

# WIS 19 Safety and Operations Study

WIS 19, Town of Springfield (US 12) to City of Waterloo (WIS 89)

Dane and Jefferson Counties

Project I.D. 5290-00-09

## Local Officials Meeting

December 3, 2015

Waunakee Village Hall

Waunakee

Franco Marcos

WisDOT Study Manager



WIS 19 Safety and Operations Study



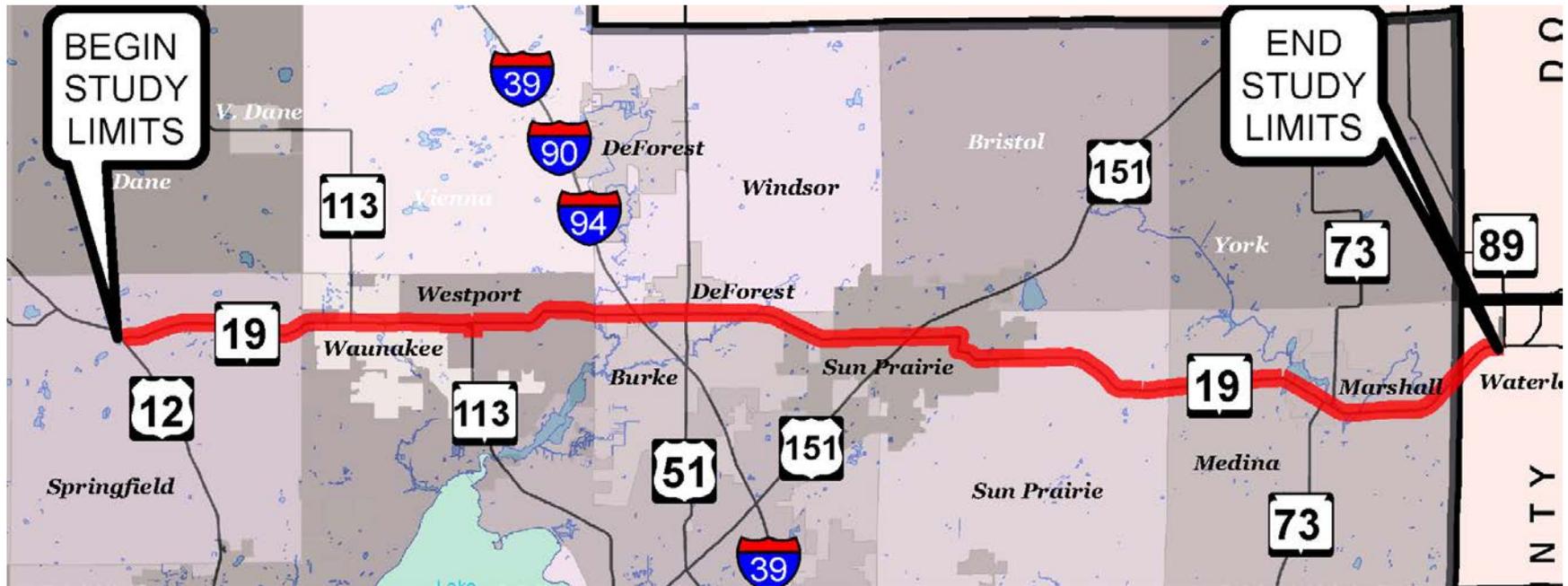
## Agenda

1. Study Area
2. Background
3. Existing Conditions (traffic, operations, safety)
4. Scheduled Improvements (independent of study)
5. Other Potential Improvements (based on this study)
6. Access Management Considerations
7. Other WisDOT Studies
8. Schedule



# Study Area – US 12 to WIS 89 (30.5 miles)

Exhibit on display today



## Counties

- Dane
- Jefferson

## Municipalities

- Waunakee
- DeForest
- Windsor
- Sun Prairie
- Marshall
- Waterloo

## Townships

- Springfield
- Westport
- Burke
- Sun Prairie
- Medina



## Background

This is a planning-level preservation study for the WIS 19 corridor. There are no allocated funds for design or construction projects tied to this study.

The study involves the following tasks:

- Evaluating existing roadway conditions
  - ✓ Access
  - ✓ Environmental resources
  - ✓ Infrastructure
  - ✓ Land-use
  - ✓ Safety
  - ✓ Traffic operations
  - ✓ Traffic volumes
- Identify operational deficiencies and future corridor needs
- Develop strategies and recommendations that will preserve the safety and efficiency of the existing highway corridor for years

### Study outcomes

- Existing Condition Report
- Identify Key Safety and Operational Concerns
- Hear Local Official and Public Concerns
- Develop Conceptual Improvement Strategies
- Corridor Management Report



## Background

Strategies that are being investigated:

- ✓ Traffic signals
- ✓ Roundabouts
- ✓ Intersection and geometric improvements
- ✓ Access management

This is a preservation study and does not include:

- ✓ Analysis of bypass, relocation, or regional expansion alternatives
- ✓ National Environmental Policy Act (NEPA) study



# Existing Conditions

## Why is this study needed?

- Traffic volumes and operations
- Safety/crash history
- Access management
- Surrounding land development

# 15

Intersections with Level Of Service E or F\*

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### Stop Controlled Intersections

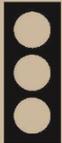
- West Street	- Communication Dr/Lois Dr
- County I	- Linnerud Drive
- River Road	
- I-39/90/94 (SB) ramp	
- Pepsi Way	
- Westmount Drive	
- King St/Columbus St	



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### Signal Intersections

- US 12	- Grand Avenue
- Division Street	- Davison Drive
- County CV	- Main Street



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*\*Level of Service (LOS) threshold indicates motorist delay of >55 seconds for a signalized intersection and >35 seconds for a stop controlled intersection*

# 1,145

Number of Crashes



<b>421</b>	Rear End
<b>302</b>	Angle
<b>249</b>	Single Vehicle
<b>108</b>	Sideswipe (Same Direction)
<b>41</b>	Sideswipe (Opposite Direction)
<b>20</b>	Head On
<b>4</b>	Unknown
<b>142</b>	Deer (not included in number of crashes)

### Crash Type

<b>10</b>	Fatalities
<b>318</b>	Injuries
<b>817</b>	Property Damage
<b>9</b>	Pedestrians
<b>10</b>	Bicyclists

