

# ***Bow Concord I-93 Improvements***

## ***Bow Planning Board***

October 6, 2016

# Agenda

- Project History / Project Development Process
- Project Scope – Part B
- Resources
- Traffic Modeling
- Alternatives Development
  - I-93 Corridor
  - I-89/I-93
  - Exit 12
  - Exit 13
  - Exit 14/15
- Next Steps

# Project History/ Project Development Process

## Part A – Planning (2002 - 2008)

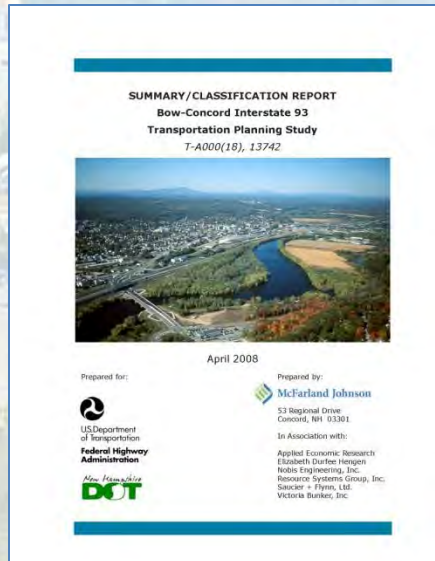
- Problem & Goal Statements
- Range of Reasonable Alternatives
- Determine Level of Environmental Document
- Prepare Summary/Classification Report

## Red List Bridges (2008 - 2016)

- Exit 14 Rehabilitation
- I-93 over I-89 Replacement
- Exit 12 Replacement

## Part B – Scoping (2013 - 2017)

- Select Preferred Alternative
- Environmental Documentation (EA)
- Public Hearing





# *Part B Scope*

## **Preliminary Engineering**

- Traffic Modeling
- Alternatives Development
- Cost Estimates
- Rail & Transit Assessment Report
- Corridor Report
- Engineering Report

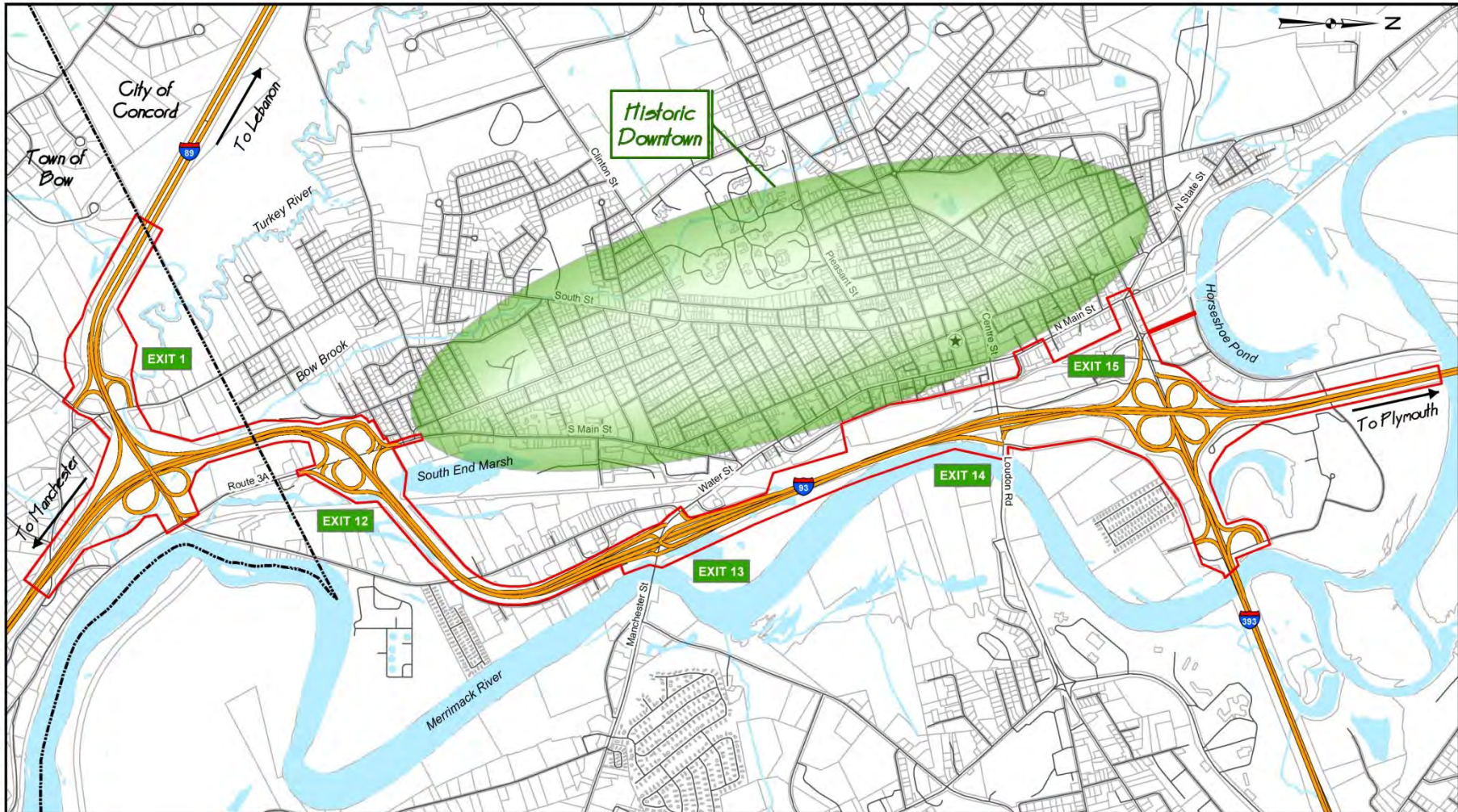
## **Public Participation**

- Public Meetings
- Project Website
- Public Hearing

## **NEPA Document**

- Prepare Purpose and Need
- Environmental Assessment
- FONSI





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**Legend**

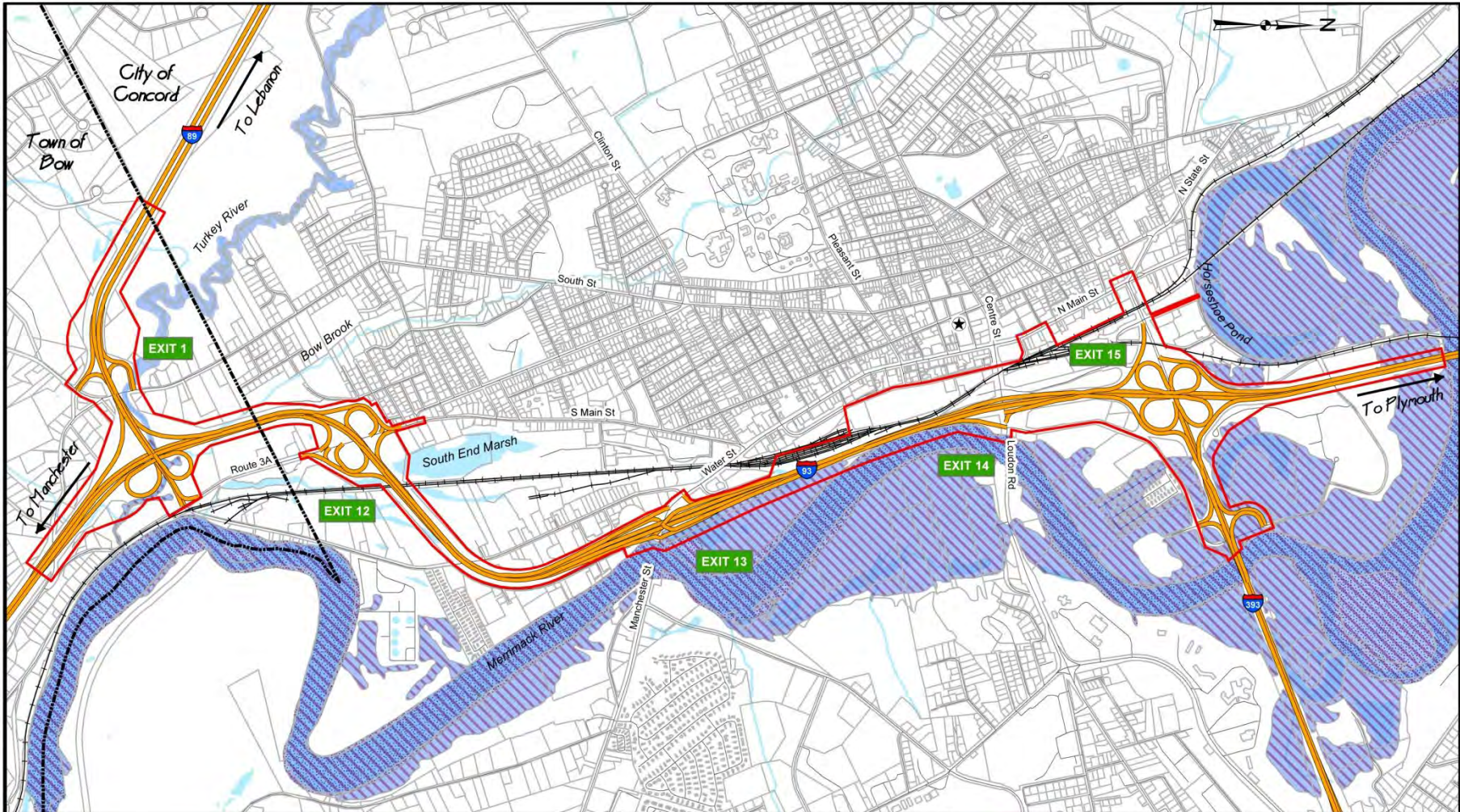
- ★ State Capital
- ▭ Study Area
- ▭ Parcels
- Streams
- ▭ Rivers and Ponds
- Roadways
- Rural - Principal Arterial -- Interstate
- Urban - Principal Arterial -- Interstate
- Urban - Principal Arterial -- Other Freeways and Expressways

New Hampshire  
**DOT**  
U.S. Department of Transportation  
Federal Highway Administration  
McFarland Johnson

