



Concord 41212

**Loudon Road over Merrimack River
(Bridge No.163/111)**

State No. 41212 | Concord CIP 588

Public Information Meeting No.1

March 20, 2025





Meeting Agenda

1. Welcome and Introductions
2. Project Location
3. Project Development Process
4. Project Overview & Progress to Date
5. Environmental Resource Identification
6. Purpose & Need Statement
7. Concept Evaluation
8. Other Design Considerations
9. Project Program Budget
10. Next steps and Schedule
11. Questions?



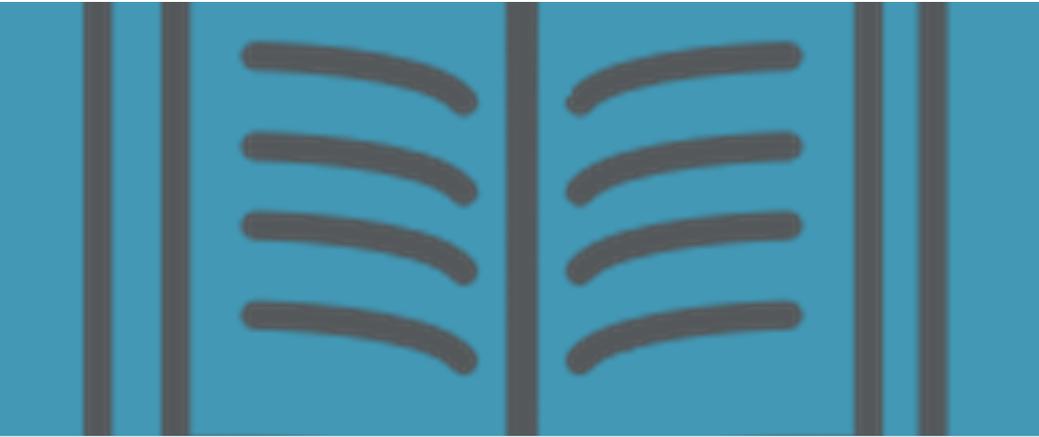


Key Project Team Members

- Michael Bezanson, PE
City Engineer, City of Concord
- Karen Hill, PE
Transportation Engineer, City of Concord
- Tony Puntin, PE
Planning & Community Assist. (NHDOT)

- Roch Larochelle, PE
Consultant Team Project Manager (HDR)
- Keith Cota, PE
Consultant Technical Advisor (HDR)
- Nick Caron, PE
Consultant Structural Design Lead (HDR)
- Debbie Finnigan, PE
Consultant Traffic Design Lead (HDR)
- Kevin Slattery, PWS
Consultant Environmental Lead (HDR)





Project Location



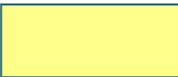
Concord 41212 / CIP 588 PROJECT LOCATION





Concord 41212 / CIP 588 PROJECT LOCATION MAP



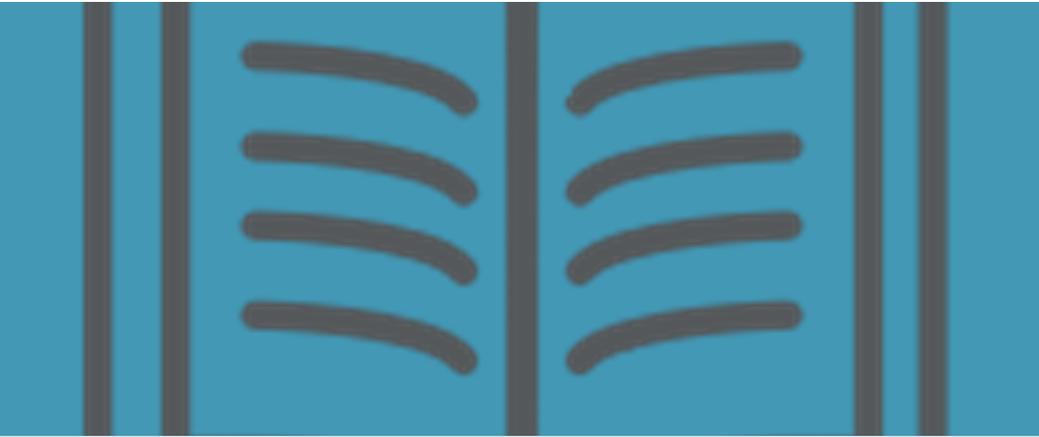
 Approximate Project Limits

PROJECT OVERVIEW & BASIC GOALS

- ✓ Concord Project CIP 588 / NHDOT Project 41212
- ✓ The project is in the Ten-Year Plan currently programmed through the State Aid Bridge and MOBRR⁽¹⁾ programs at **\$24.8M** for construction in FY 2027 - 2029 (Bridge Widening).
- ✓ Study limits include Loudon Road from Fort Eddy Road to Gully Hill Road/Everett Arena Driveway
- ✓ Project design to be compatible with City Long-Range Plan (Multi-Modal Connections)
 - Address Operational & Safety Concerns along the Corridor (Fort Eddy Road/ NB I-93 Ramps)
 - Considers future Active Transportation connections (MRGT⁽²⁾/Northern Rail Trail)
 - Considers Storrs Street Extension (Multi-Modal connection north)
 - Considers the Bow-Concord I-93 Preferred Alternative (F2)

(1) MOBRR-Municipal Off-System Bridge Replacement and Rehabilitation Program

(2) MRGT-Merrimack River Greenway Trail



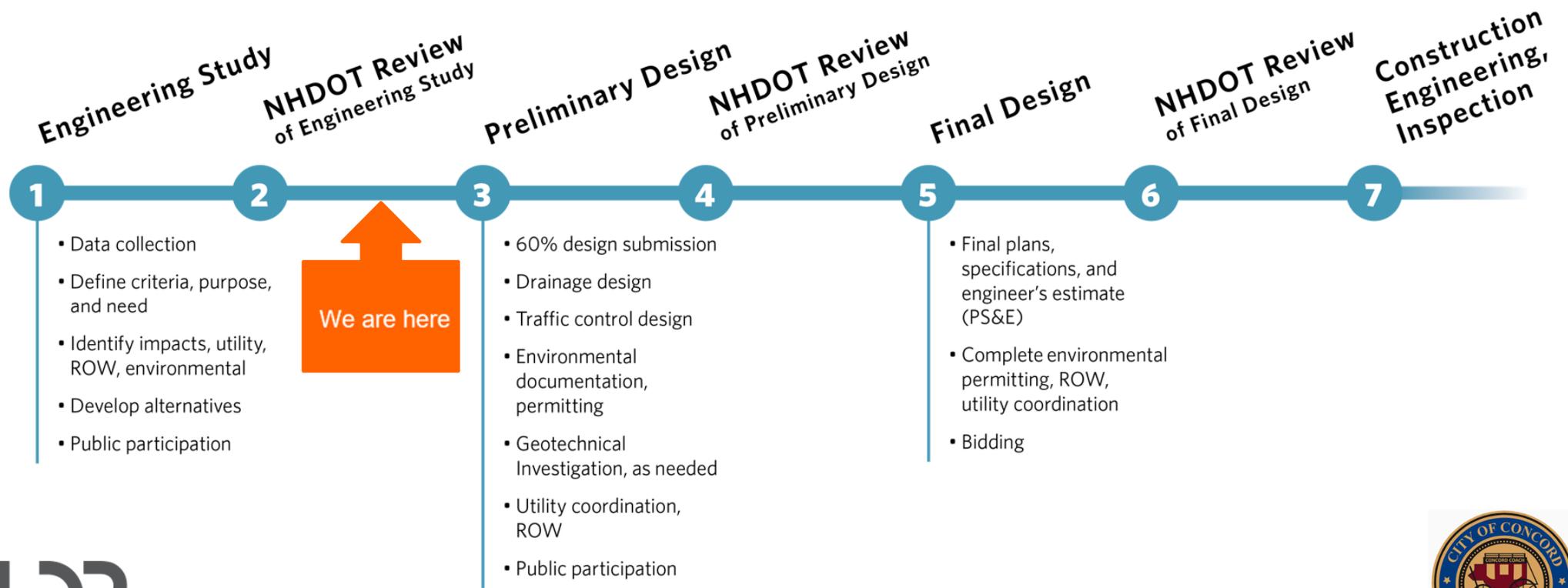
Project Development Process

PROJECT DEVELOPMENT PROCESS

- Collect Data and Analyze Conditions
- Craft Purpose and Need Statement
- Develop and consider range of reasonable design alternatives
- Solicit input from Public (Local Concerns Meeting)
- Evaluate environmental impact of alternative
- Recommend preferred alternative that meets project Purpose and Need
- Develop Proposed Action Plan and implementable project

