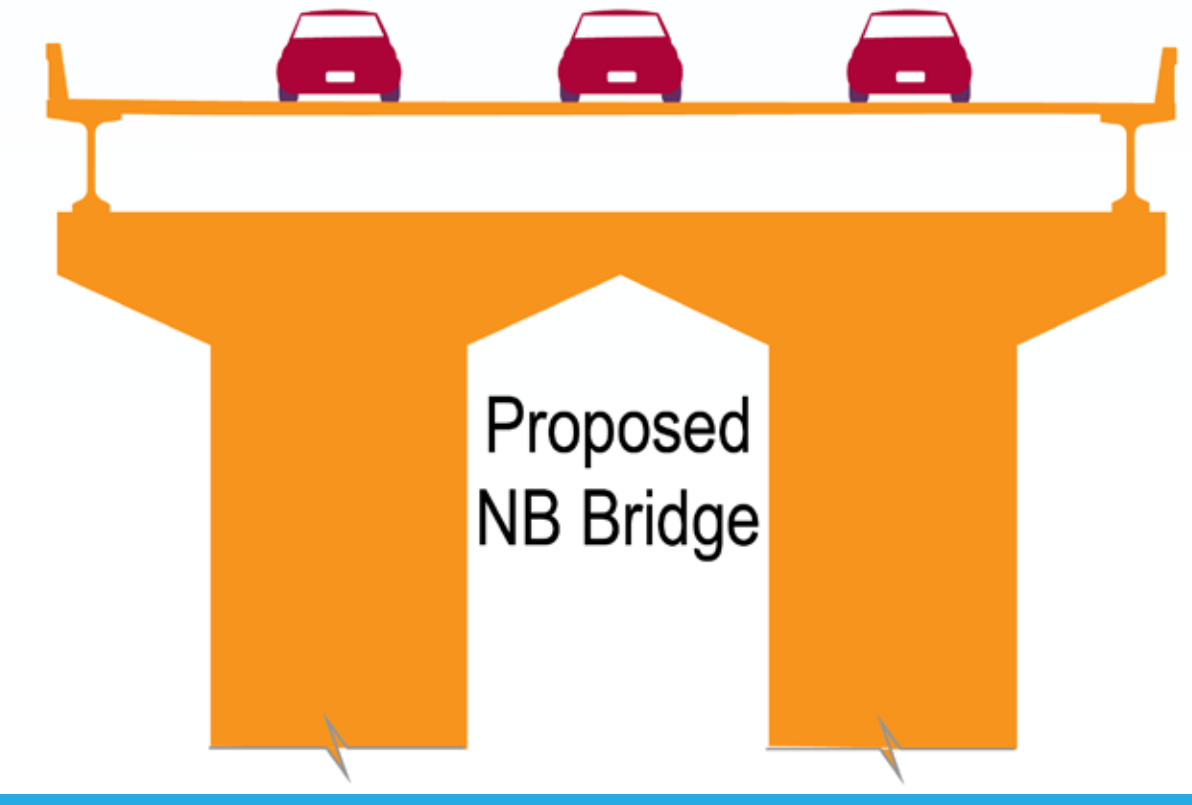
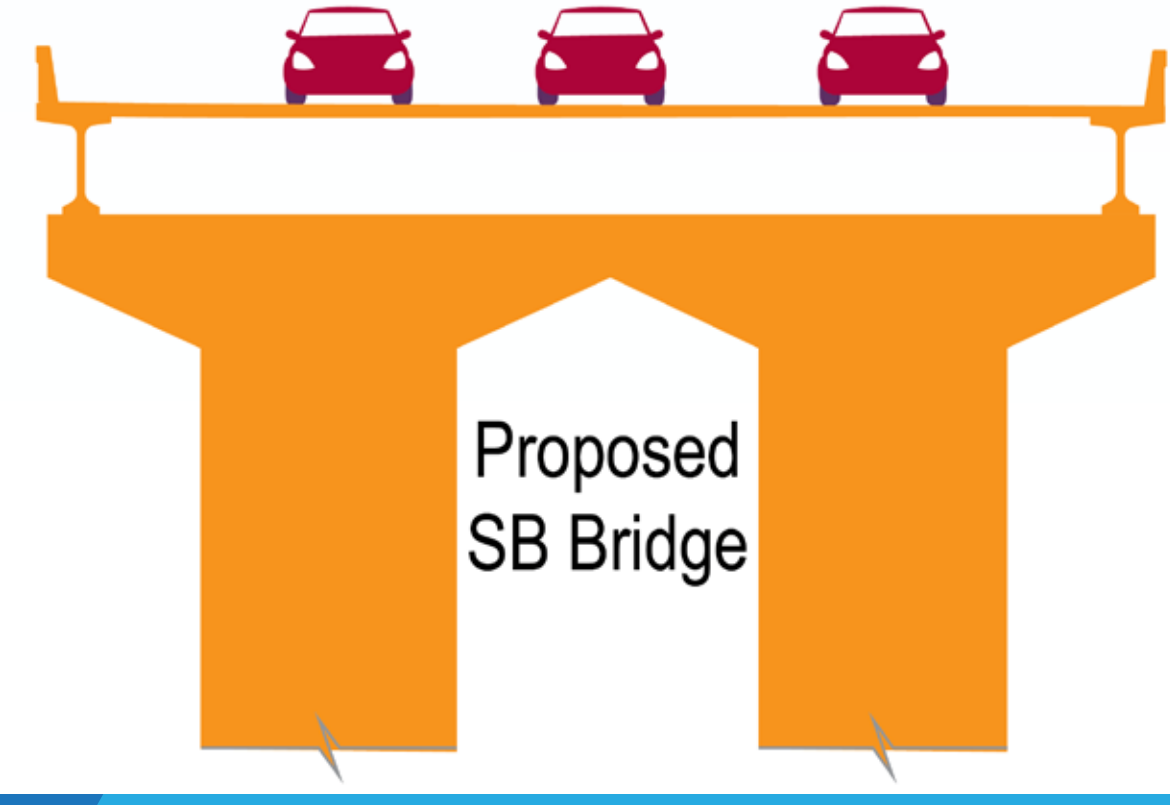