*\*Crash Summary from 2009-2013*



# Existing Conditions

## Why is this study needed?

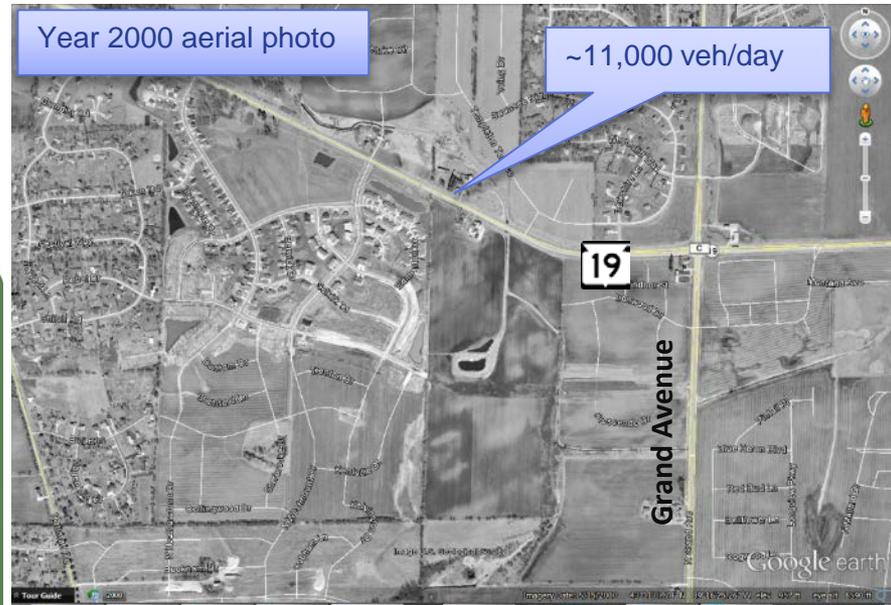
- Traffic volumes and operations
- Safety/crash history
- Access management
- Surrounding land development

# 648

Number of Access Points

- Residential: **265 (40.8%)**
- Road: **162 (25.0%)**
- Commercial: **102 (15.7%)**
- Agricultural: **72 (11.1%)**
- Public Institutional: **24 (3.7%)**
- Utility/Other: **16 (2.4%)**
- Industrial: **7 (1.0%)**

Year 2000 aerial photo



Year 2014 aerial photo



Courtesy of Google Earth



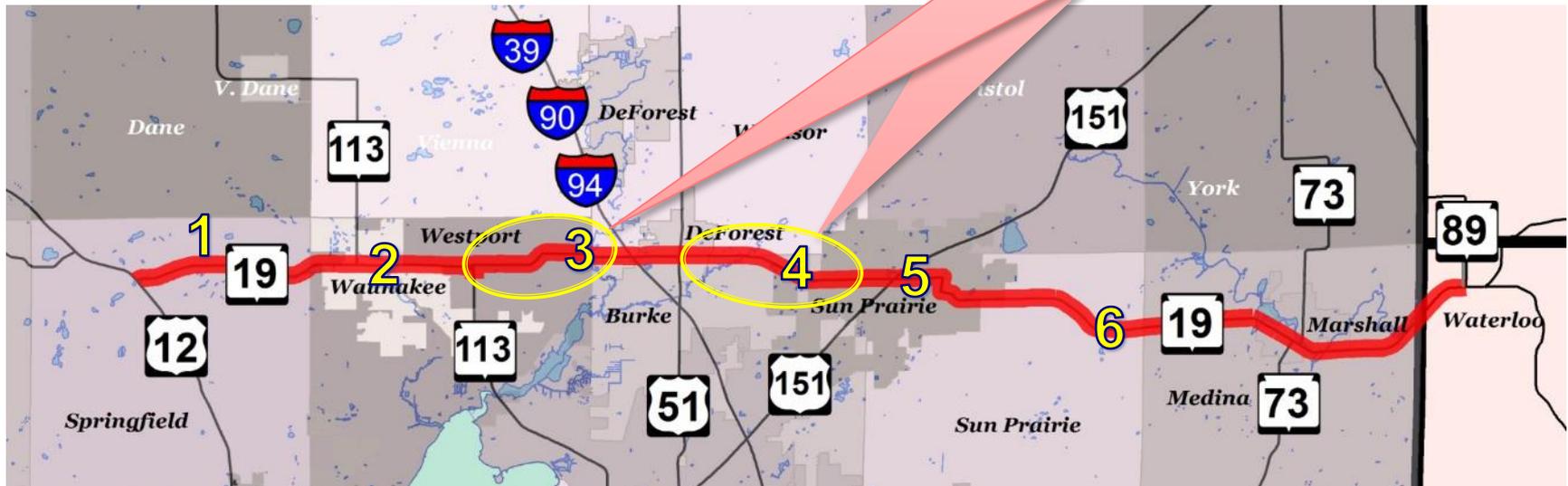
## Traffic Volumes (vpd)

1. West of Waunakee (8,100)
2. **Downtown Waunakee (16,200)**
3. **Waunakee to I-39/90/94 (16,500)**
4. I-39/90/94 to Sun Prairie (15,100)
5. Within Sun Prairie (15,200)
6. East of Sun Prairie (7,000)

Annual Average Daily Traffic (vehicles per day, Year 2015)