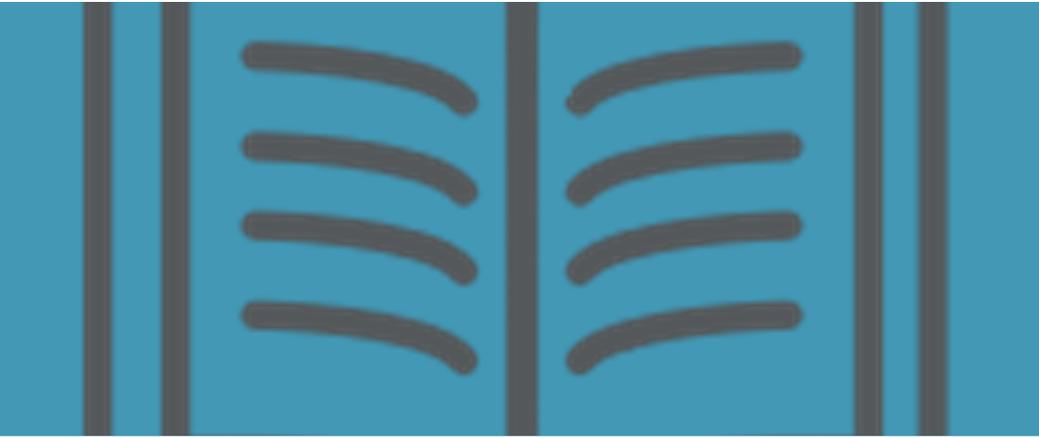


NHDOT LPA Workflow



Source: <https://www.nh.gov/dot/org/projectdevelopment/planning/cmaq/index.htm>





Project Overview & Progress to Date



PROJECT RECAP

- ✓ Project Kickoff (Engineering Study).....Feb. 14, 2020
- ✓ Data Collection (Surv/Traffic/Hyd-Env).....Mar-June 2020
- ✓ Initiate Engineering Study.....June-Dec 2020
- ✓ Design Review Committee Meeting.....June 18, 2020
- ✓ TPAC Meeting (Prelim. Concepts).....June 25, 2020
- ✓ TPAC Meeting (Traffic Analysis).....July 23, 2020
- ✓ Report to Mayor/City Council (Concepts).....Sept. 24, 2020
- ✓ TPAC Meeting (Multi-modal connections).....Jan. 21, 2021
- ✓ Draft Engineering Study Submitted.....Mar. 1, 2021
- ✓ Rev. Draft Engineering Study Submitted.....Apr. 6, 2021
- ✓ NHDOT Design Review Meeting.....May 11, 2021
- ✓ Estimate Review Committee (NHDOT).....Sept. 24, 2021
- ✓ GACIT Hearing/NHDOT TYP.....Oct. 19, 2021
- ✓ Final Engineering Study Submitted.....Jan. 11, 2022
- ✓ **Contract Authorized (Phase I-Data Collection).....Jan. 26, 2024**
- ✓ Traffic Data Update/Bridge Inspection.....Feb -June 2024
- ✓ Geotech Program Permitting (Drilling).....Jan-Aug. 2024
- ✓ Interim Bridge repair estimate (Paving).....May 3, 2024
- ✓ Bridge Assessment Report Submitted.....May 22, 2024
- ✓ Existing Conditions Traffic Model complete.....Sept. 4, 2024
- ✓ **Contract Authorized (Phase II-Final Design).....Jan. 2, 2025**
- ✓ Interim Repair Meeting (NHDOT).....Jan. 30, 2025
- ✓ Developed Purpose & Need Statement.....Feb. 2025
- ✓ Meet with City Planning/Traffic.....Feb. 25, 2025
- ✓ Local Concerns Meeting.....Mar. 20, 2025