<b>BOW-CONCORD I-93 IMPROVEMENTS</b>	
<b>STUDY AREA OVERVIEW</b>	
DATE: DECEMBER 2015	SCALE: 1"=1500'

**FIGURE 1.1**





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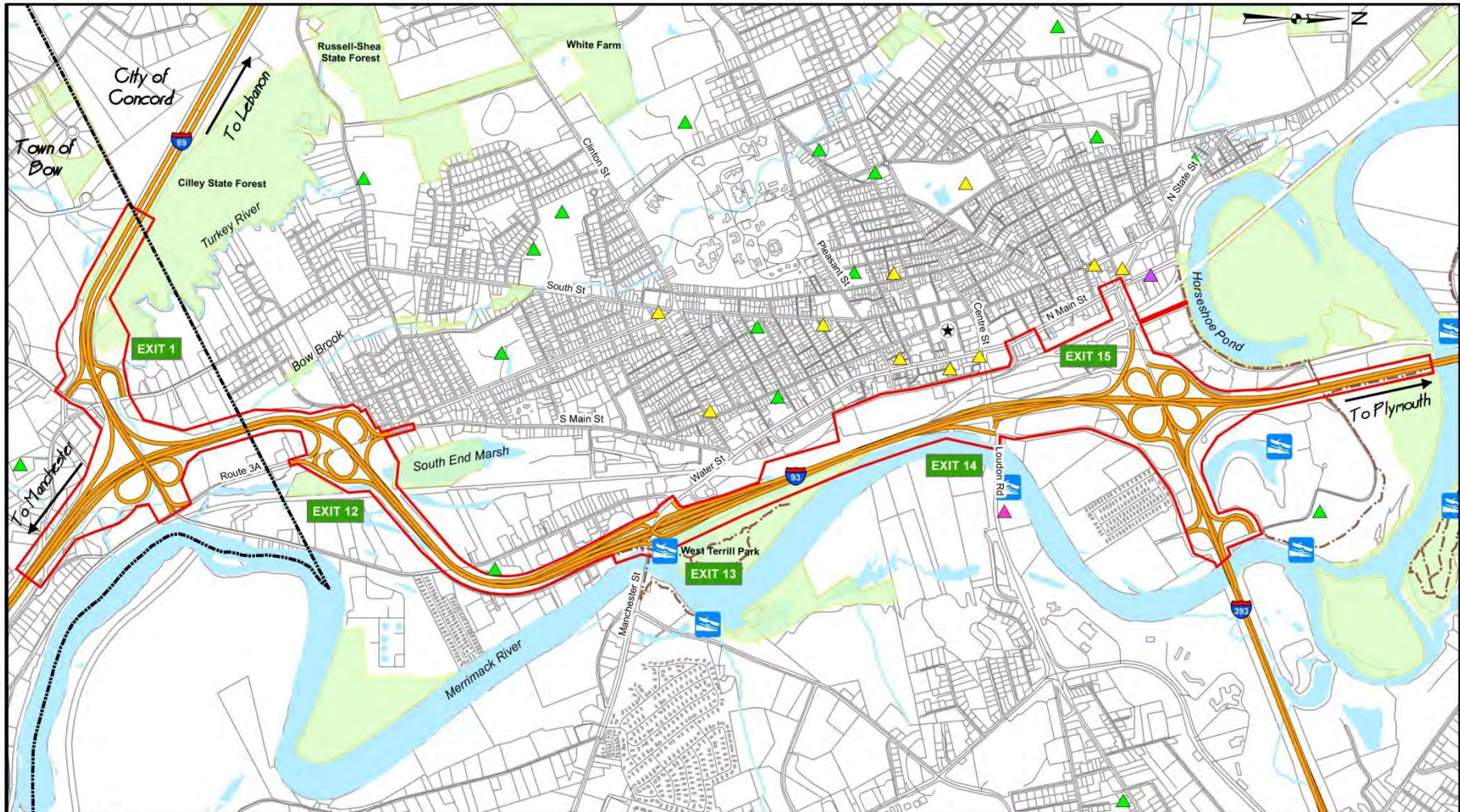
<b>Legend</b>		
Study Area	Streams	Regulatory Floodway
Parcels	Rivers and Ponds	ZONE A - No Base Flood Elevation
Railroad		ZONE AE - Base Flood Elevation Provided

New Hampshire  
**DOT**  
U.S. Department of Transportation  
Federal Highway Administration

McFarland Johnson

<b>BOW-CONCORD I-93 IMPROVEMENTS</b>	
<b>FLOOD HAZARD AREAS OVERVIEW</b>	
DATE: DECEMBER 2015	SCALE: 1"=1500'
<b>FIGURE 1.2</b>	





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**Legend**

- |                      |                     |                      |
|----------------------|---------------------|----------------------|
| ★ State Capital      | Streams             | ▲ Field Sports       |
| ▭ Study Area         | Trails              | ▲ Historic Site      |
| ▭ Parcels            | Public Water Access | ▲ Park               |
| ▭ Conservation Lands |                     | ▲ Winter Sports Area |

New Hampshire  
**DOT**  
U.S. Department of Transportation  
Federal Highway Administration  
McFarland Johnson

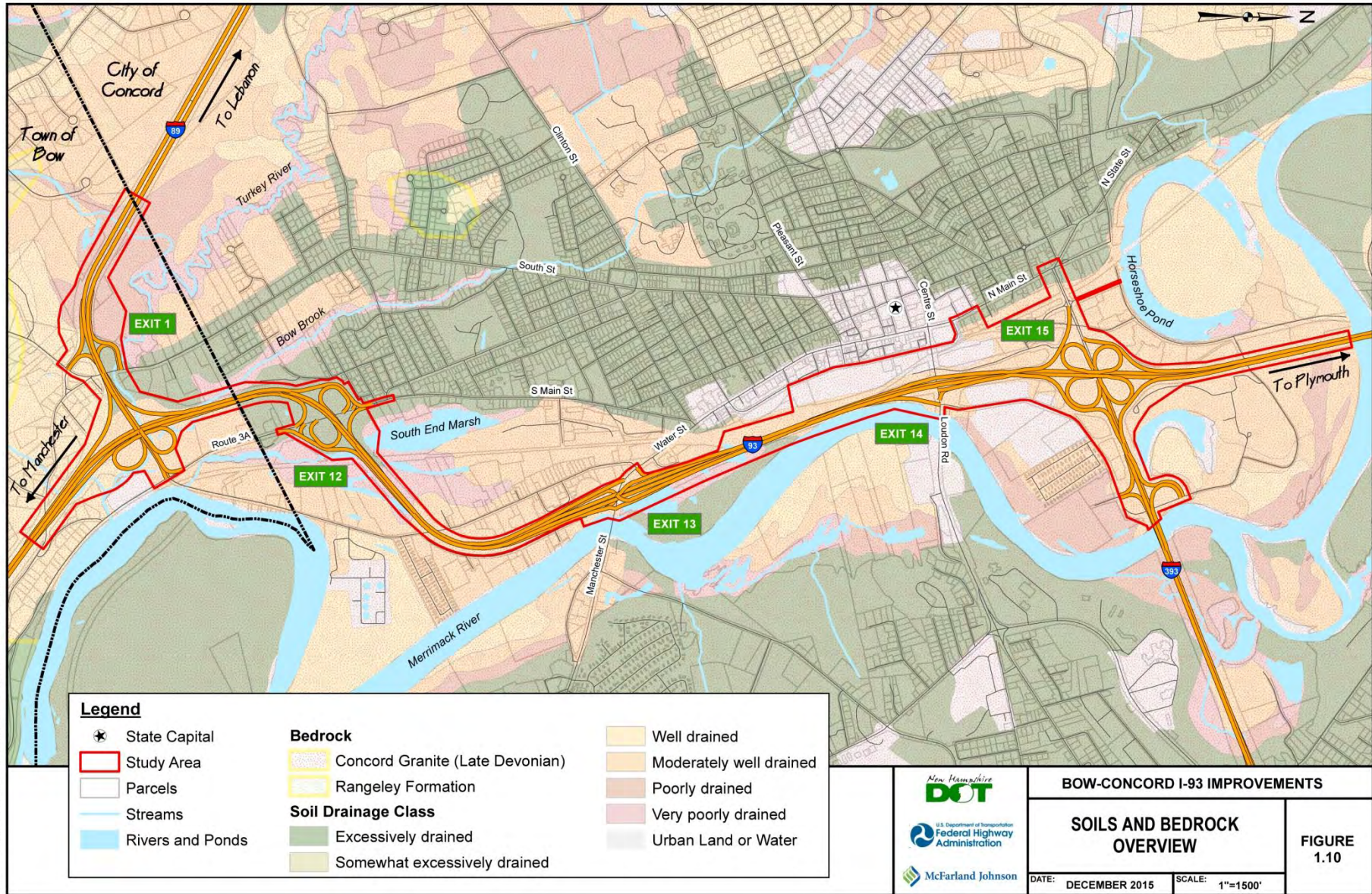
**BOW-CONCORD I-93 IMPROVEMENTS**

**CONSERVATION AND PUBLIC LANDS**

**FIGURE 1.3**

DATE: DECEMBER 2015 SCALE: 1"=1500'