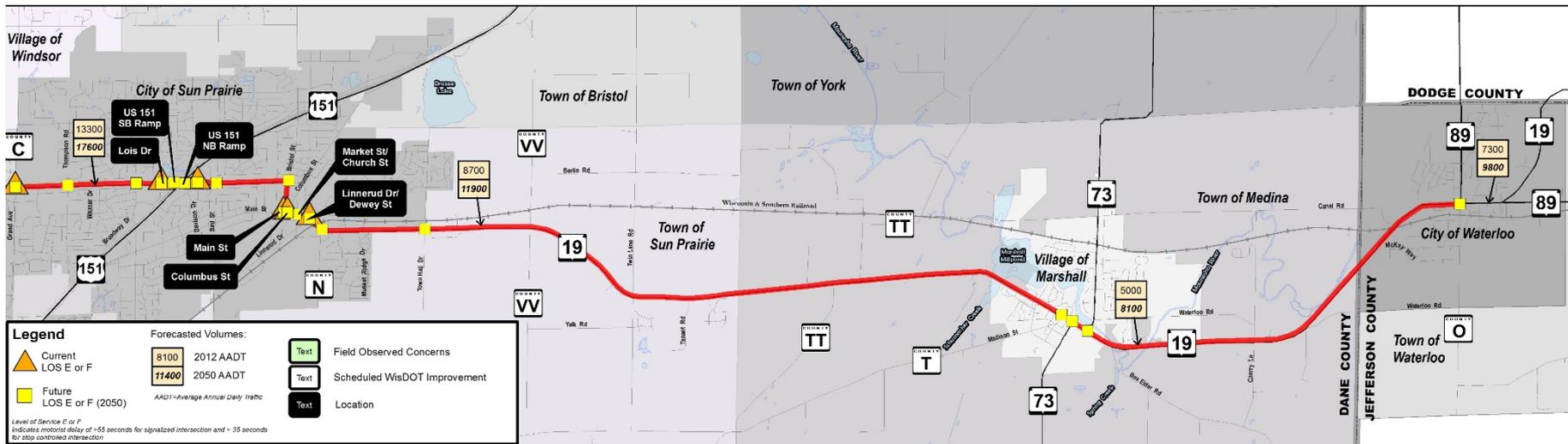
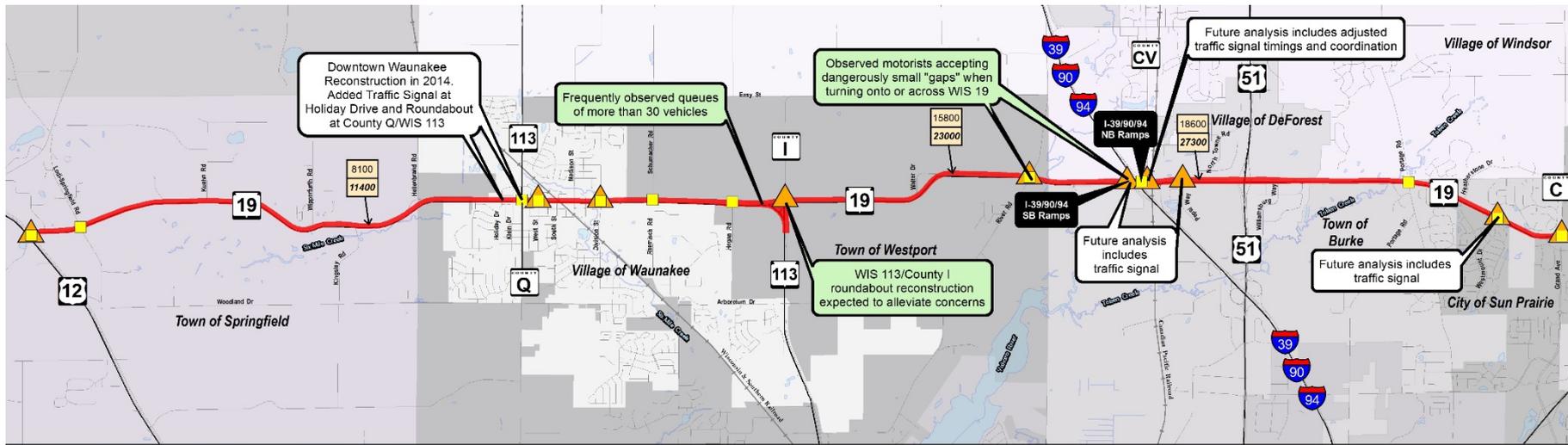
Existing volumes nearing or **exceeding** upper limit of two-lane roadway traffic capacity

*Two-lane threshold ~14,000-16,000*



# Traffic Operations

Exhibit on display today



**Legend**

	Current LOS E or F		Field Observed Concerns
	Future LOS E or F (2050)		Scheduled WisDOT Improvement
			Location

**Forecasted Volumes:**

8100	2012 AADT
11400	2050 AADT

AAADT = Average Annual Daily Traffic

Level of Service E or F indicates motorist delay of > 55 seconds for signalized intersection and > 95 seconds for stop controlled intersection

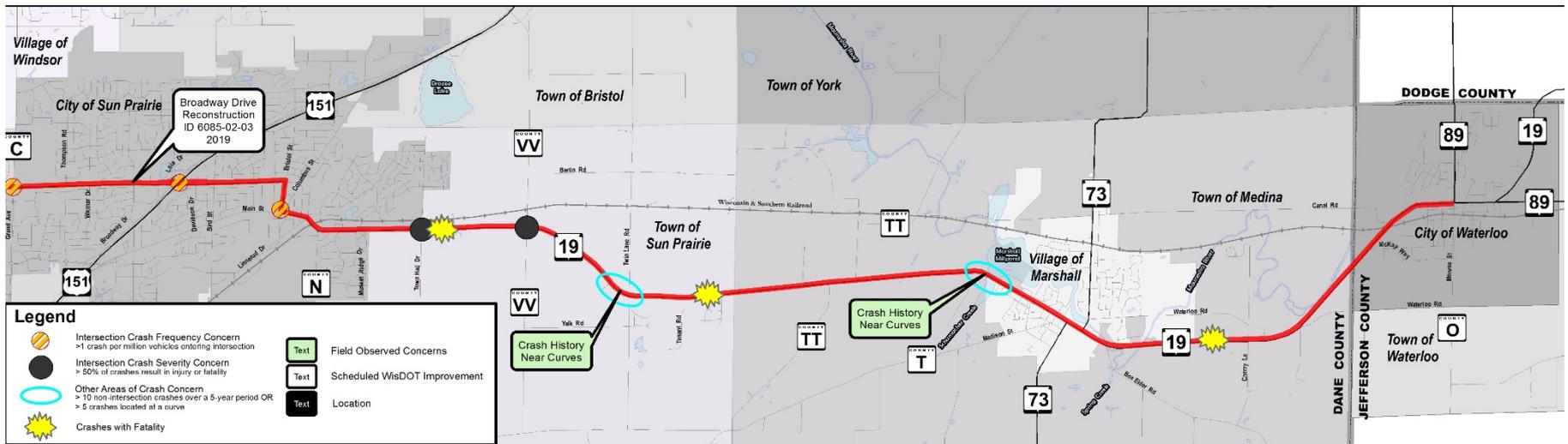
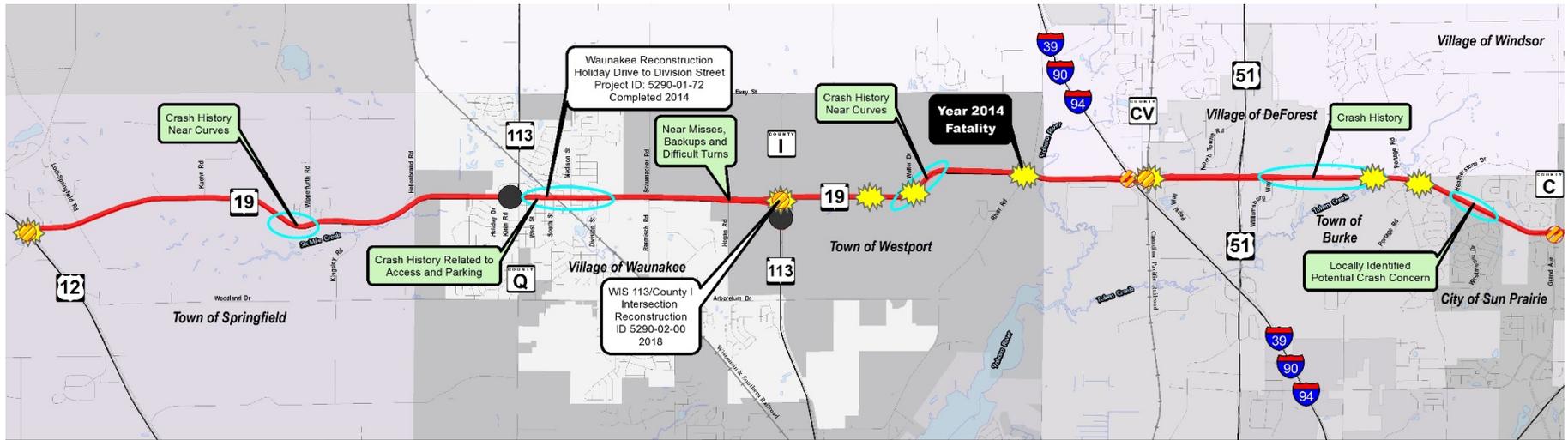