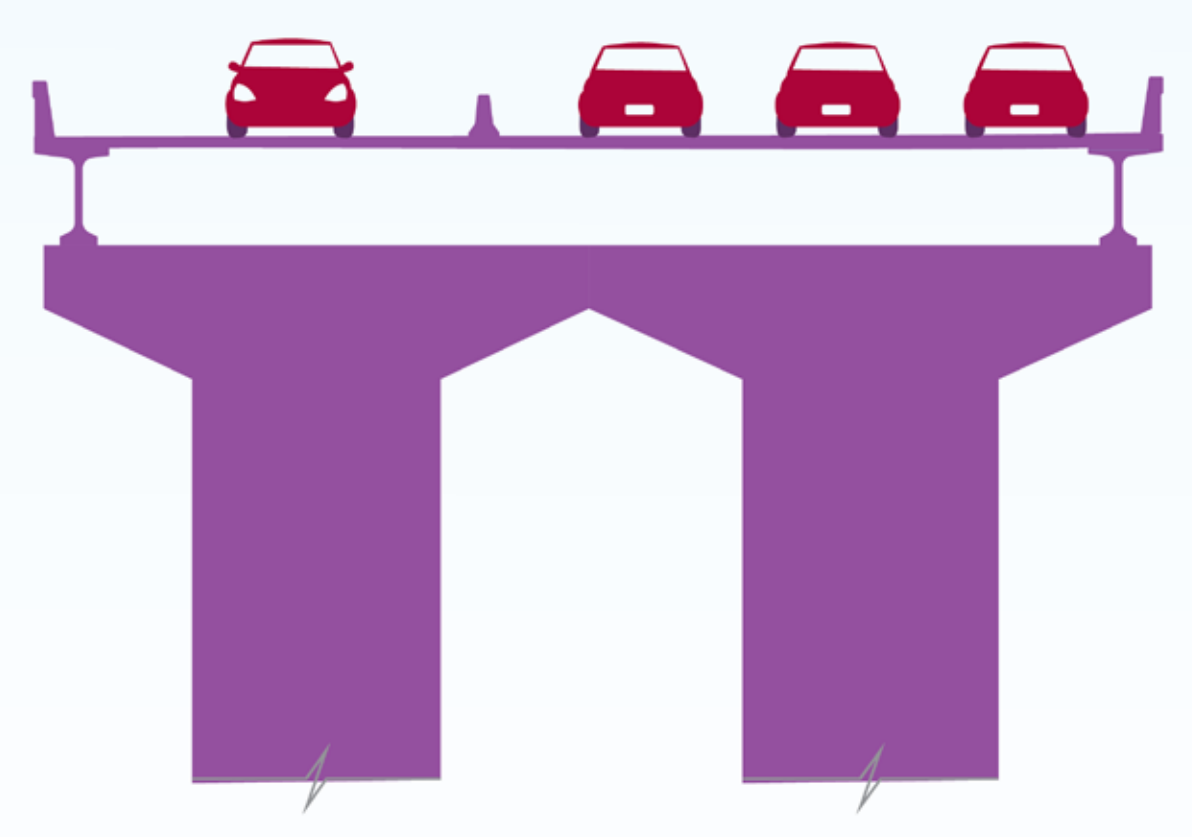