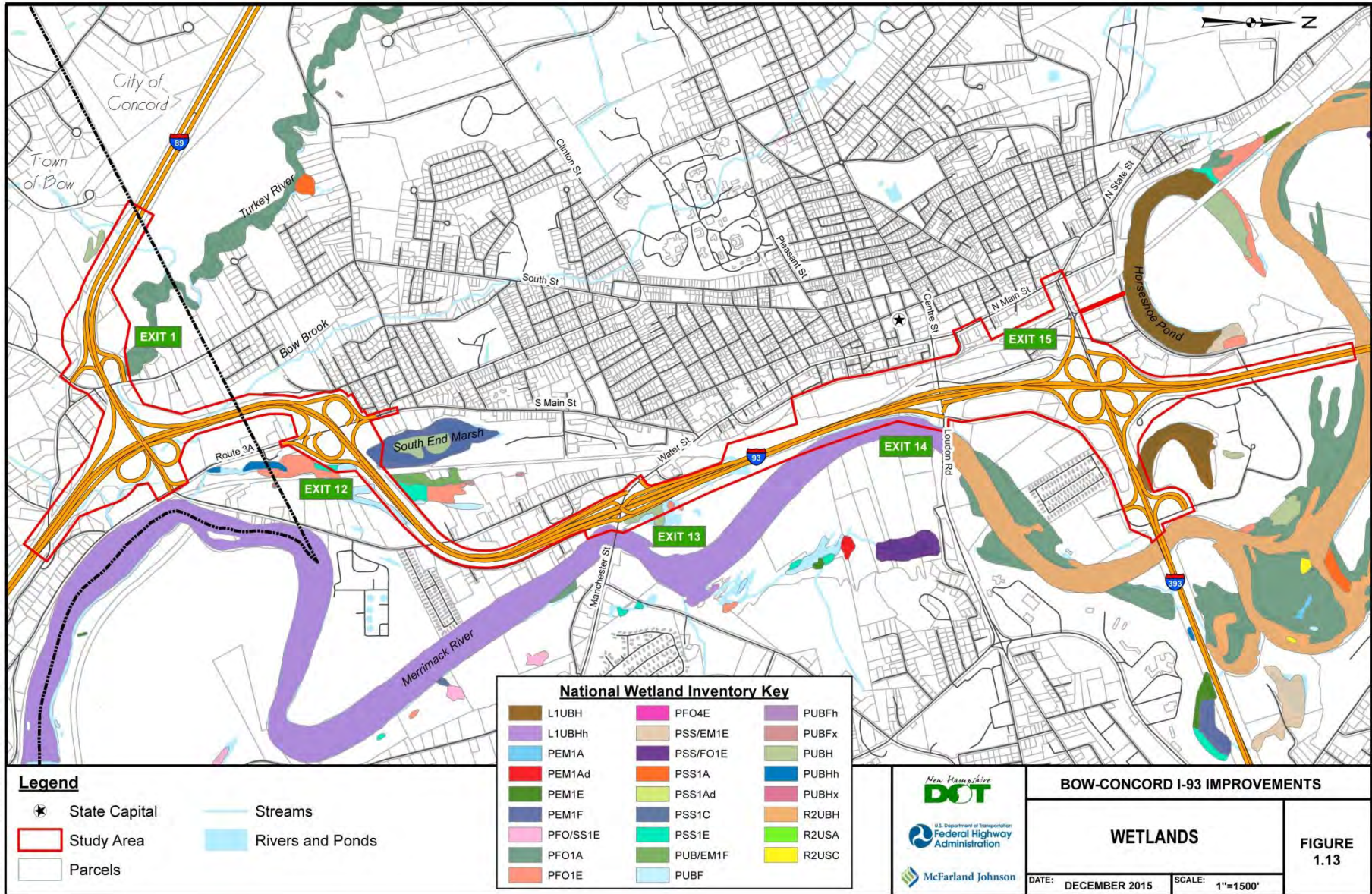


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New Hampshire  
**DOT**  
U.S. Department of Transportation  
Federal Highway Administration  
McFarland Johnson

<b>BOW-CONCORD I-93 IMPROVEMENTS</b>	
<b>SOILS AND BEDROCK OVERVIEW</b>	
DATE: DECEMBER 2015	SCALE: 1"=1500'
<b>FIGURE 1.10</b>	

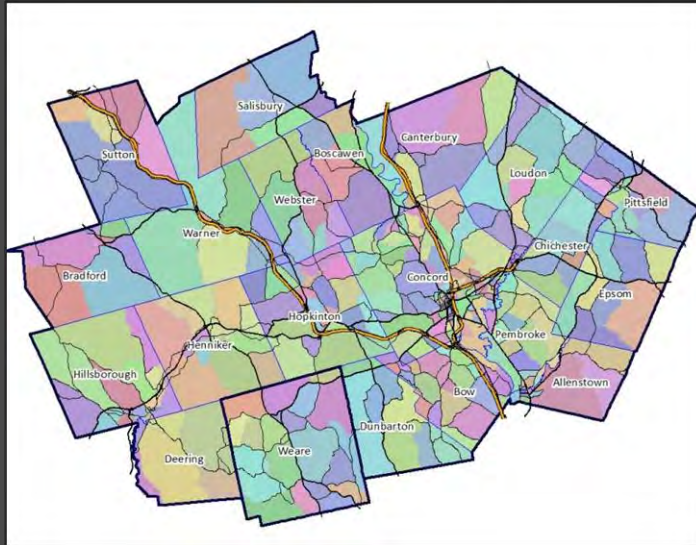




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# Traffic Modeling

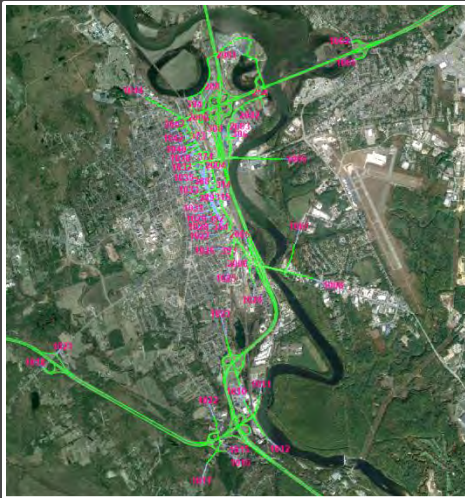


## Regional Model

- Inputs
- Process Overview
- Future Year Projections
- TransCAD (Caliper)



# Traffic Modeling

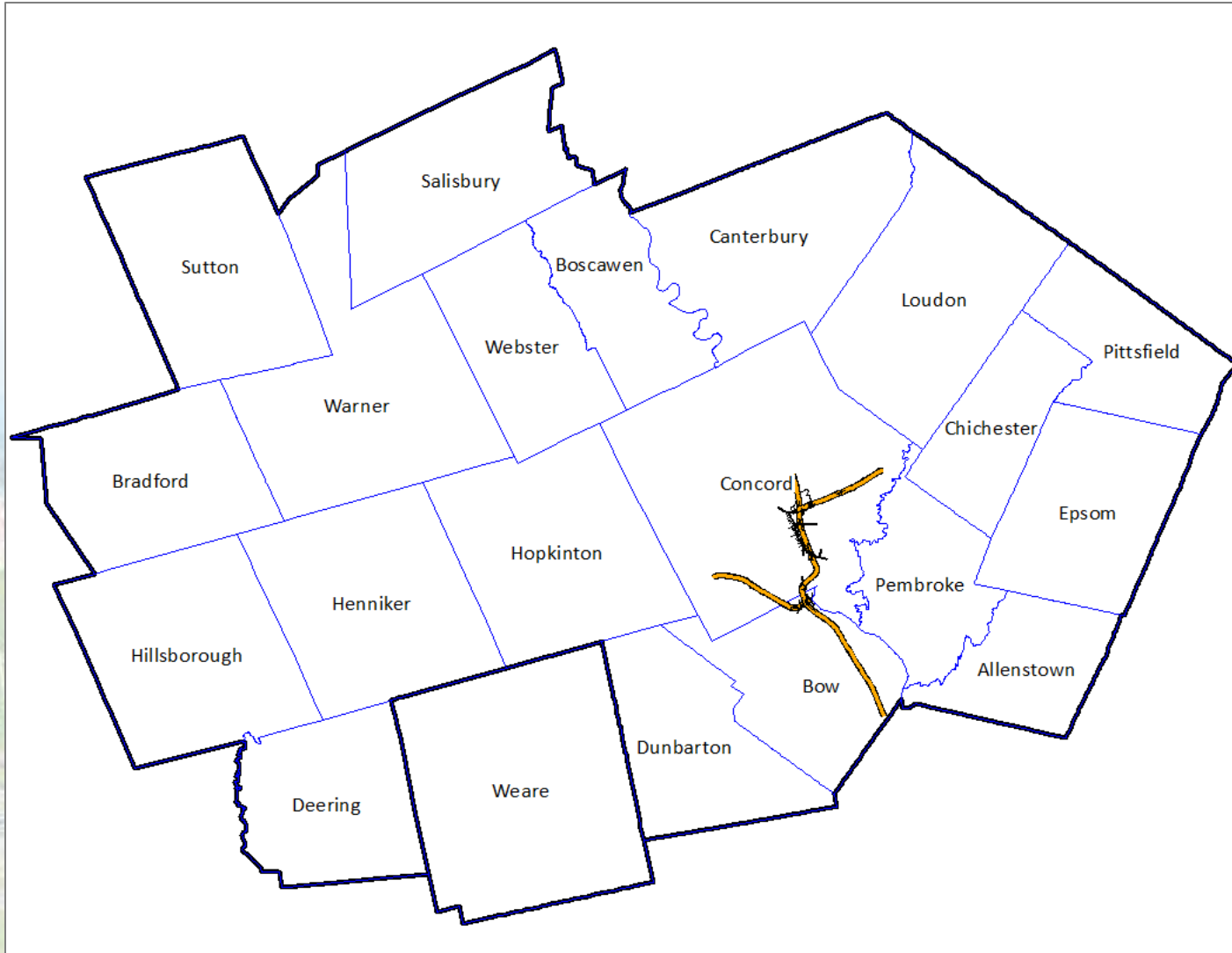


## Microsimulation Model

- Inputs
- Process Overview
- Future Year Projections
- Alternatives Testing
- TransModeler (Caliper)



# Traffic Modeling





# Microsimulation Model – Inputs

- Traffic Analysis Zones
  - TAZs built from census blocks
  - Overlap with regional model zones
  - Includes some additional detail
  - Traffic generated by OD matrix – informed by land use.
- Road Network
  - Links
    - Direction of Travel
    - Speed
    - Class
    - Lane Geometries
    - Storage lengths
    - Merge areas
  - Intersections
    - Control Types
    - Signal Timings
    - TOD Plans
    - Coordination