2020

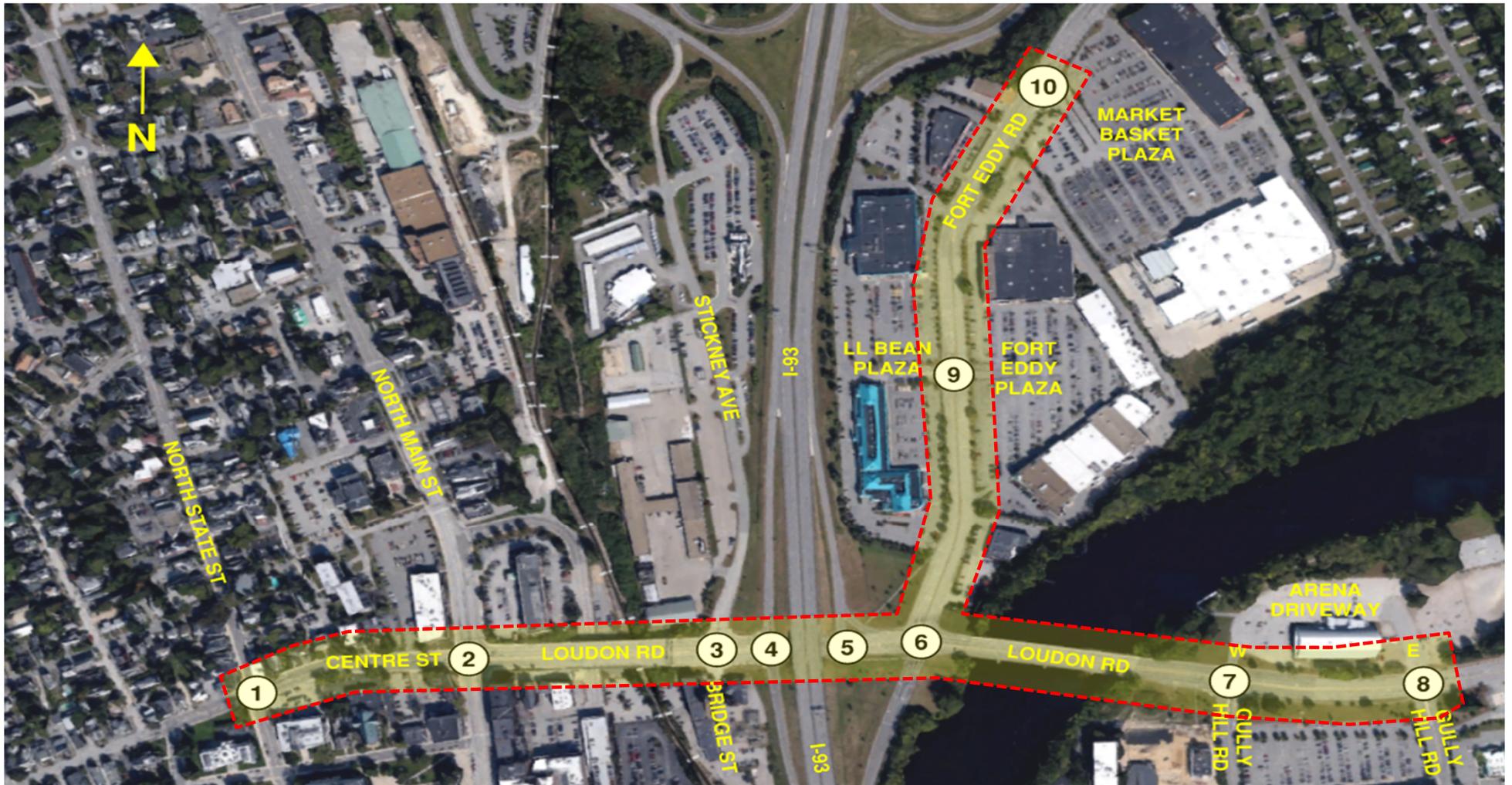
2021

2022 - 2024

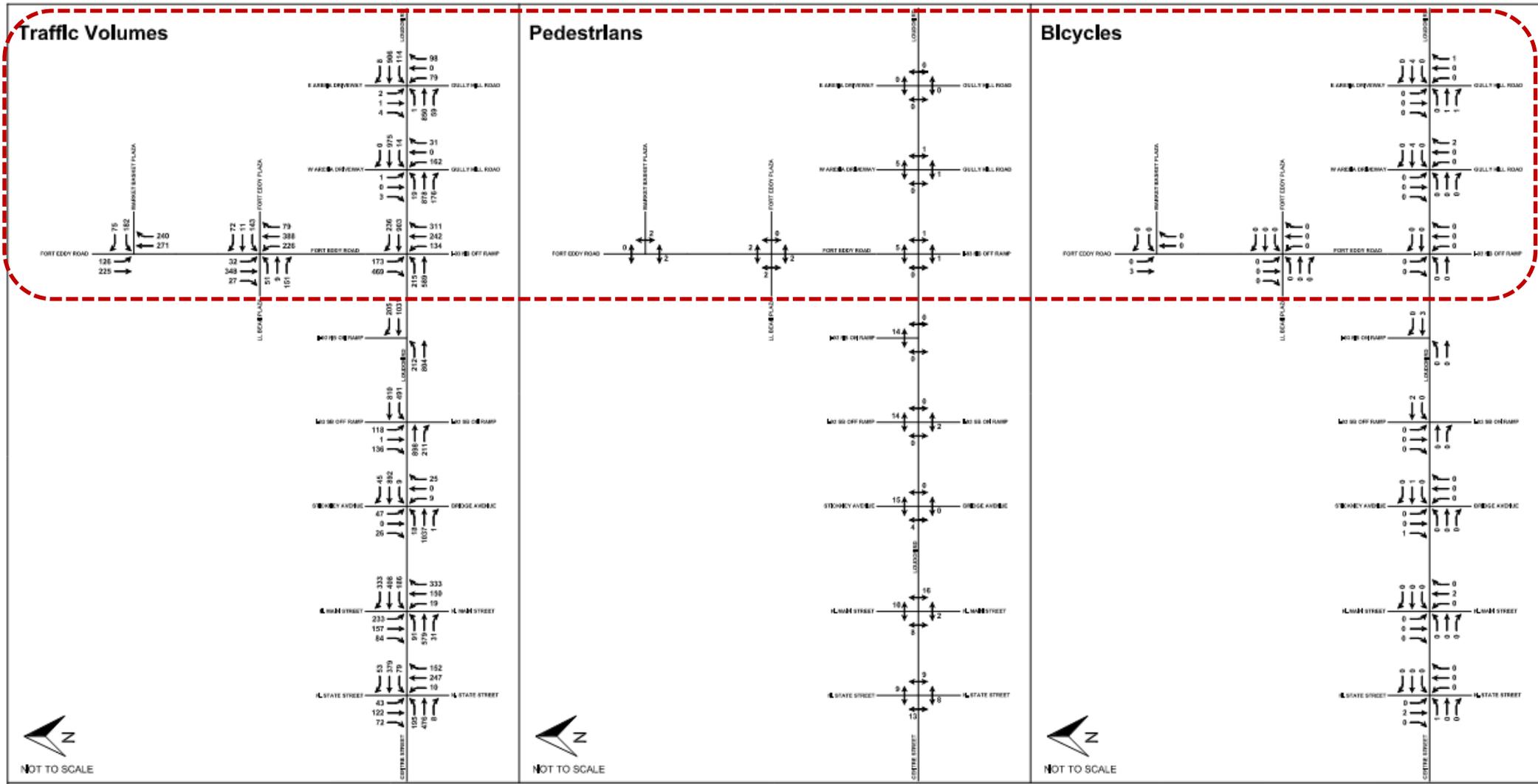
2025

Phase I Complete

TRAFFIC STUDY AREA (TRAFFIC ANALYSIS)

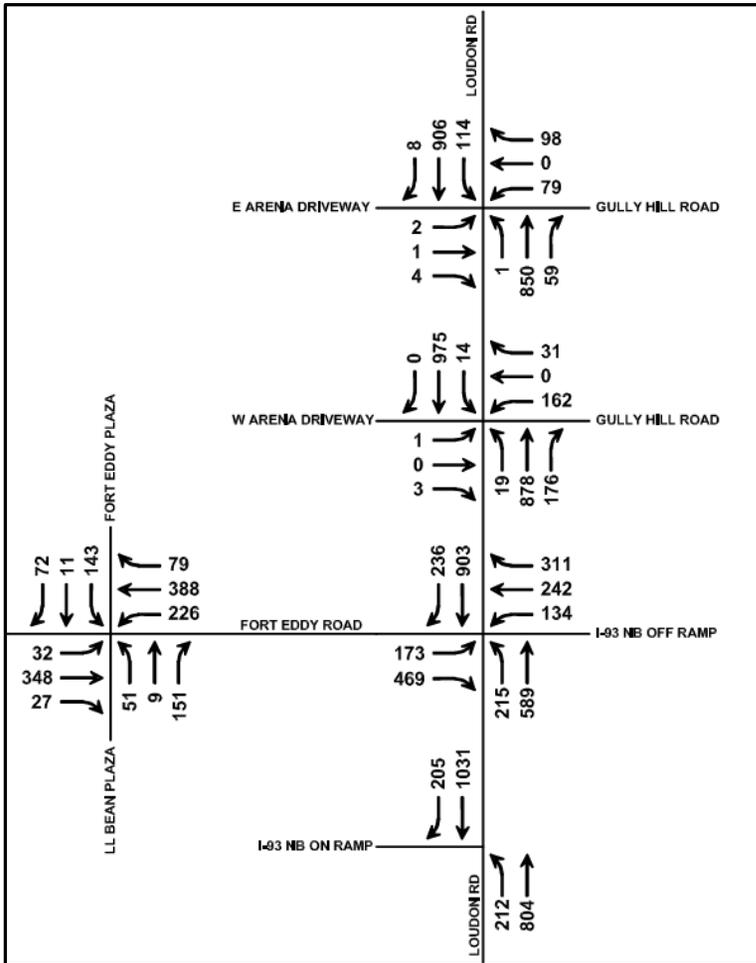


TRAFFIC VOLUMES (2024 EXISTING PM)