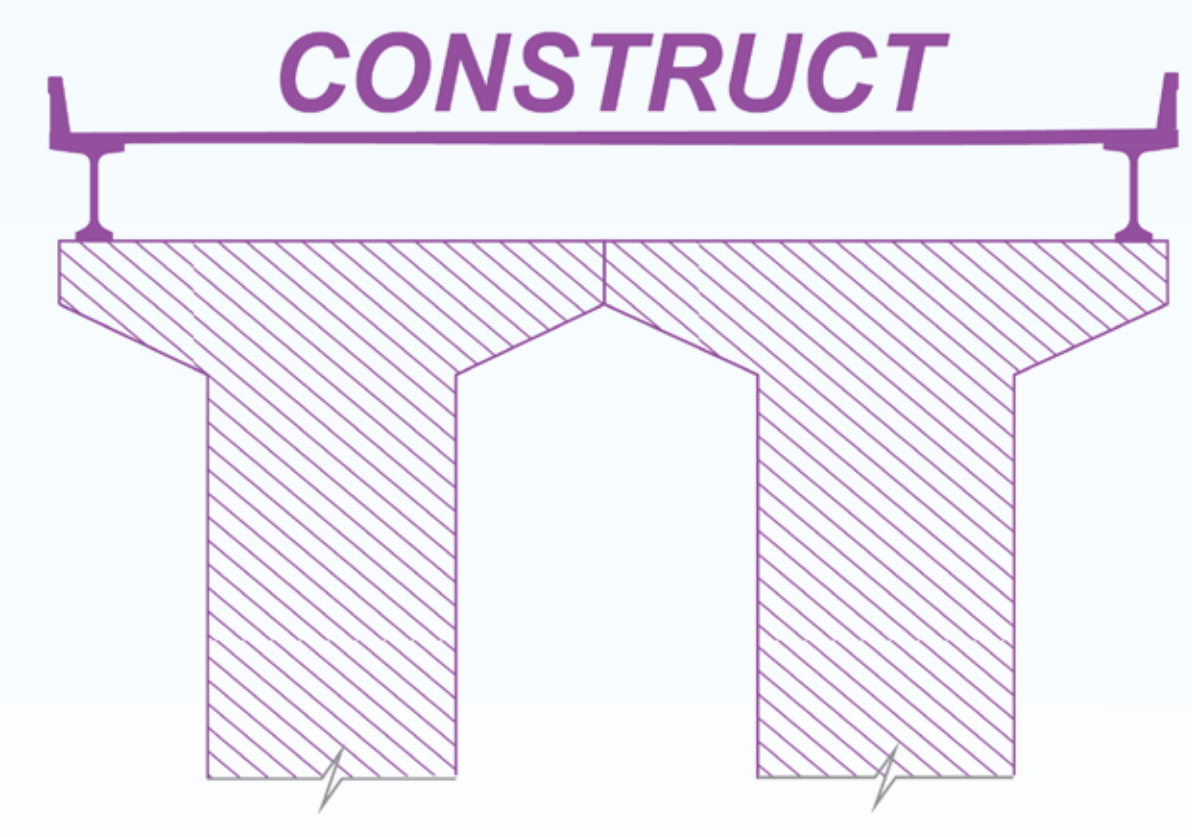
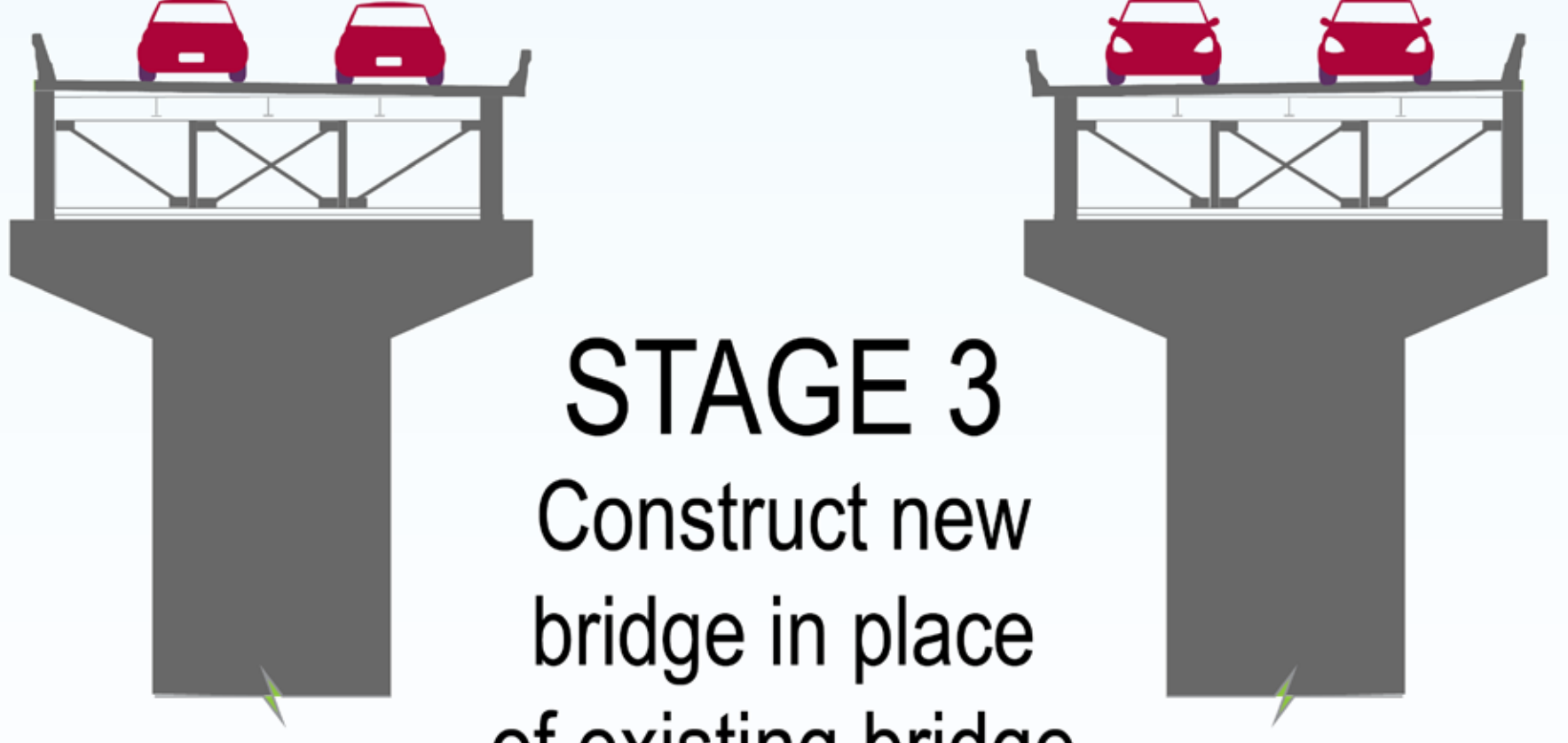
**STAGE 1**  
Construct new bridge to the outside