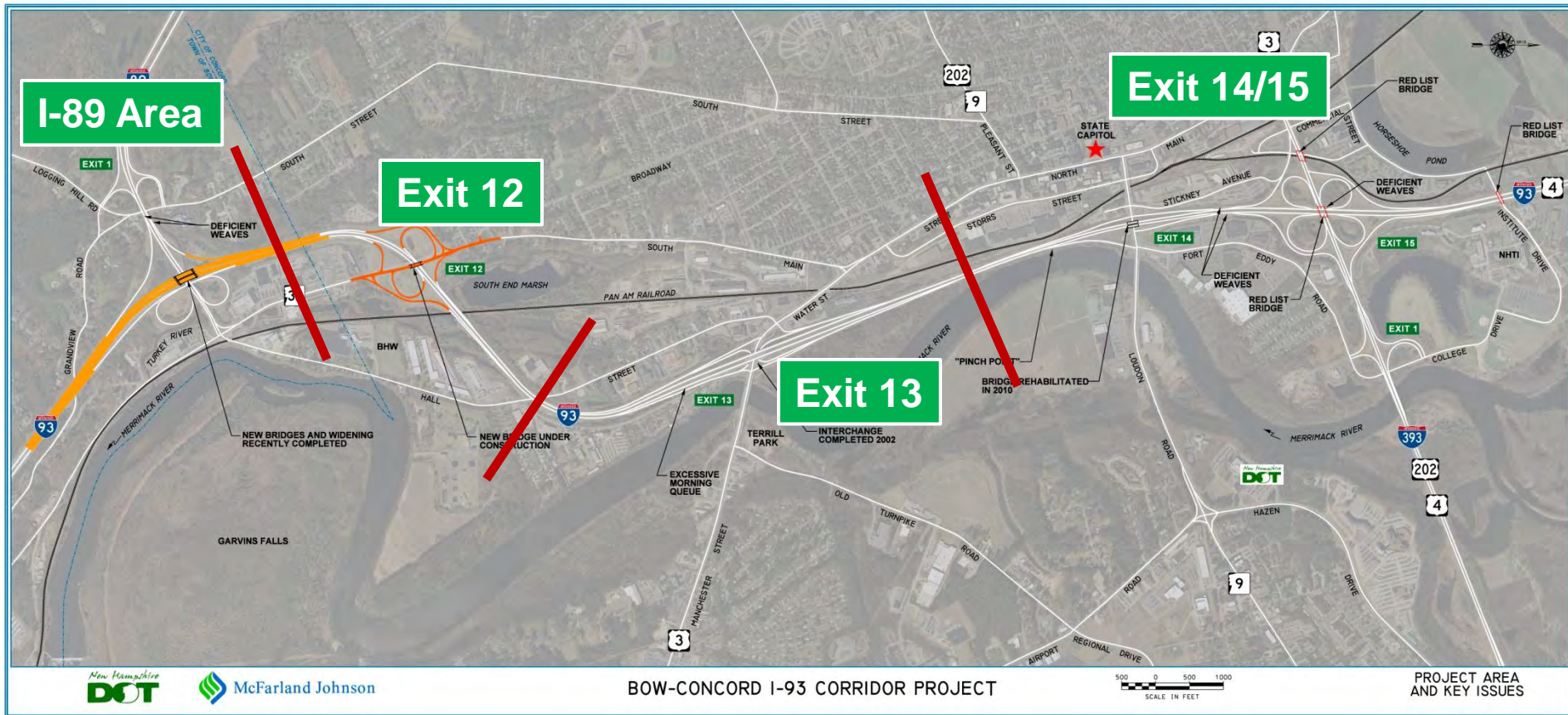


# Alternatives Development





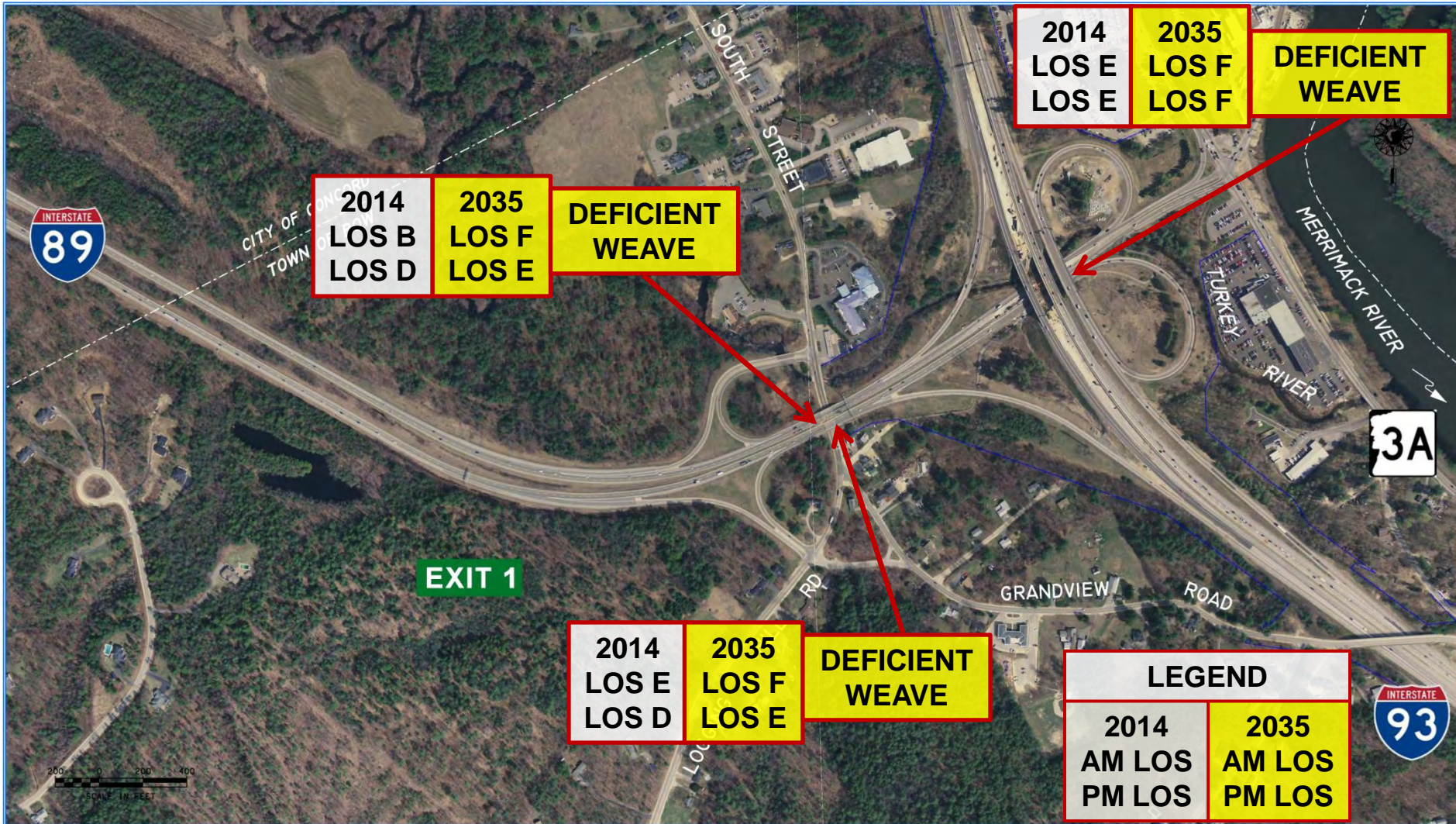
# Alternatives Development











2014 LOS B LOS D	2035 LOS F LOS E
------------------------	------------------------

**DEFICIENT WEAVE**

2014 LOS E LOS E
------------------------