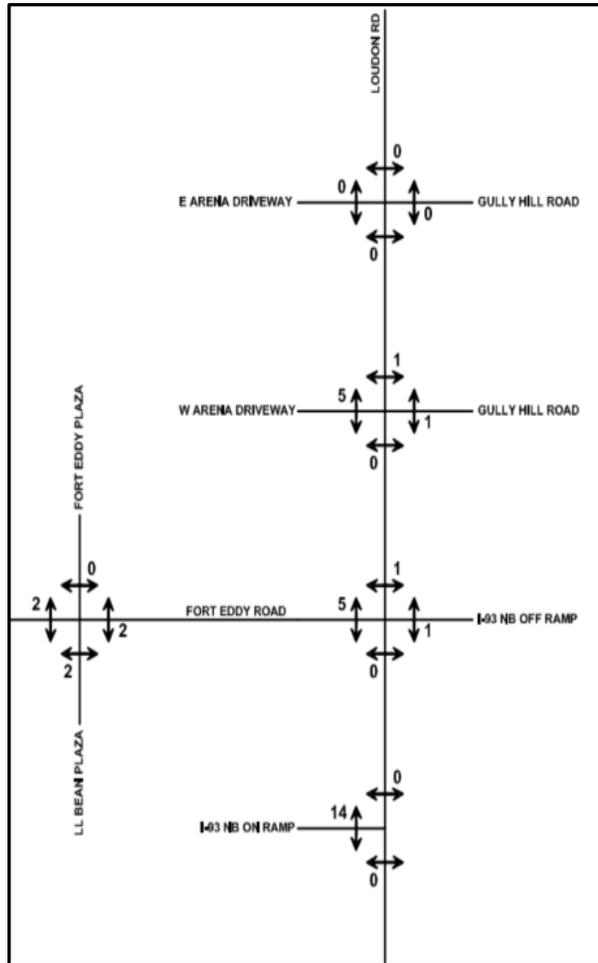


TRAFFIC VOLUMES (2024 EXISTING PM)

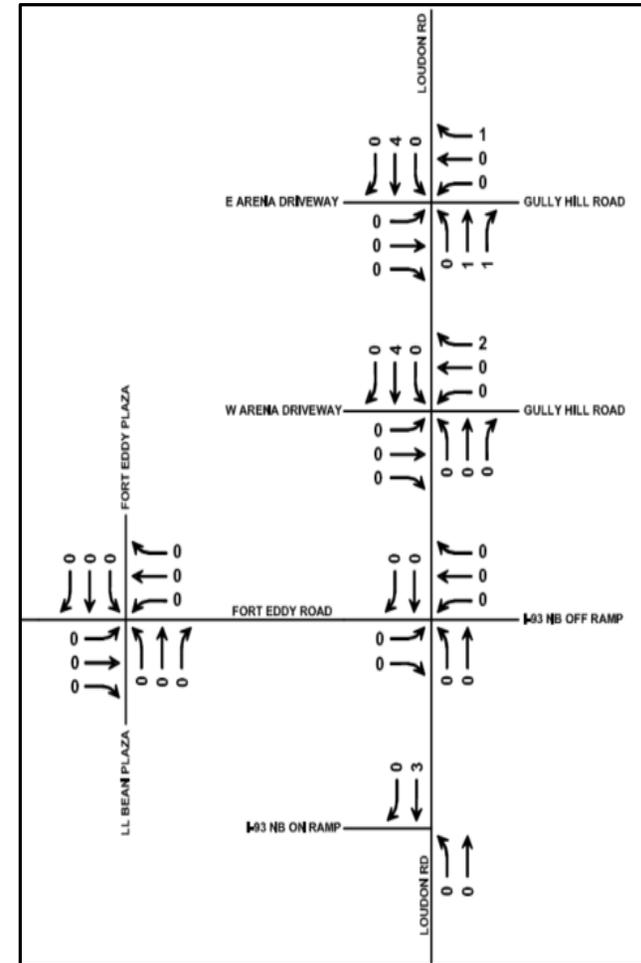
Traffic Volumes



Pedestrians



Bicycles



Note: Raw counts taken Tuesday June 11, 2024

INTERCHANGE CRASH SUMMARY (2015-2020)

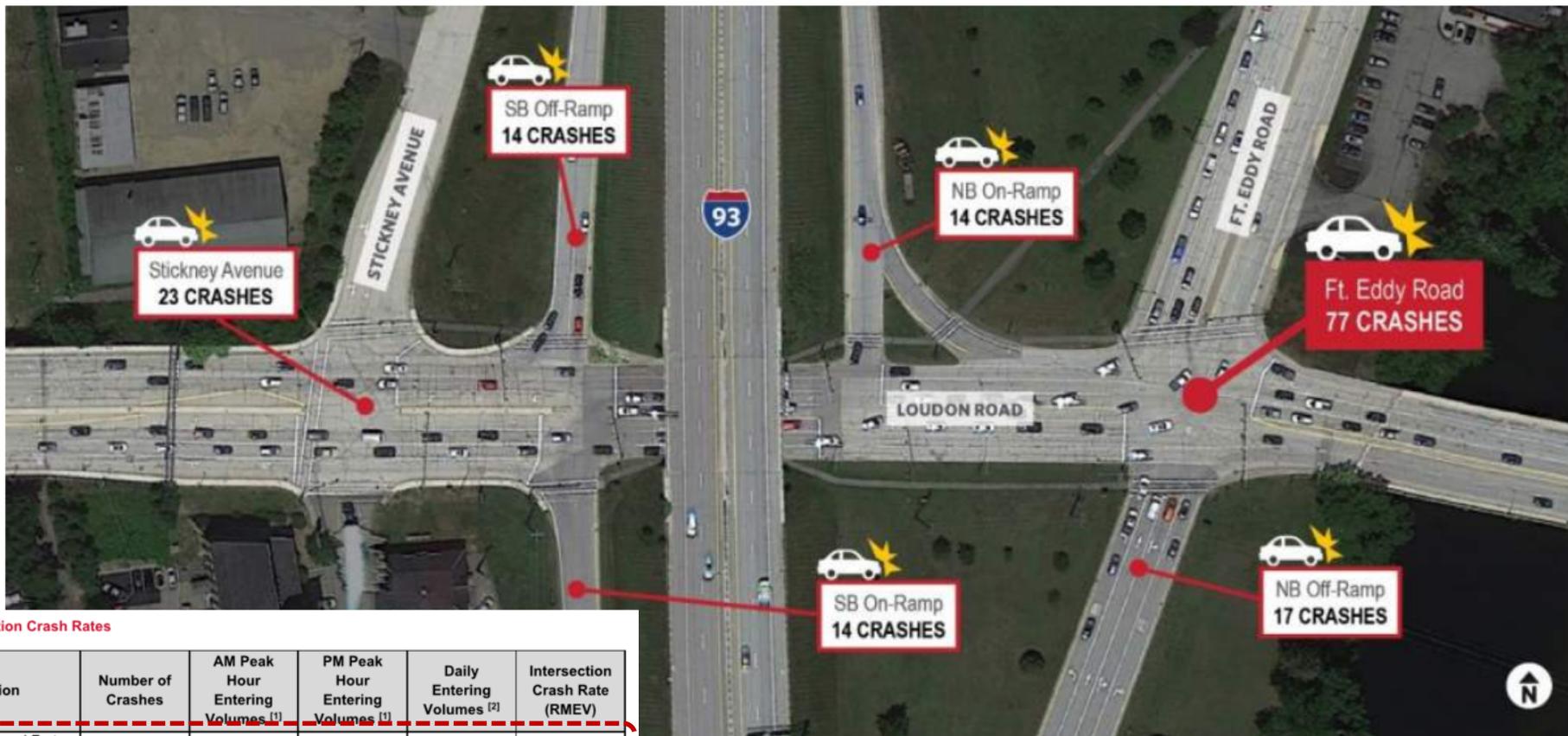
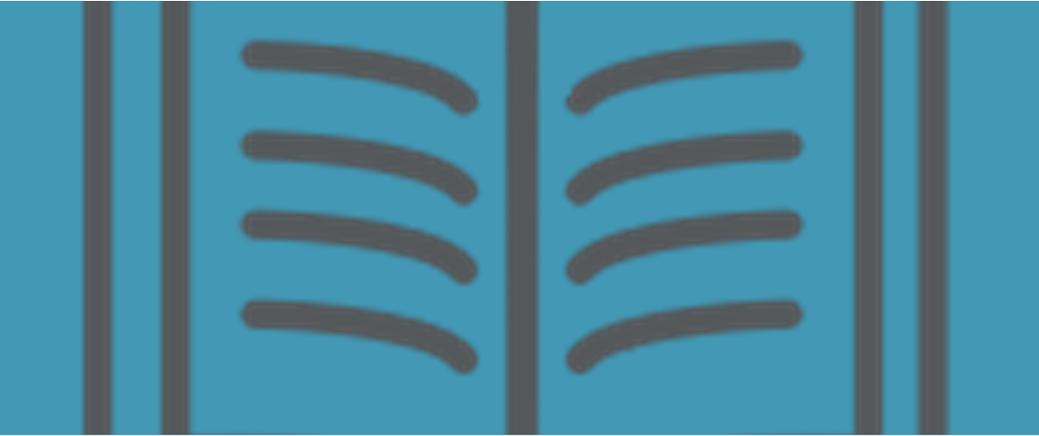