## WIS 19 Safety and Operations Study



# Safety/Crash History

Exhibit on display today



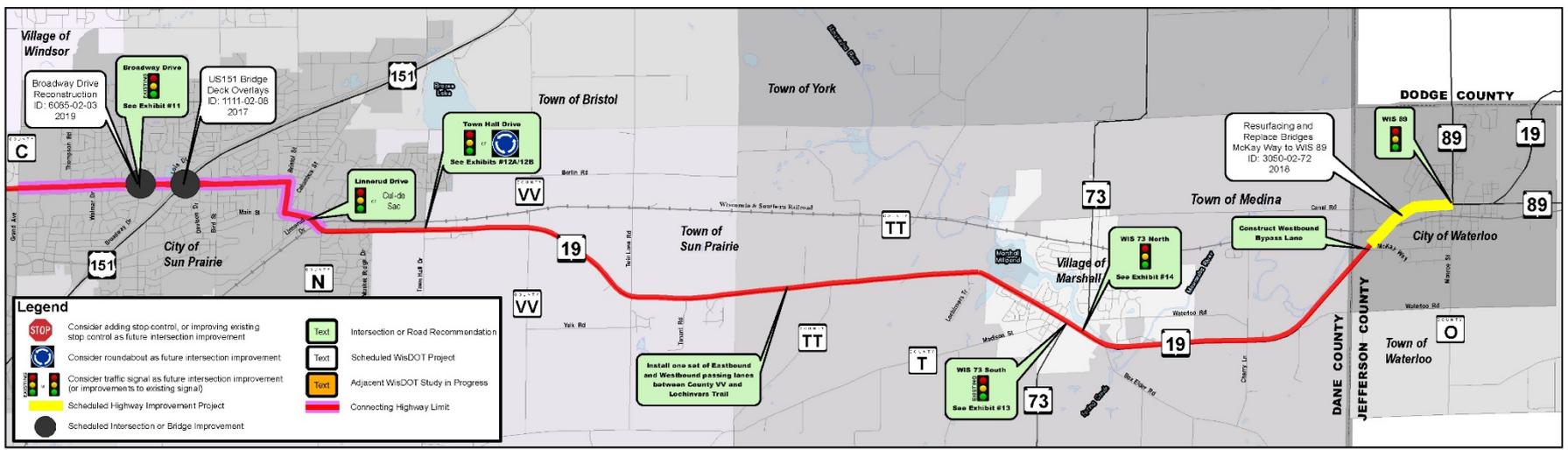
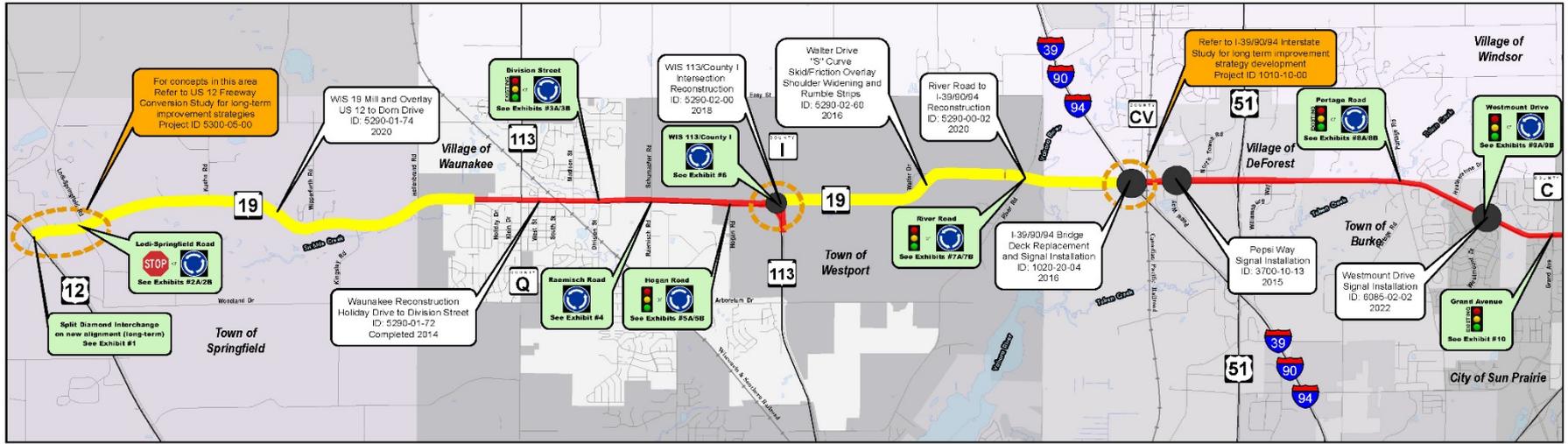
**Legend**

- Intersection Crash Frequency Concern  
>1 crash per million vehicles entering intersection
- Intersection Crash Severity Concern  
> 50% of crashes result in injury or fatality
- Other Areas of Crash Concern  
> 10 non-intersection crashes over a 5-year period OR  
> 5 crashes located at a curve
- Crashes with Fatality
- Field Observed Concerns
- Scheduled WisDOT Improvement
- Location