2035 LOS F LOS F
------------------------

**DEFICIENT WEAVE**

**EXIT 1**

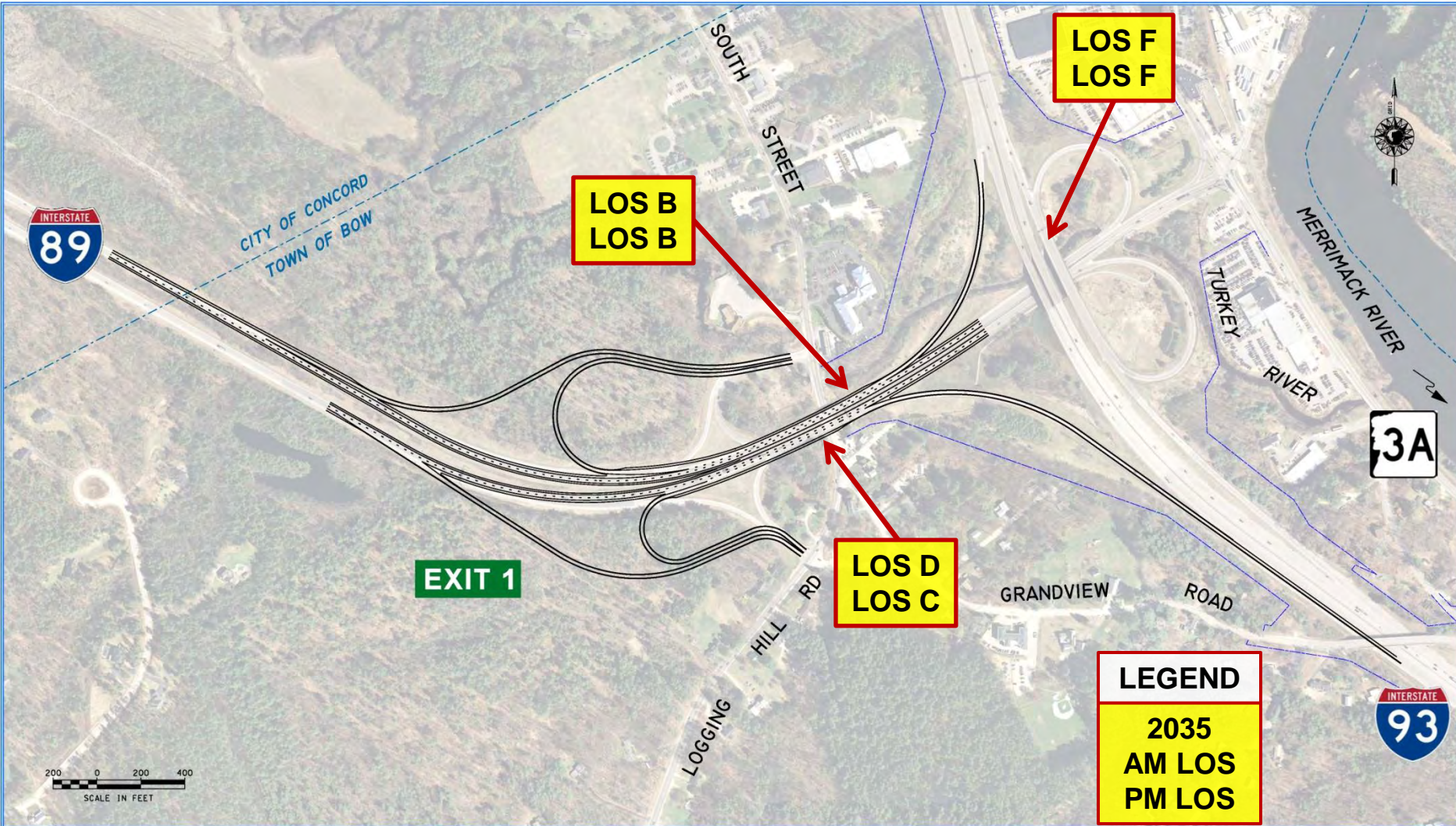
2014 LOS E LOS D
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2035 LOS F LOS E
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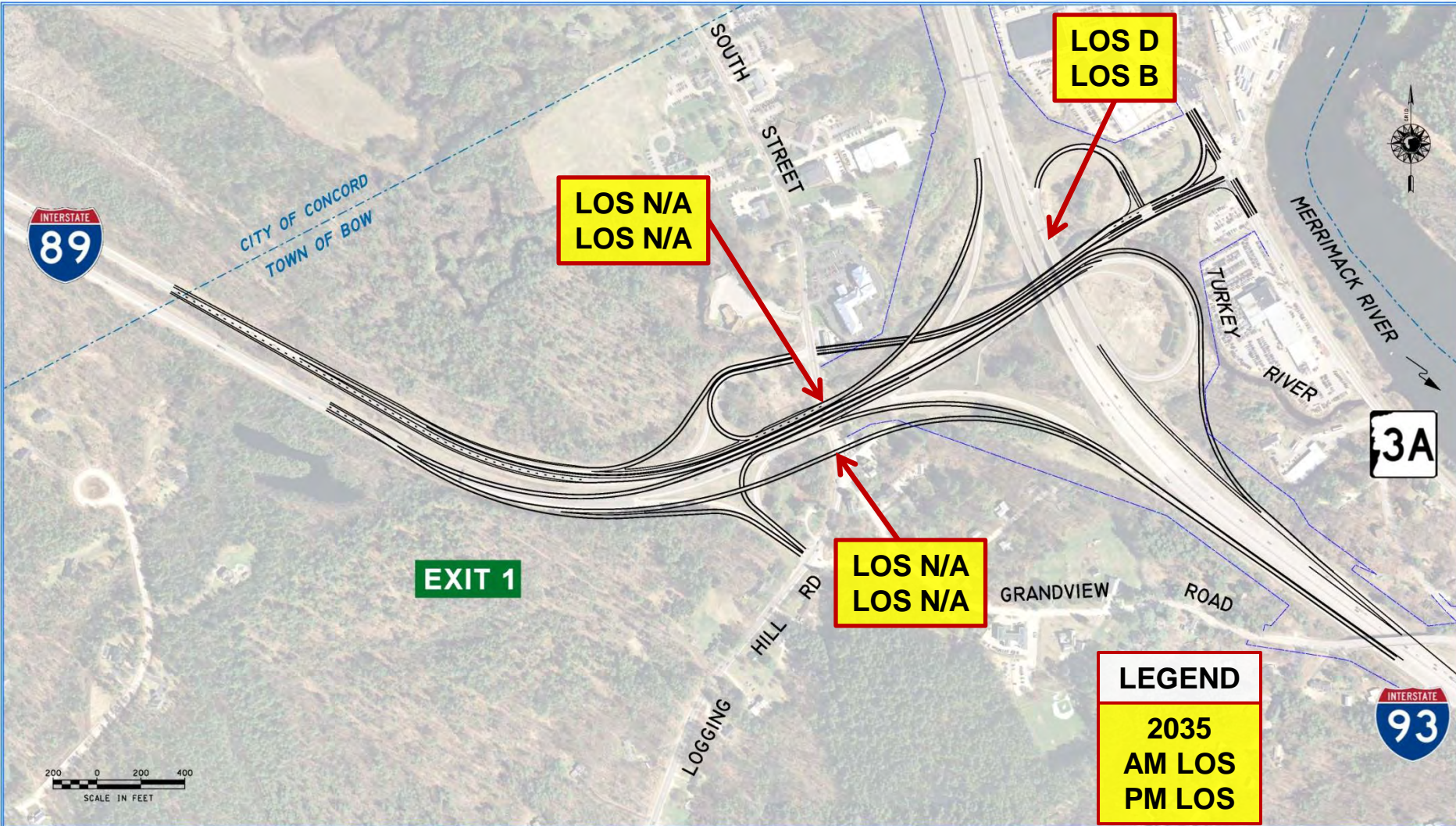
**DEFICIENT WEAVE**