Table 2 - Intersection Crash Rates

Intersection	Number of Crashes	AM Peak Hour Entering Volumes ^[1]	PM Peak Hour Entering Volumes ^[1]	Daily Entering Volumes ^[2]	Intersection Crash Rate (RMEV)
1 Loudon Rd and Fort Eddy Rd and I-93 NB Exit 14 Off-Ramp	94	2722	3830	38300	1.26
2 Loudon Rd and I-93 NB Exit 14 On-Ramp	14	1827	2826	28260	0.26
3 Loudon Rd and I-93 SB Exit 14 Ramps	28	2367	3049	30490	0.47
4 Loudon Rd and Stickney Ave	23	2070	2517	25170	0.47



Environmental Resource Identification

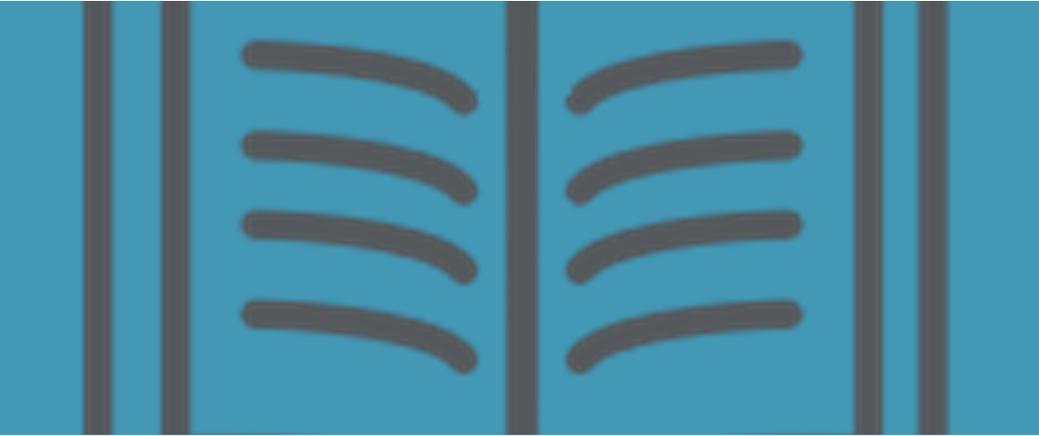
Integrated Environmental Process Minimizes Risks

➤ Early Constraints Identification

- Wetlands & Watercourses
- Floodplains & Floodways/“Designated River”
- Invasive, Threatened and Endangered Species
- Wildlife & Fish Habitat
- Historical and Archaeological Resource
- Social and Economic Resources
- Hazardous Materials
- Air & Water Quality Conforms
- Public and Conserved Lands

➤ NEPA Document & Permitting





Purpose & Need Statement

PURPOSE & NEED DEFINITION AND USE

- Required for NEPA Clearance
- Defines transportation issues and needs.
- States reason for undertaking and intended outcomes.
- Used to compare effectiveness of Build Alternatives against the No-Build Alternative.



Purpose and Need Statement

Purpose

The purpose of the project is to address structural deficiencies, safety concerns, and conflicts between vehicle, bicycle and pedestrians on Loudon Road (NH Route. 9) and the Municipal Red List Bridge No. 163/111 over the Merrimack River.

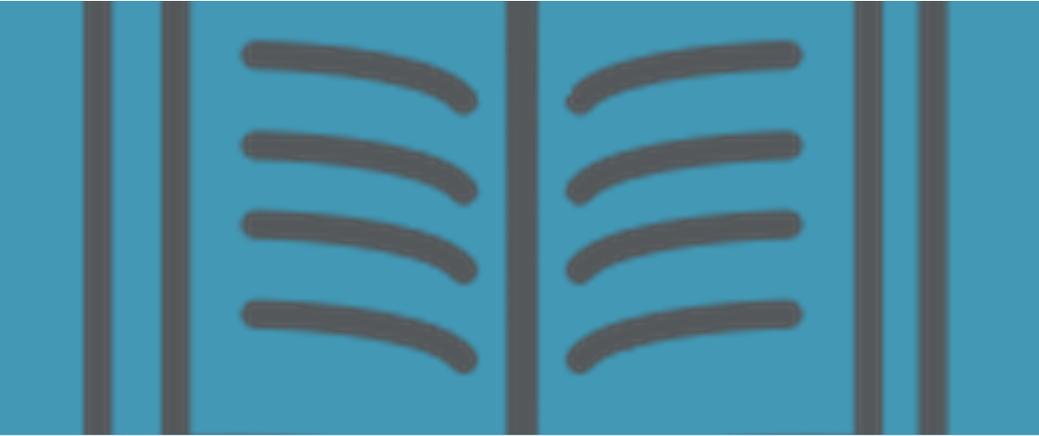
Need

The Project Need is defined to address the following:

- Structural deficiency of the deck, superstructure, and abutment backwall deterioration;
- Operational deficiencies caused by imbalanced lane groups and lane alignments through the I-93 Exit 14 northbound interchange and Fort Eddy Road intersection;
- Lack of adequate shoulders for bicycle use; and
- Limited pedestrian crossings through I-93 Exit 14 across Loudon Road causing high exposure risks.

GOALS AND OBJECTIVES

- Provide improved service life for the Loudon Road Bridge over the Merrimack River, address structure deterioration and removal from the Municipal Bridge Red Listing;
- Implement infrastructure improvements that will accommodate the City's long-term objectives for multi-modal and recreational connections between Kiwanis Waterfront Park, Merrimack River Greenway Trail (MRGT) and Northern Rail Trail (NRT);
- Improve the operational flow, safety and decrease vehicle delays along the Loudon Road Corridor from the I-93/Exit 14 interchange to the Gully Hill Road intersection;
- Complement and accommodate improved operational flow and traffic safety with adjacent projects and corridor improvements (i.e. NHDOT's I-93/Exit 14 interchange, City of Concord's Kiwanis Waterfront Park);
- Implement any needed utility infrastructure improvements within the project area, especially the City of Concord's public water system infrastructure; and
- Minimize project impacts on local business operations, as well as on natural, cultural, and environmental resources.