# Scheduled and Other Potential Improvements

Exhibit on display today



**Legend**

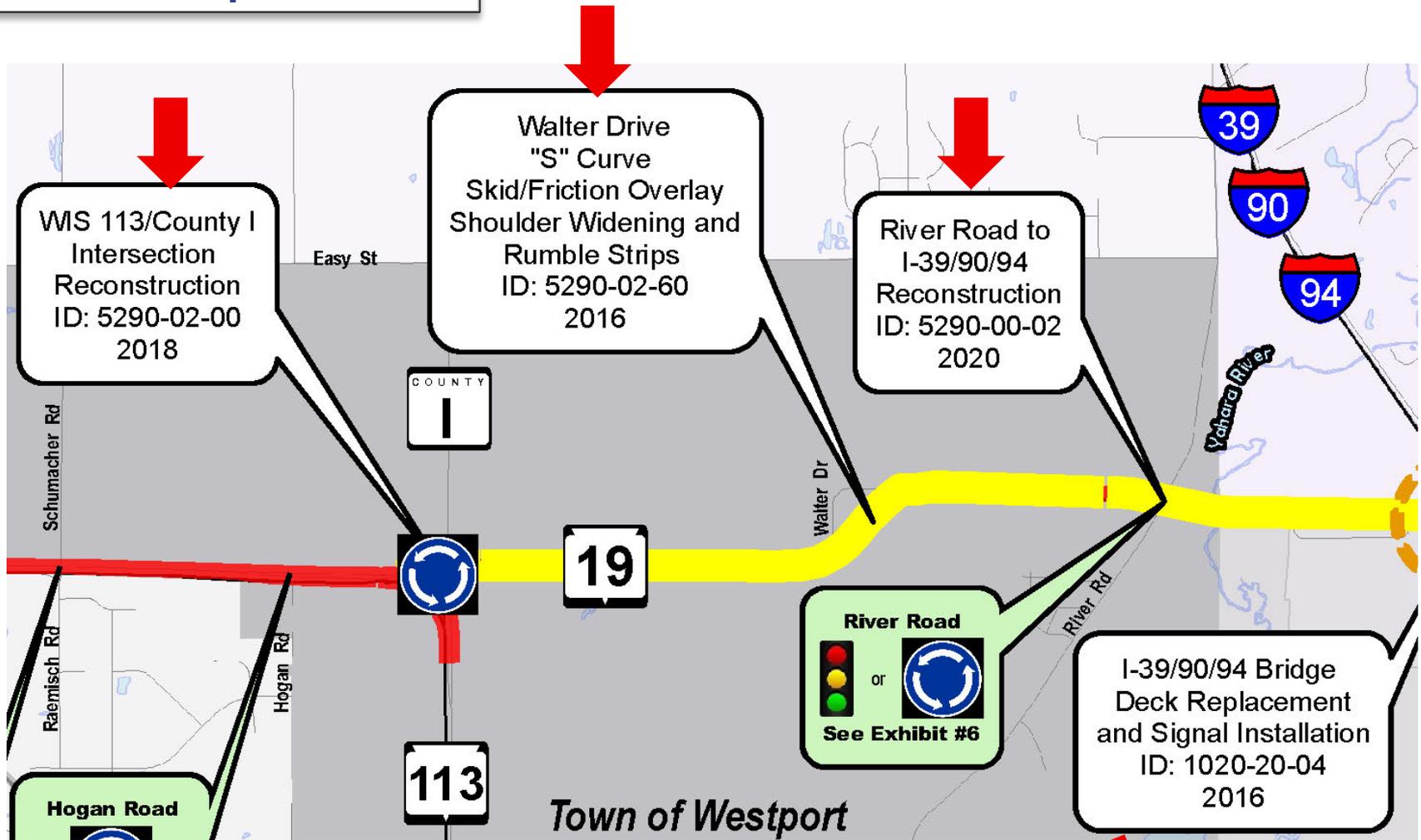
- Consider adding stop control, or improving existing stop control as future intersection improvement
- Consider roundabout as future intersection improvement
- Consider traffic signal as future intersection improvement (or improvements to existing signal)
- Scheduled Highway Improvement Project
- Scheduled Intersection or Bridge Improvement
- Intersection or Road Recommendation
- Scheduled WisDOT Project
- Adjacent WisDOT Study in Progress
- Connecting Highway Limit