LEGEND	
2014 AM LOS PM LOS	2035 AM LOS PM LOS

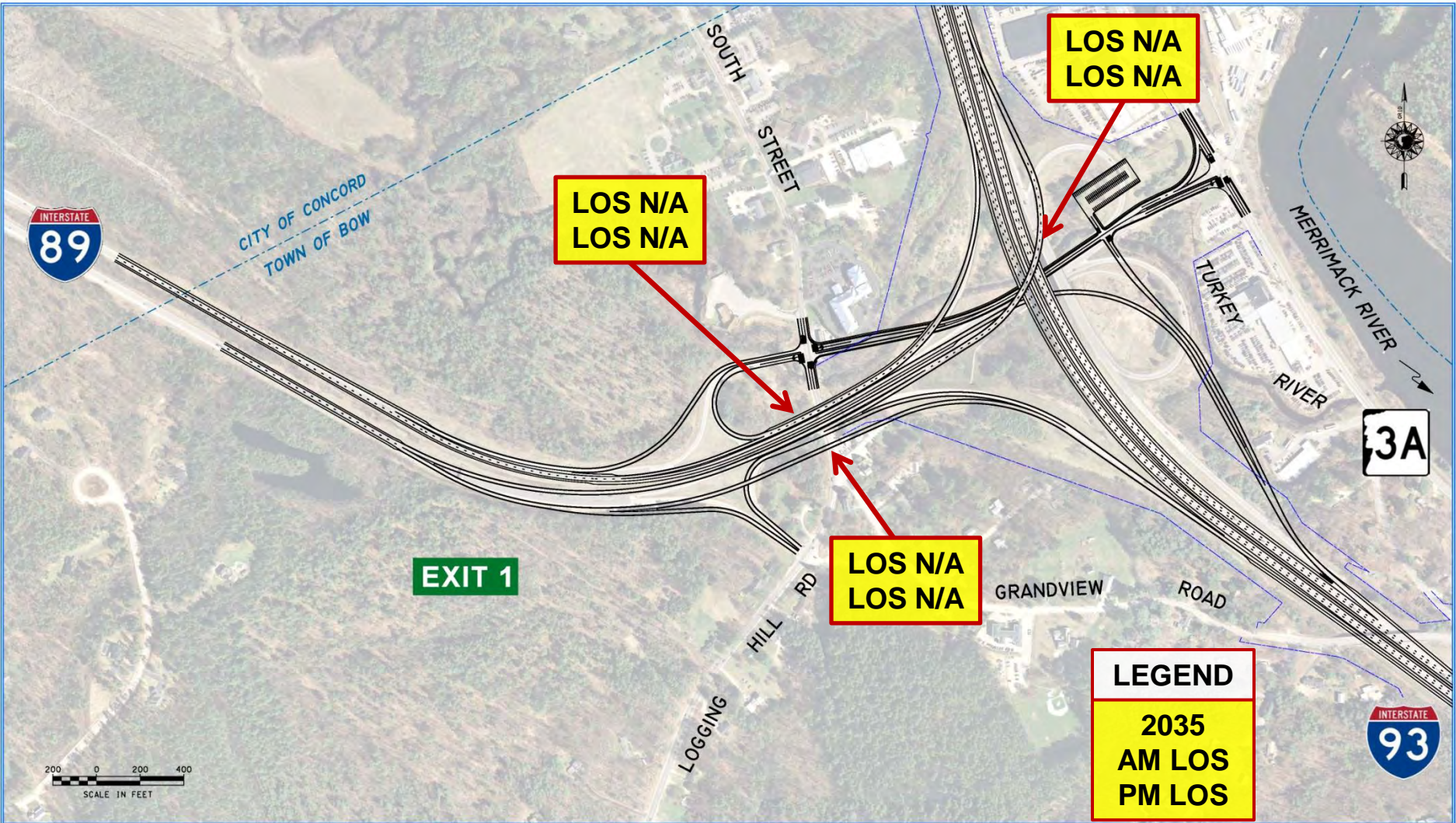








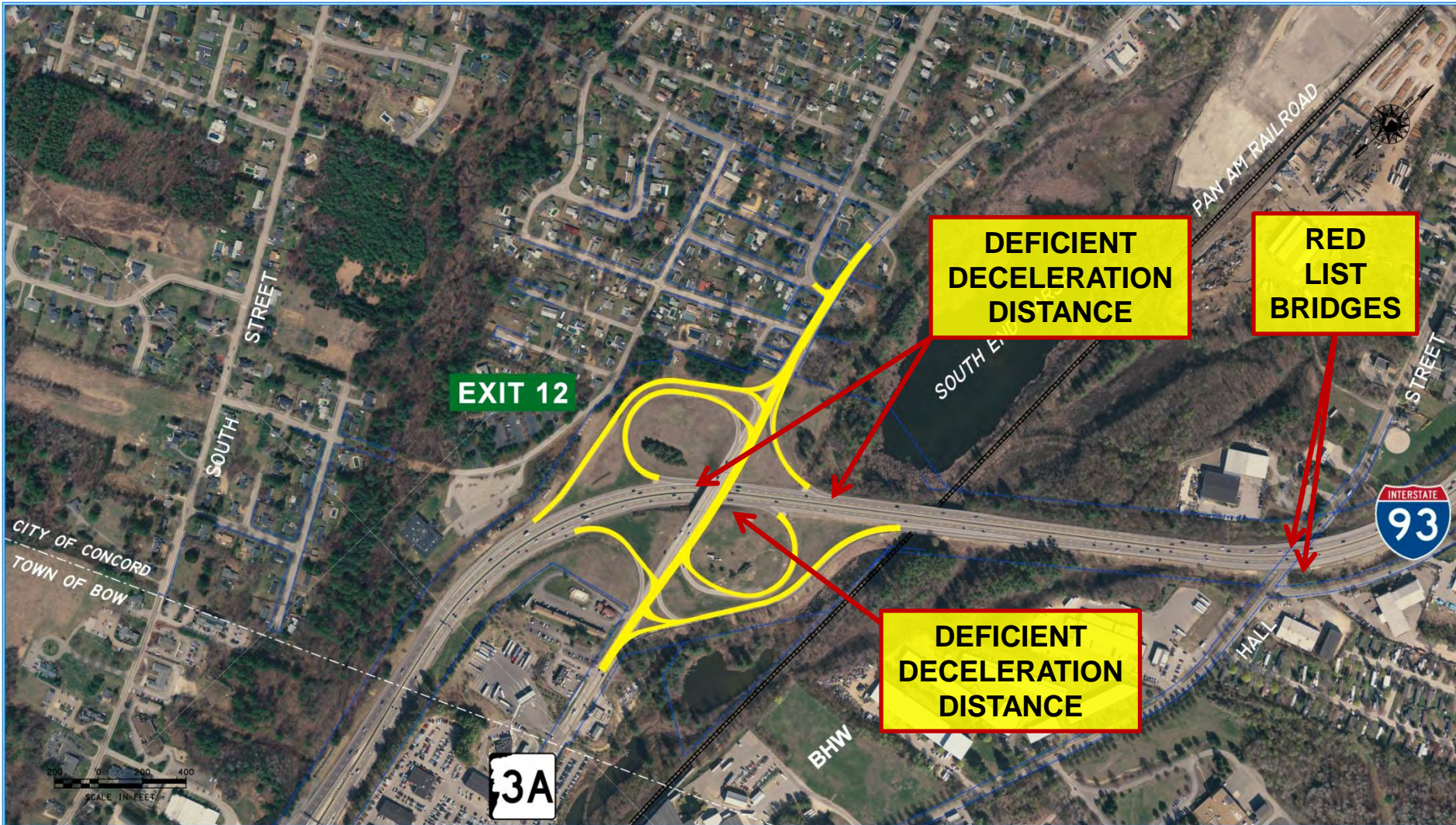




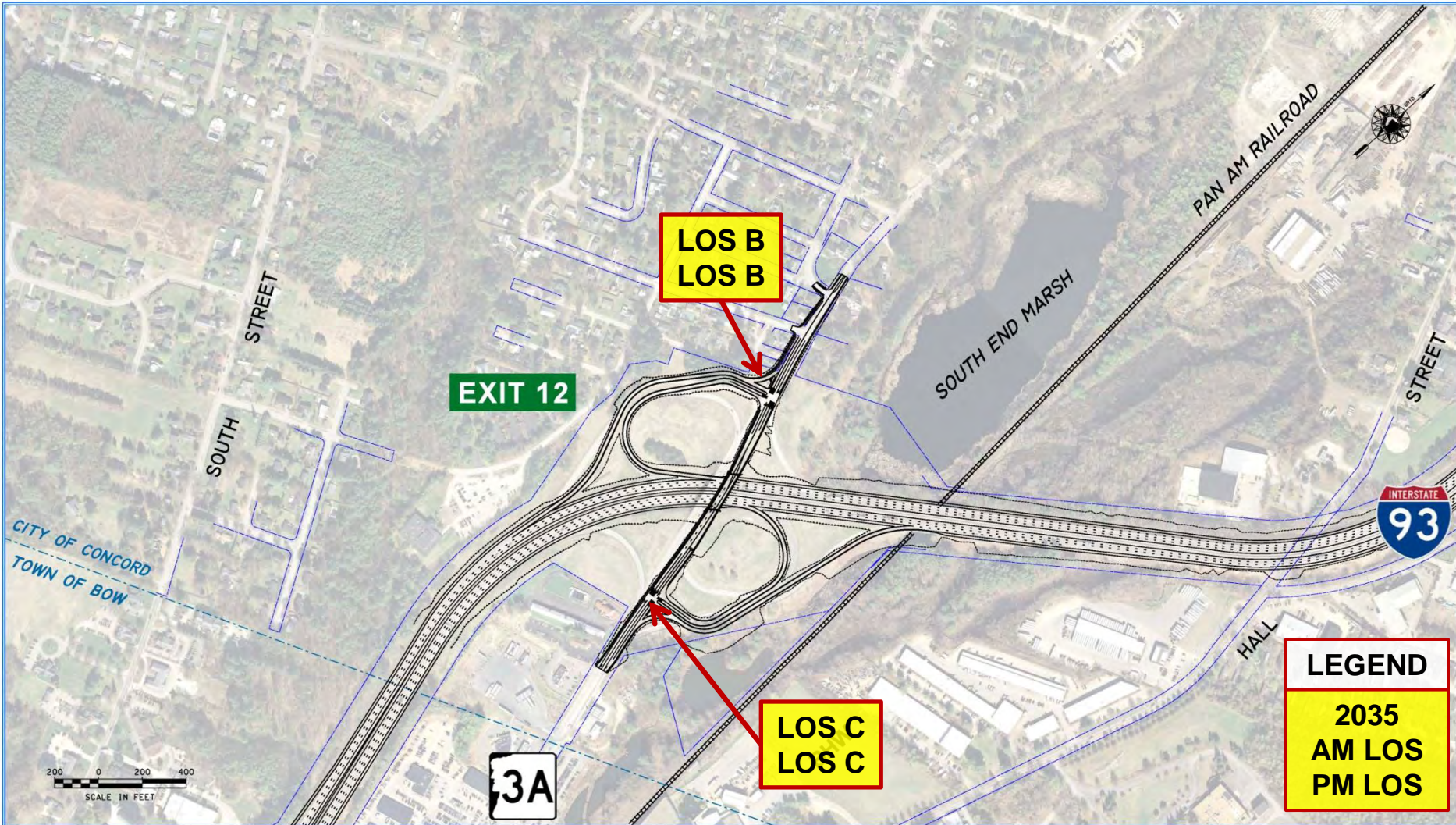




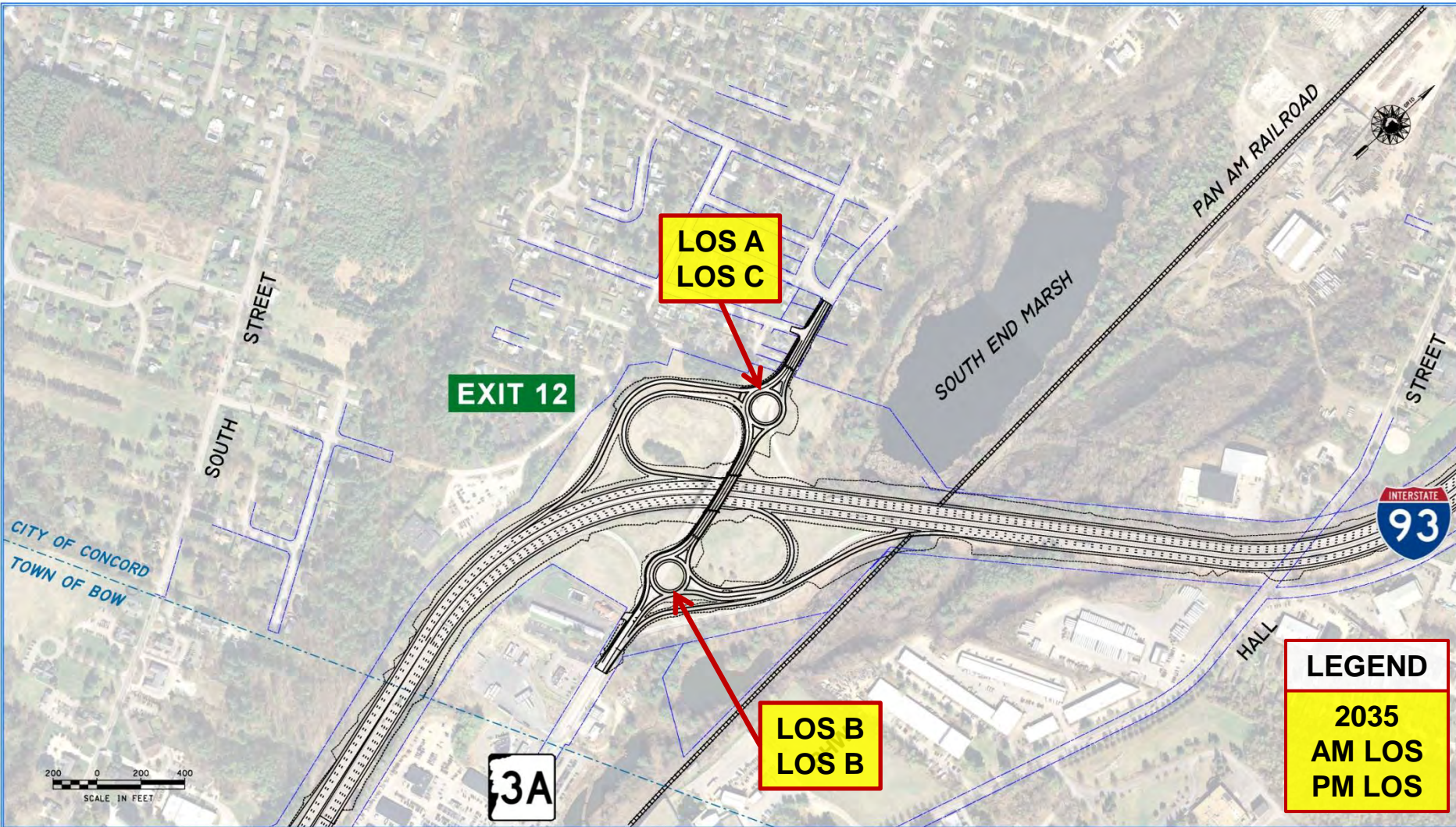