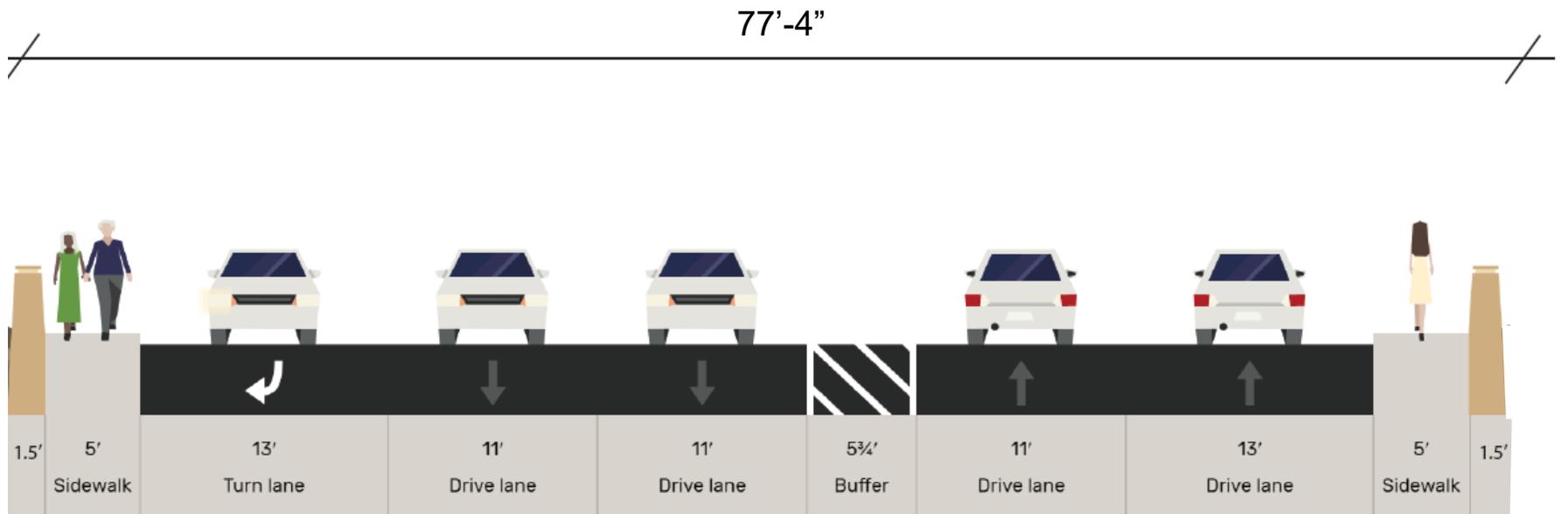
Concept Evaluation



BRIDGE REHABILITATION CONCEPTS CONSIDERED

Alternative	Bridge Rehabilitation	Travel Lanes	Median	Shoulder Width	Pedestrian / Bicycle Accommodation
1	Deck Replacement	5	5.3' (Painted)	2'	North: 5' Sidewalk South: 5' Sidewalk
2	Deck Replacement	4	6' Raised	5'	6' Sidewalks (n/s) 5' shoulders (n/s)
3	1 Girder Widening	5	4' Raised	5'	6' Sidewalks (n/s) 5' shoulders (n/s)
4	2 Girder Widening	5	4' Raised	5'	12' Shared-Use Path (n/s) 5' shoulders (n/s)
5	2 Girder Widening	5	4' Raised	5'	14' Shared Use Path (n) 6' Sidewalk (s) 5' shoulders (n/s)

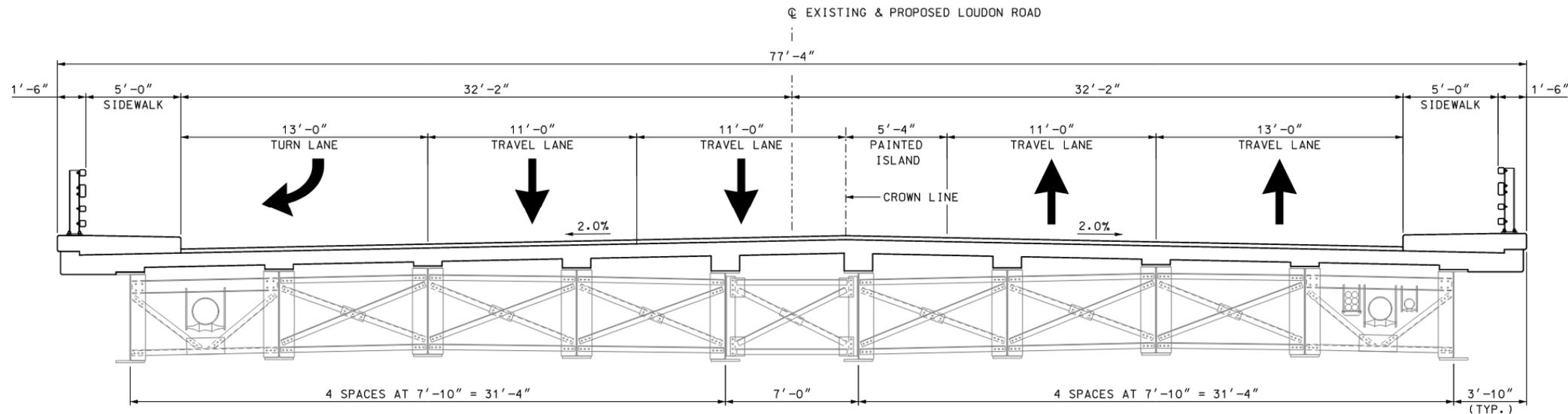
Concept 1 – No Bridge Widening (Existing Loudon Road Bridge Cross Section)



- No bicycle accommodation exists
- Constrained sidewalks with little buffer from traffic

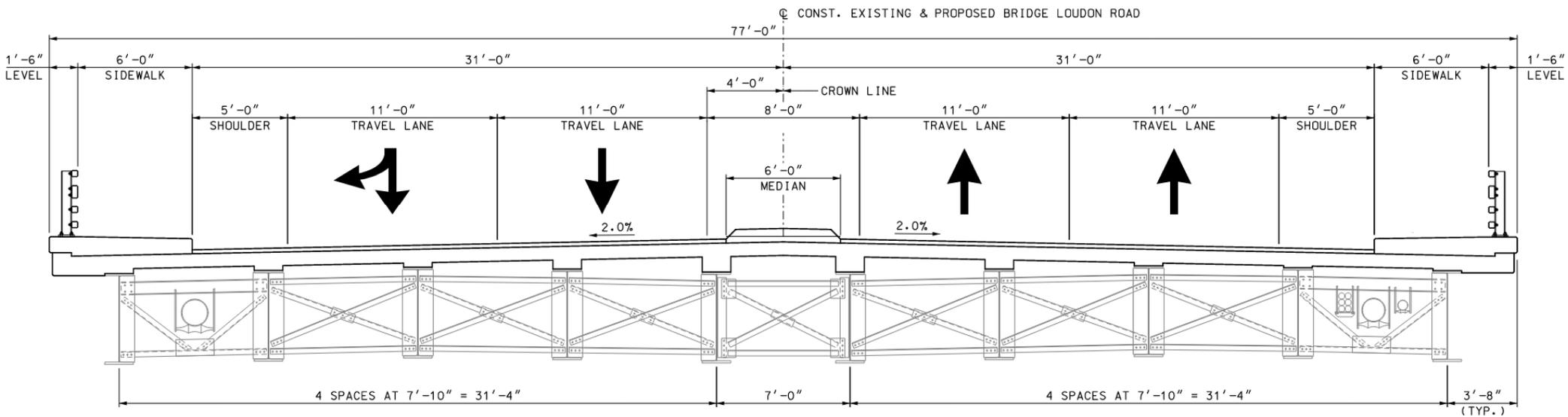
CONCEPT 1 – NO BRIDGE WIDENING (MATCH EXISTING)

(DECK REHABILITATION W/ NO GEOMETRIC UPGRADES)