## WIS 19 Safety and Operations Study

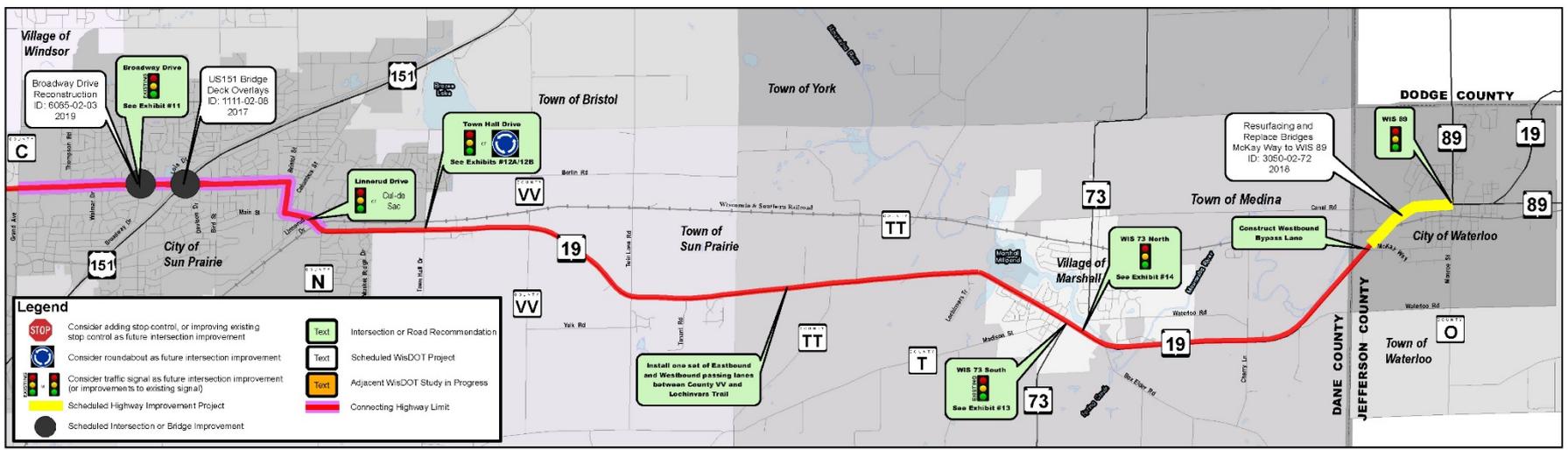
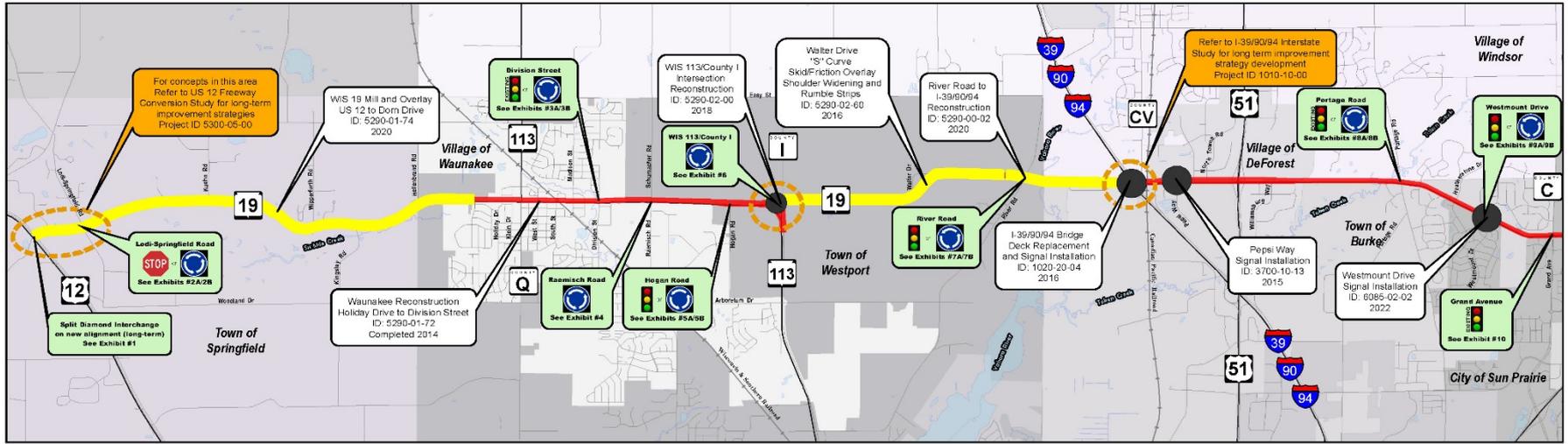