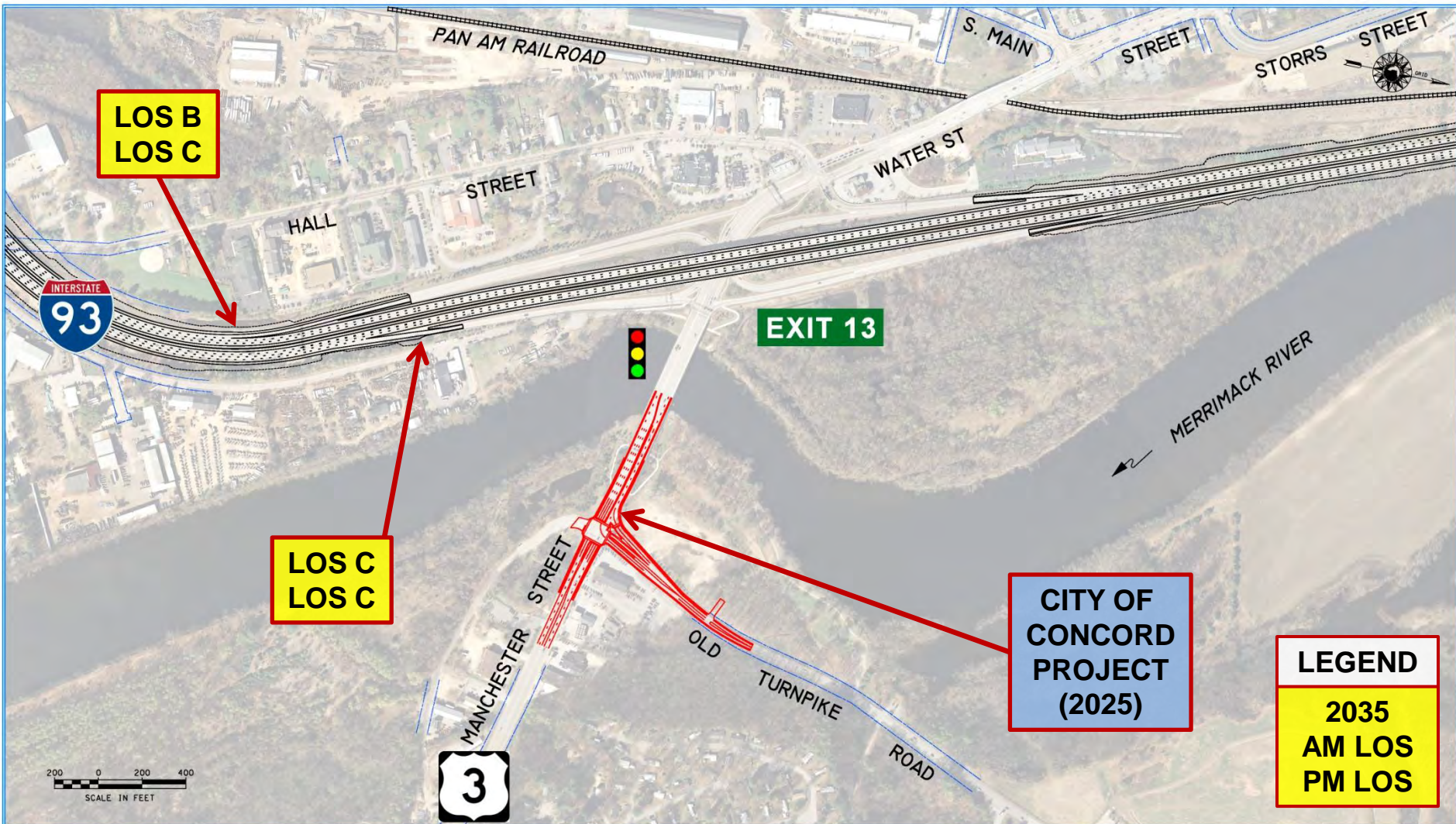
**LEGEND**

2035  
AM LOS  
PM LOS





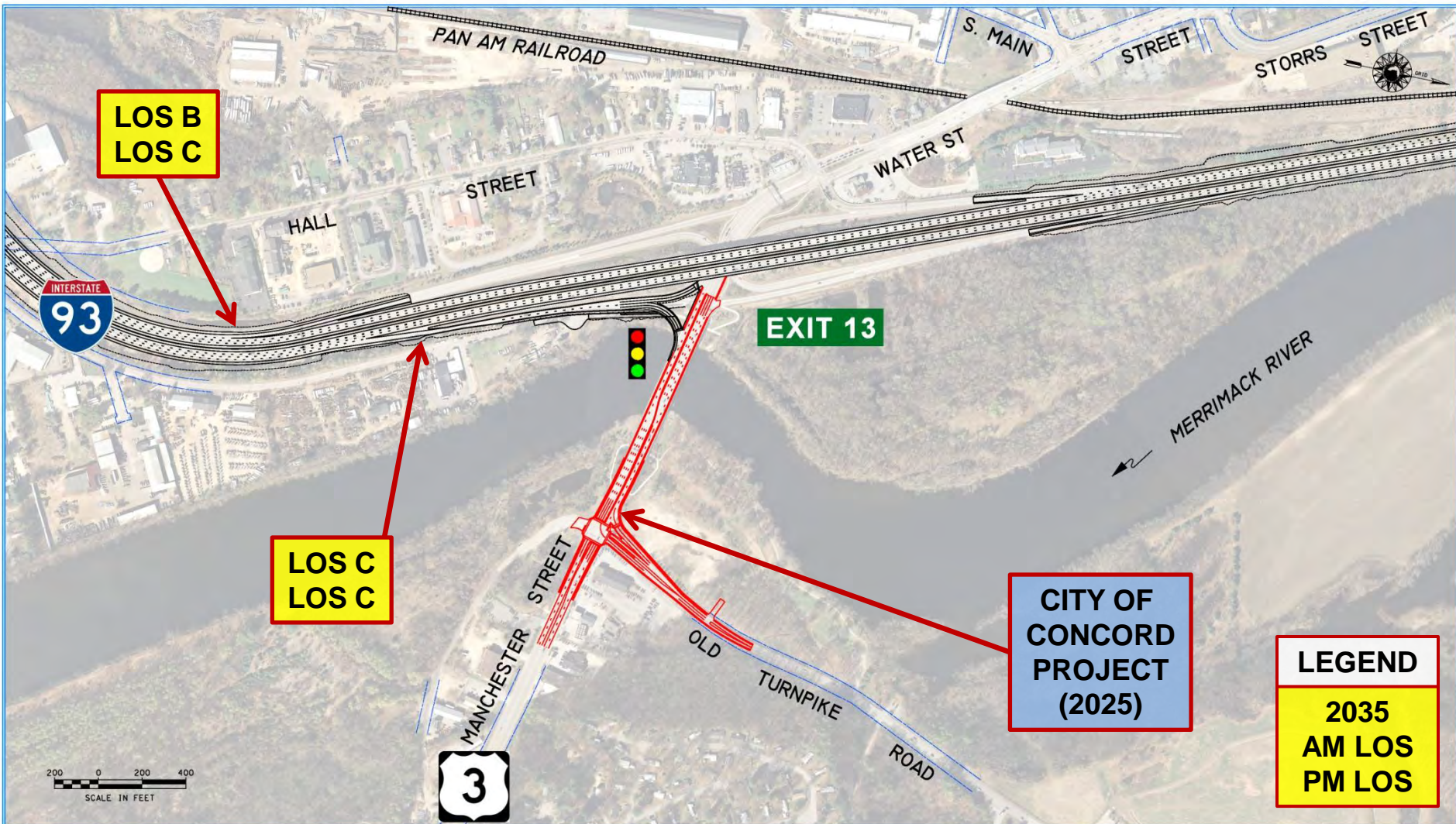




**BOW-CONCORD I-93 CORRIDOR PROJECT**

**EXIT 13 AREA  
CONCEPT A**

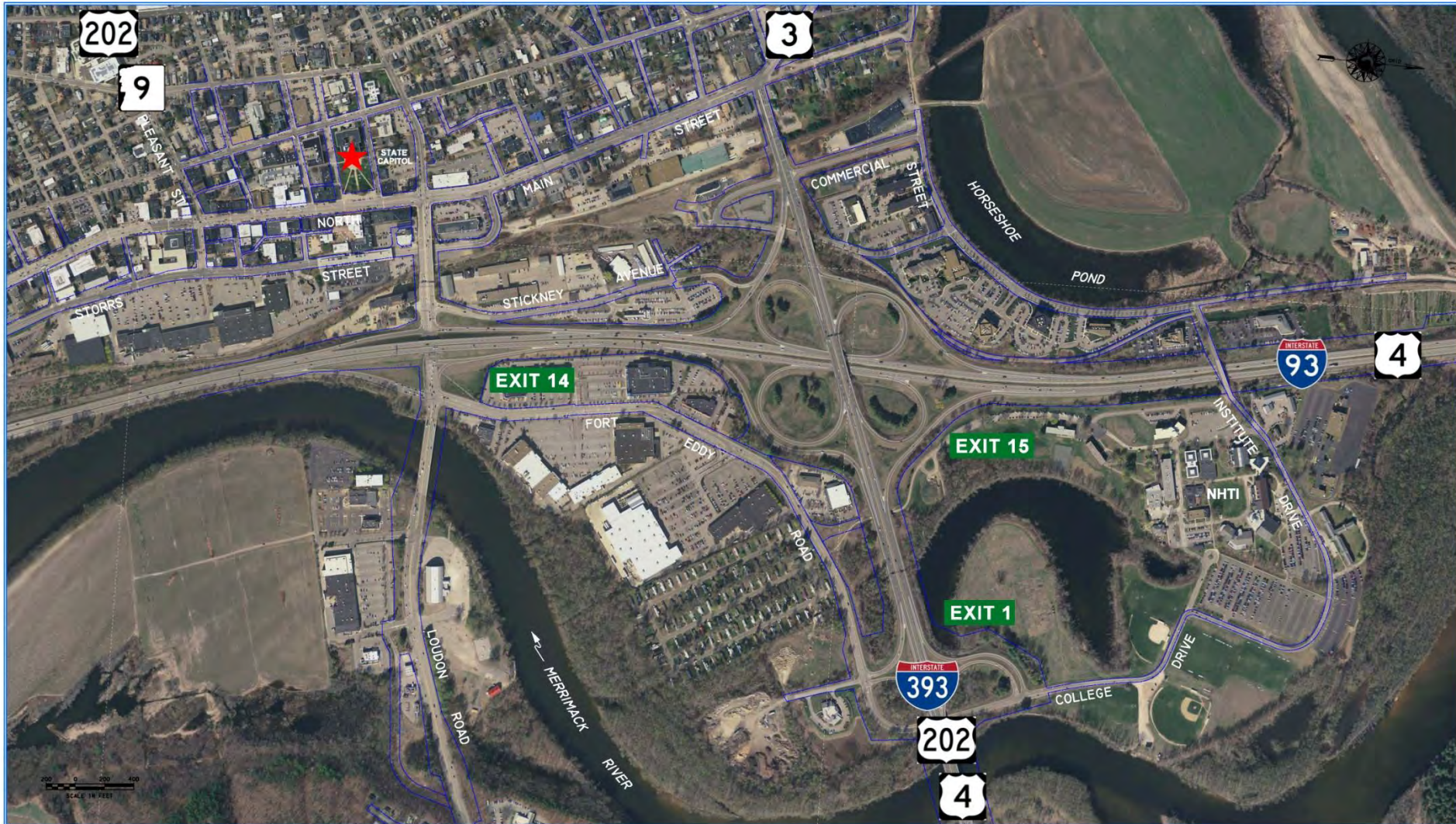