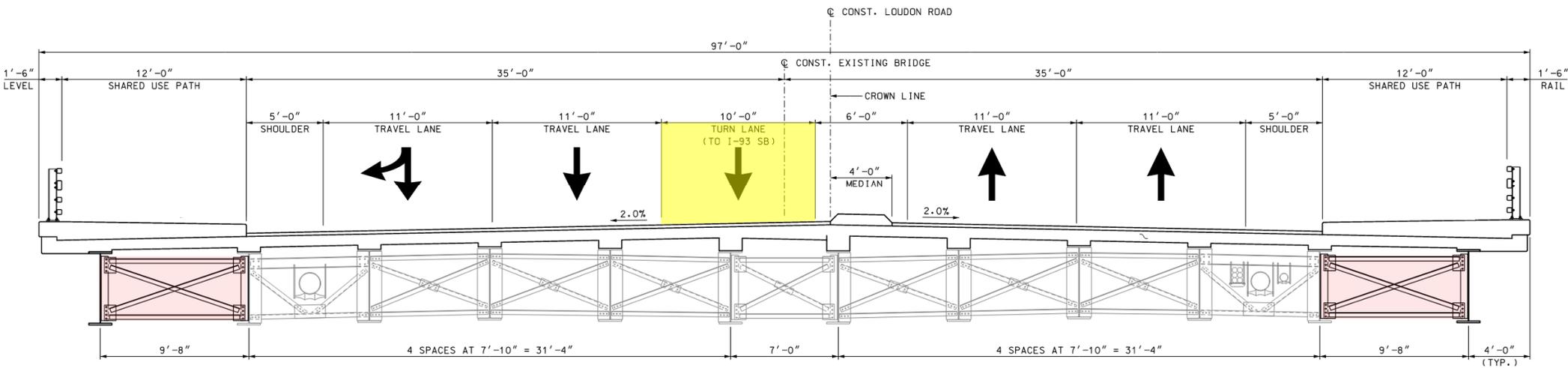
- Deck Rehab Only
- Maintain Existing Geometric Layout Over 77 ft. 4 in. wide deck)

CONCEPT 2 – No Bridge Widening (4-LANES) (LANE REASSIGNMENT ONLY)



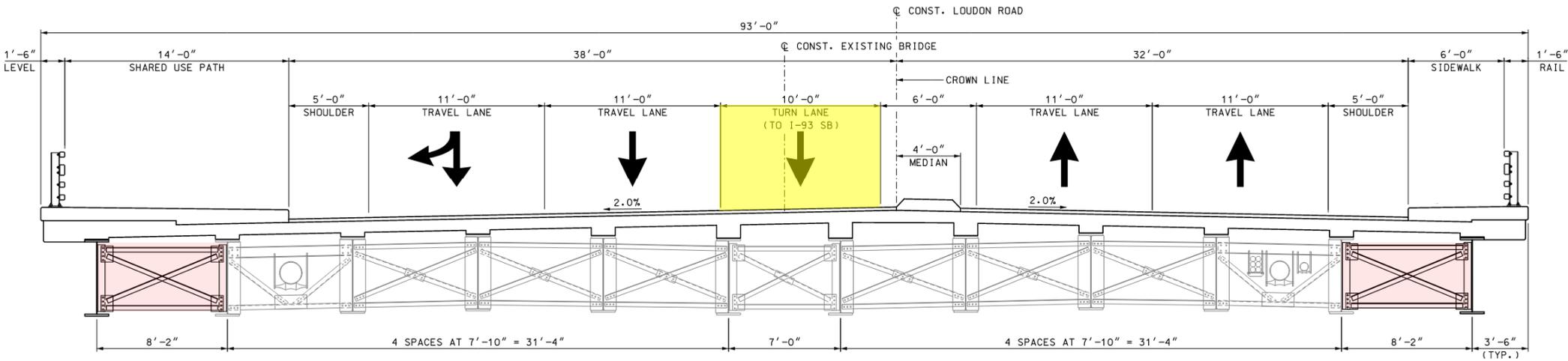
- Reprogramming of space only (No new Girders)
- Results in loss of Right Turn Lane (WB)
- Adds Median (but no future Left-Turn Lane (EB))

CONCEPT 4 – 20' BRIDGE WIDENING (5-LANES) (SHARED USE PATH BOTH SIDES)



- 5 ft Shoulders / 12 ft Shared Use Paths (both sides)
- Consistent with I-93 Expansion Typical for Loudon Road & Connection to Northern Rail Trail (NRT)
- Dedicated WB-Auxiliary Lane for Operational Improvements (Fort Eddy Road/Exit 14)

CONCEPT 5 – 16' BRIDGE WIDENING (5-LANES) (SHARED USE PATH ONE-SIDE ONLY)

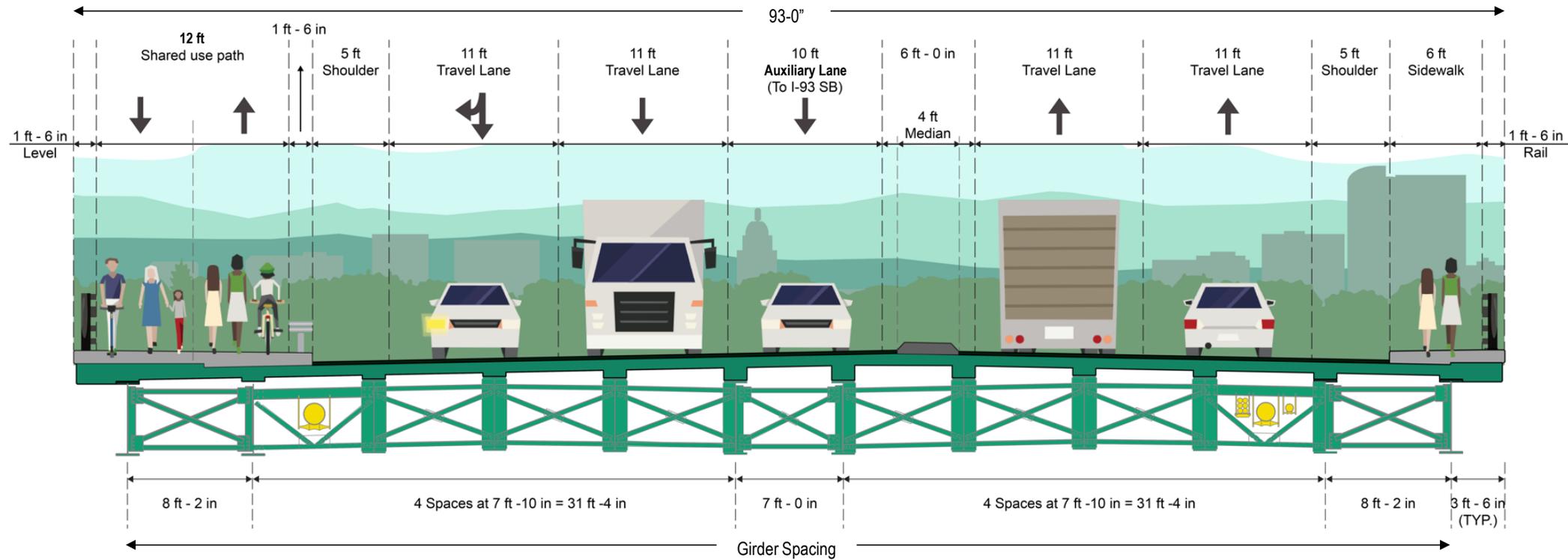


- Northerly (left) 14 ft. Shared Use Path and Southerly 6 ft, Sidewalk
- 5 ft Shoulders (both sides)
- Dedicated WB Auxiliary lane for Operational Improvements (Fort Eddy Road/Exit 14)
- Consistent with I-93 Expansion Typical for Loudon Road & Connection to Northern Rail Trail (NRT)