# Scheduled Improvements



# Scheduled and Other Potential Improvements

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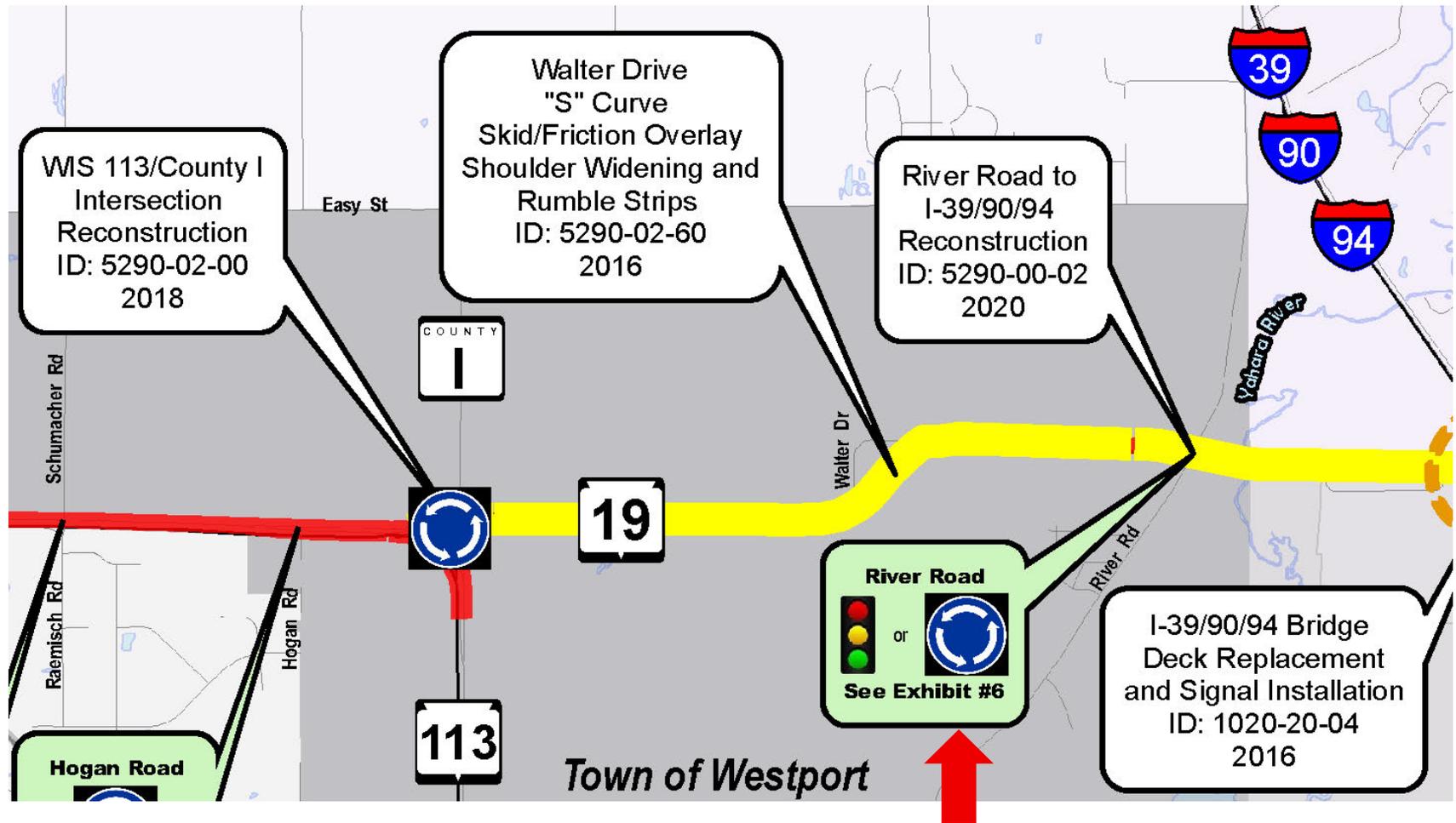
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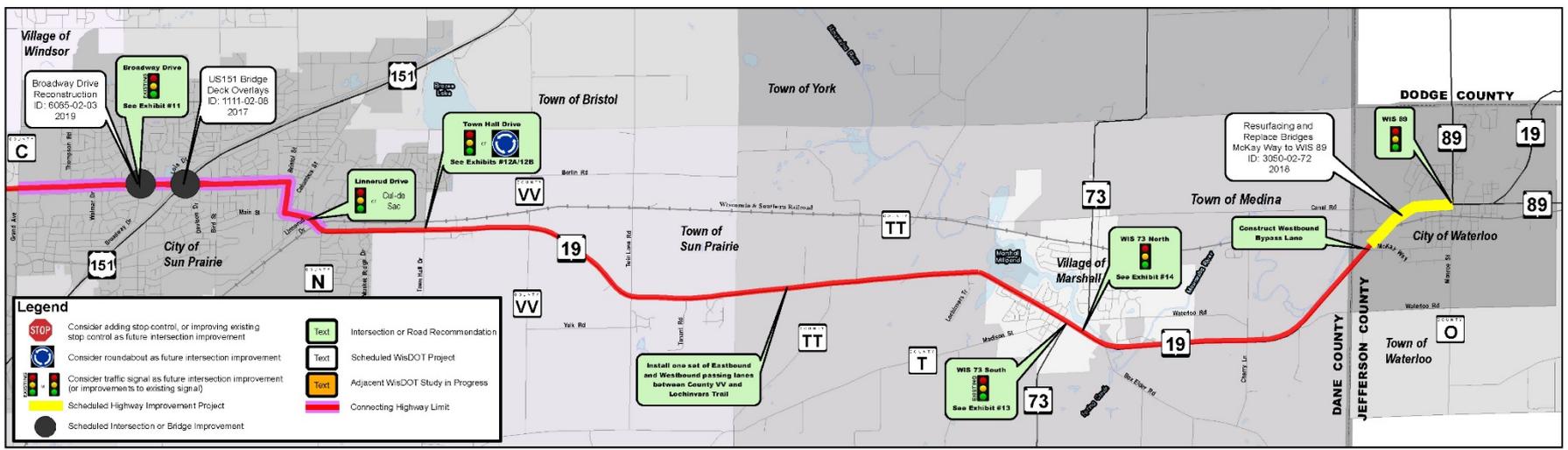
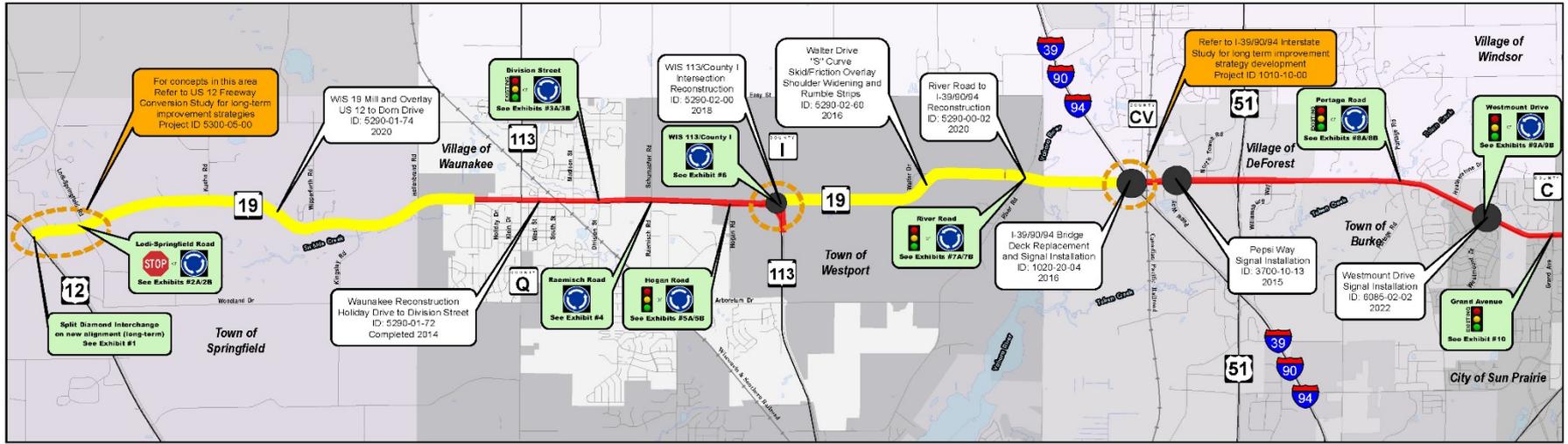


# Other Potential Safety and Operational Improvements



# Scheduled and Other Potential Improvements

Exhibit on display today



**Legend**

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## WIS 19 Safety and Operations Study



## Other Potential Improvements – Overview Exhibit



Potential improvement concepts may include:

- Roundabout installation
- Traffic signal installation/reconstruction
- Improved stop sign intersections
- Median installation
- Left turn lane additions
- Passing lane installation
- Improved intersection geometry
- Improved pedestrian and bike facilities