**BOW-CONCORD I-93 CORRIDOR PROJECT**

**EXIT 13 AREA  
CONCEPT B**

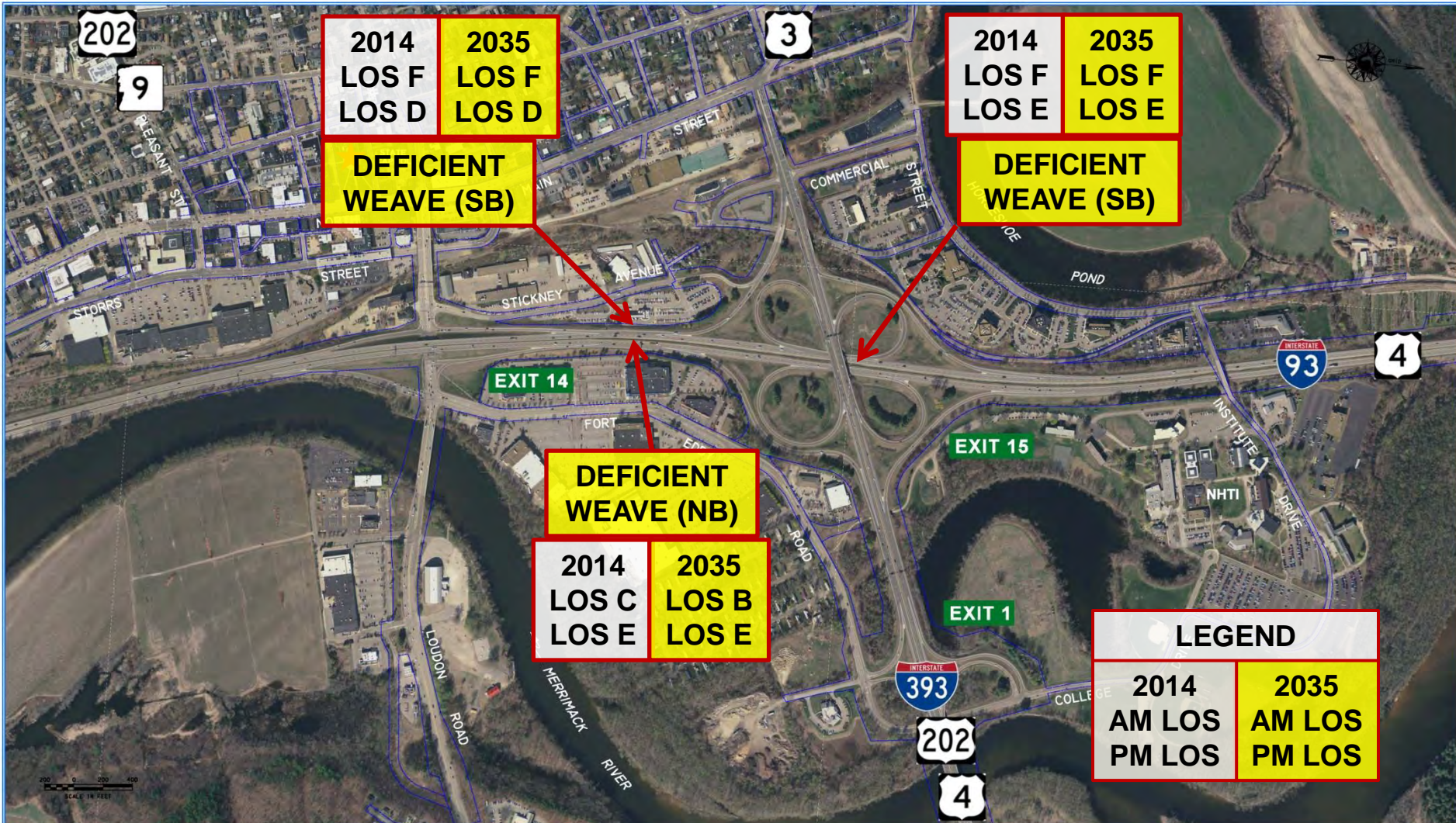
















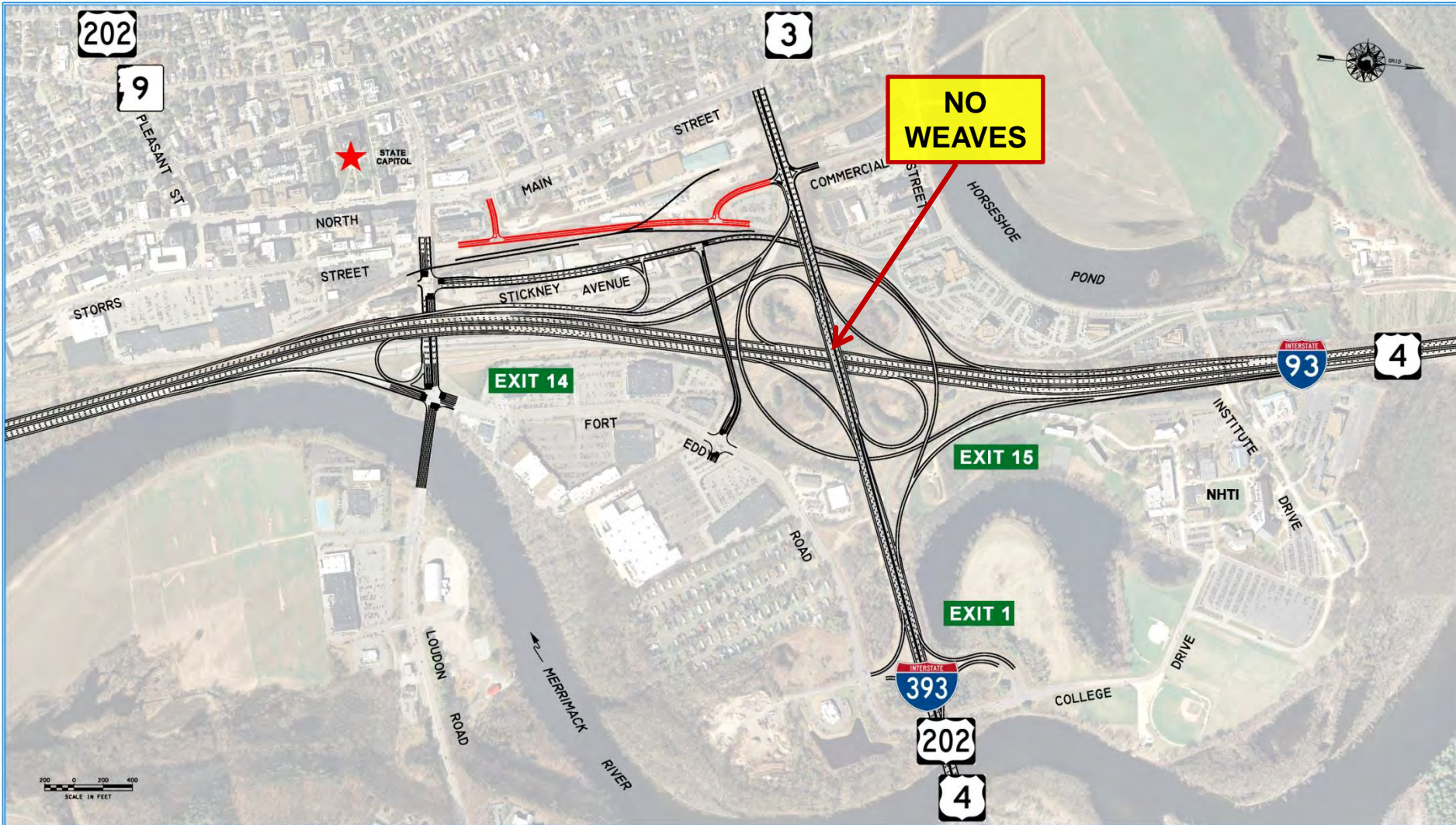


















# *Next Steps*

- Determine Alternatives for Consideration
- Public Outreach