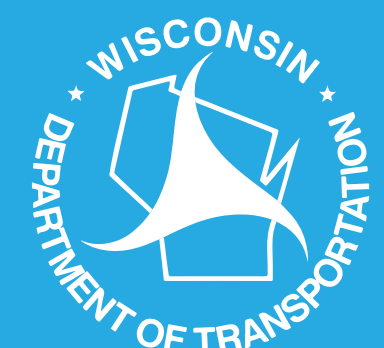
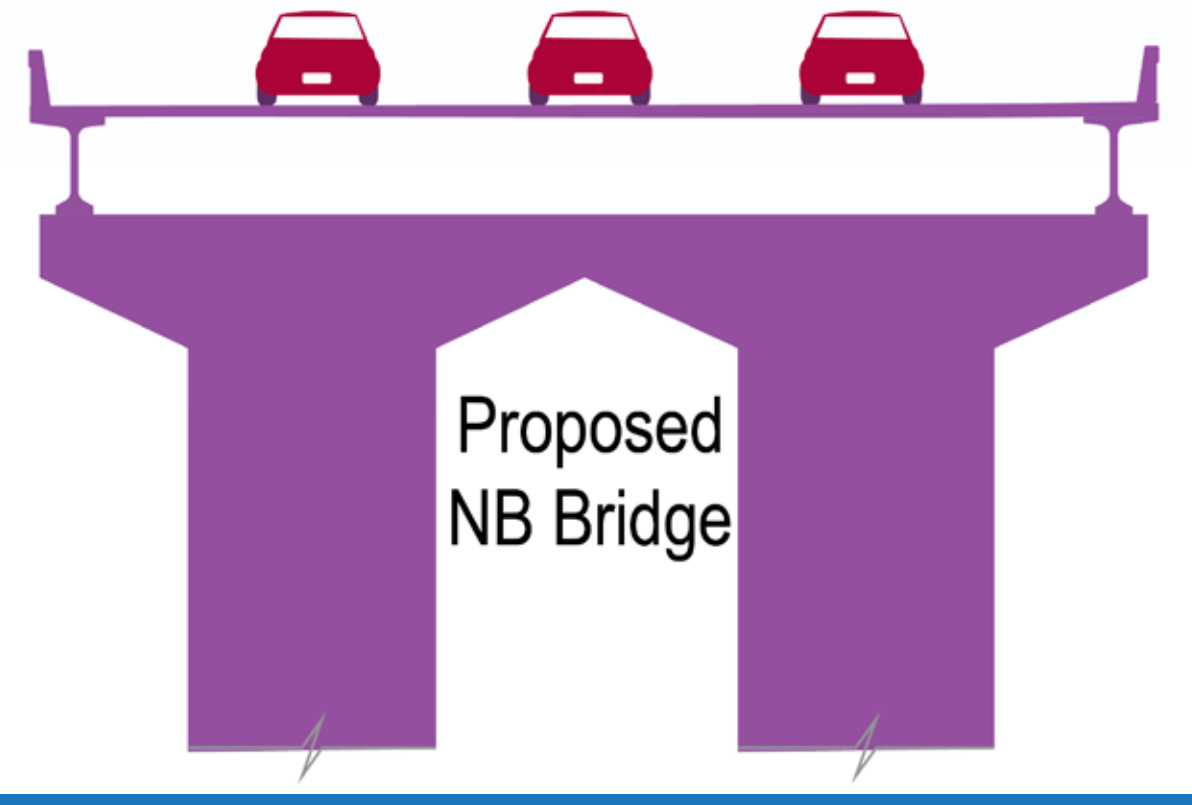
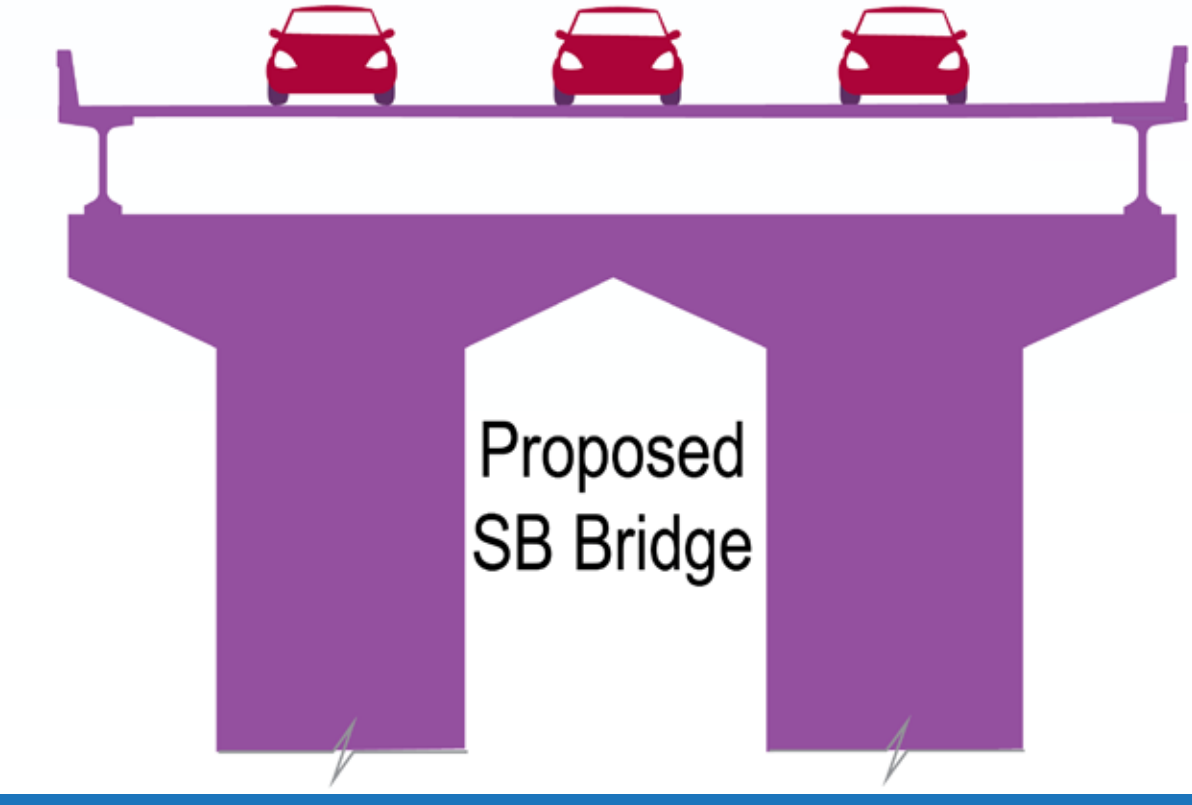
**STAGE 2**  
Remove two-thirds of existing bridge



**STAGE 3**  
Construct new bridge in place of existing bridge



**STAGE 4**  
Remove remainder of the existing bridge





# Project Schedule

## Development of Purpose and Need

Define the issues and goals.

Spring 2019

## Preliminary Alternatives

Consider all reasonable solutions.

Spring 2019

## Detailed Study Alternatives

Conduct a screening and evaluation to identify the viable solutions.

Summer 2019

## Preferred Alternative

Identify the preferred solution.

Spring 2020

## Environmental Document Complete

Document the project in the final study report.

Fall 2020

## Final Design / Real Estate Acquisition

Design of preferred alternative. Acquire new land (if needed).

2021 - 2023

## Construction

If a build alternative is selected, construction may begin mid-2020's depending upon funding.

2024 at the earliest