**Conceptual drawings  
for certain improvement  
concepts are on display**

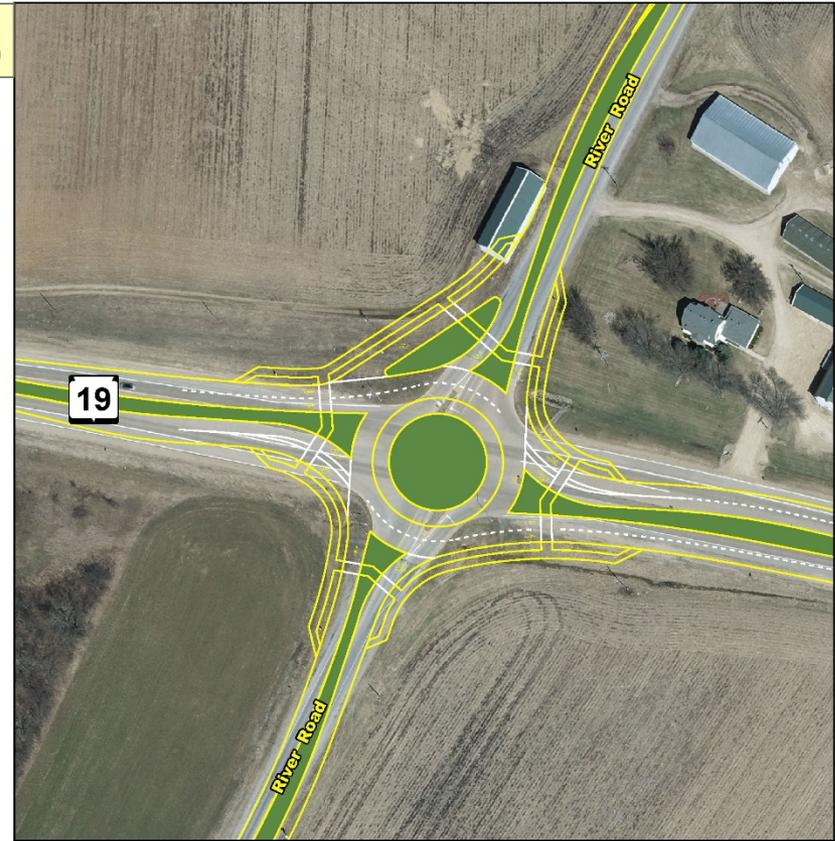


# Other Potential Improvements - Concept Drawings

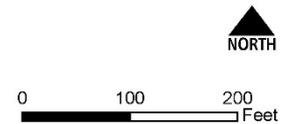
Exhibit on display today



Traffic Signal Concept

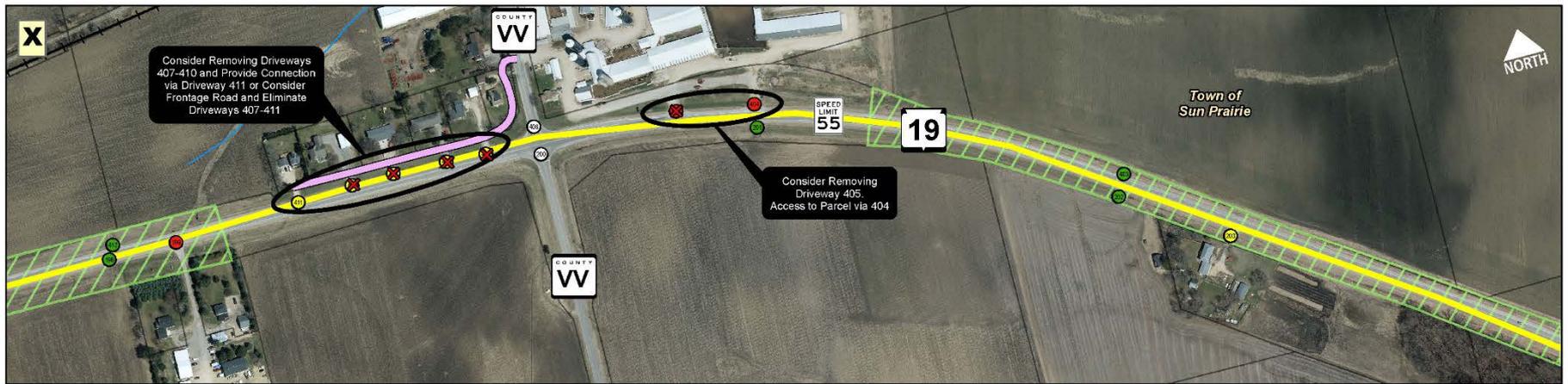


Roundabout Concept



# Access Management Considerations

Exhibits on display today



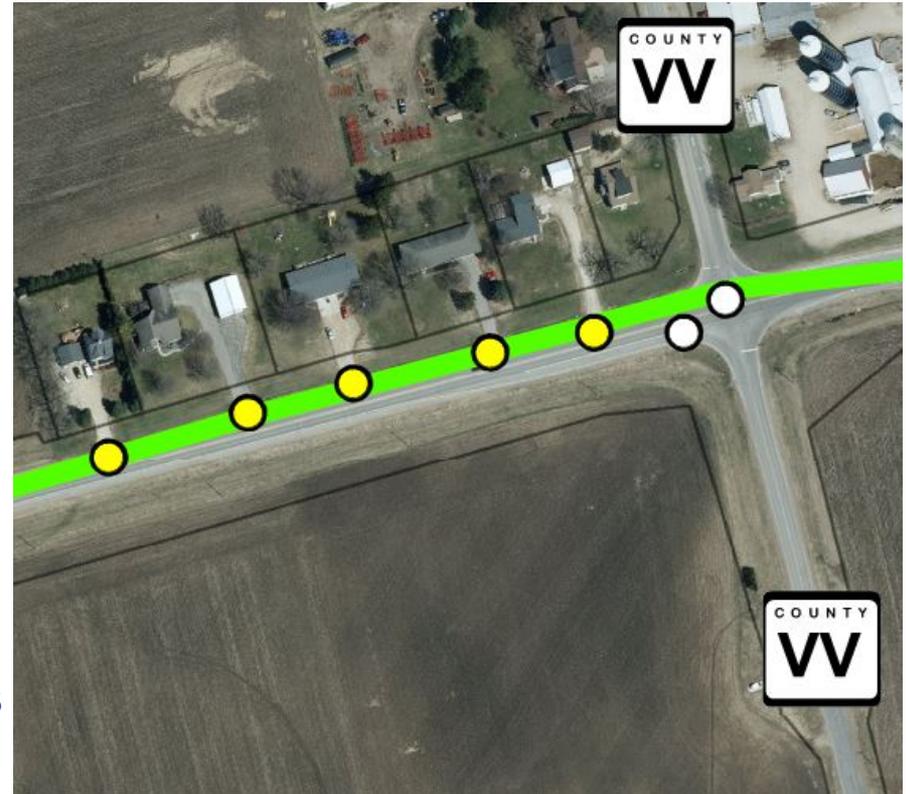
## Access Management Considerations

If...

- land use changes
- there are safety concerns
- it is feasible
- an adjacent highway project exists

Consider...

- removing driveways
- constructing frontage roads
- limiting access at roads
- interchange influence areas
- Intersecting road influence areas





## Schedule

- ✓ • Data Collection/Inventory – Winter 2014
- ✓ • Establish Draft Existing Conditions – Spring 2015
- ✓ • Public Involvement and Local Officials Meetings (round 1) – Spring 2015
- ✓ • Complete Existing Conditions Report – Summer 2015
- ✓ • Individual Meetings with Communities – Summer 2015
- ✓ • Develop Draft Concepts/Recommendations – Fall 2015
- Now** • **Public Involvement and Local Officials Meetings (round 2) – Winter 2015**
- **Finalize Concepts/Recommendations – Winter 2015**
- **Final Report – February 2016**



## Contacts

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# Questions/Comments