RECOMMENDED CONCEPT

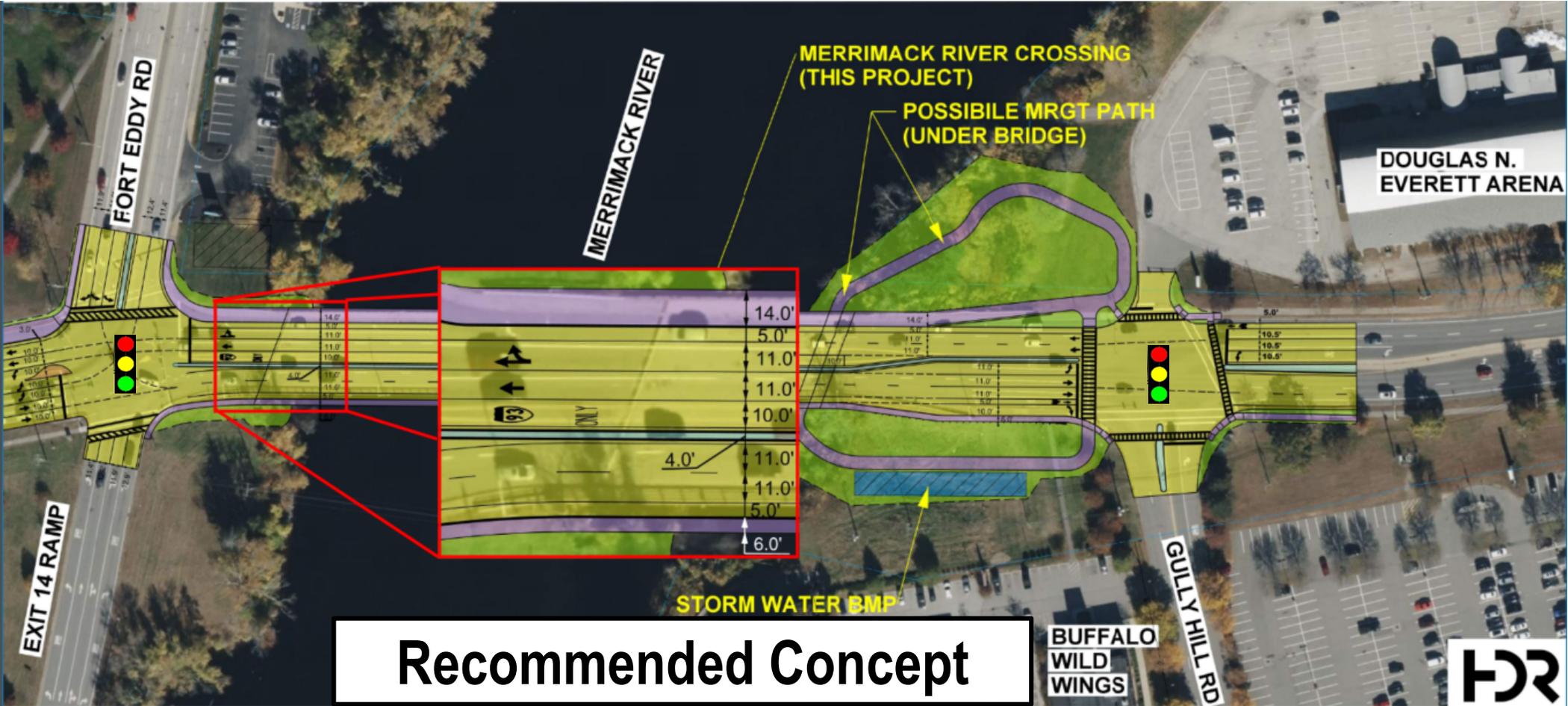


CONCEPT 5 – TWO GIRDER WIDENING (SHARED USE PATH ONE-SIDE ONLY)



Recommended Concept

CONCEPT 5 – TWO GIRDER WIDENING (SHARED USE PATH ONE-SIDE ONLY)

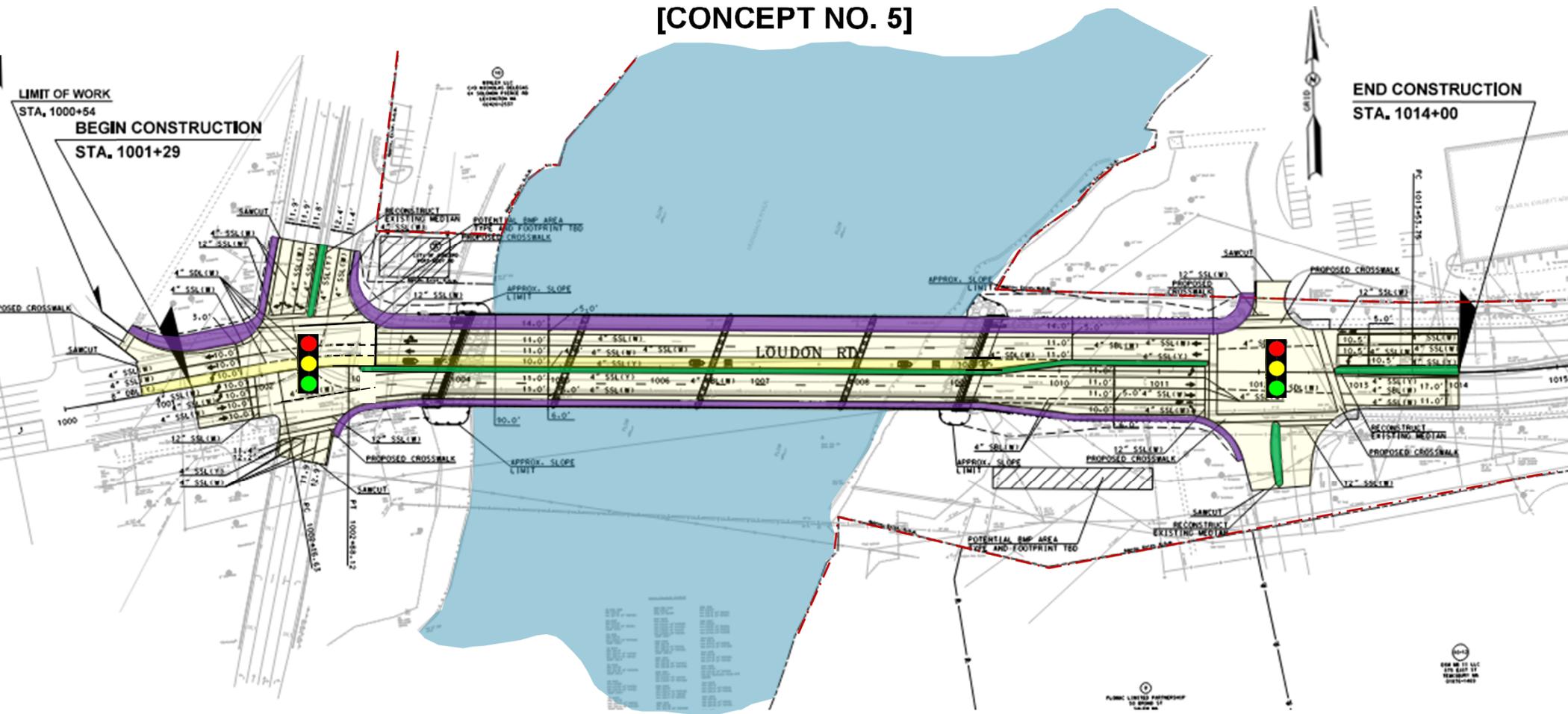


Recommended Concept



RECOMMENDED ROADWAY CONCEPT

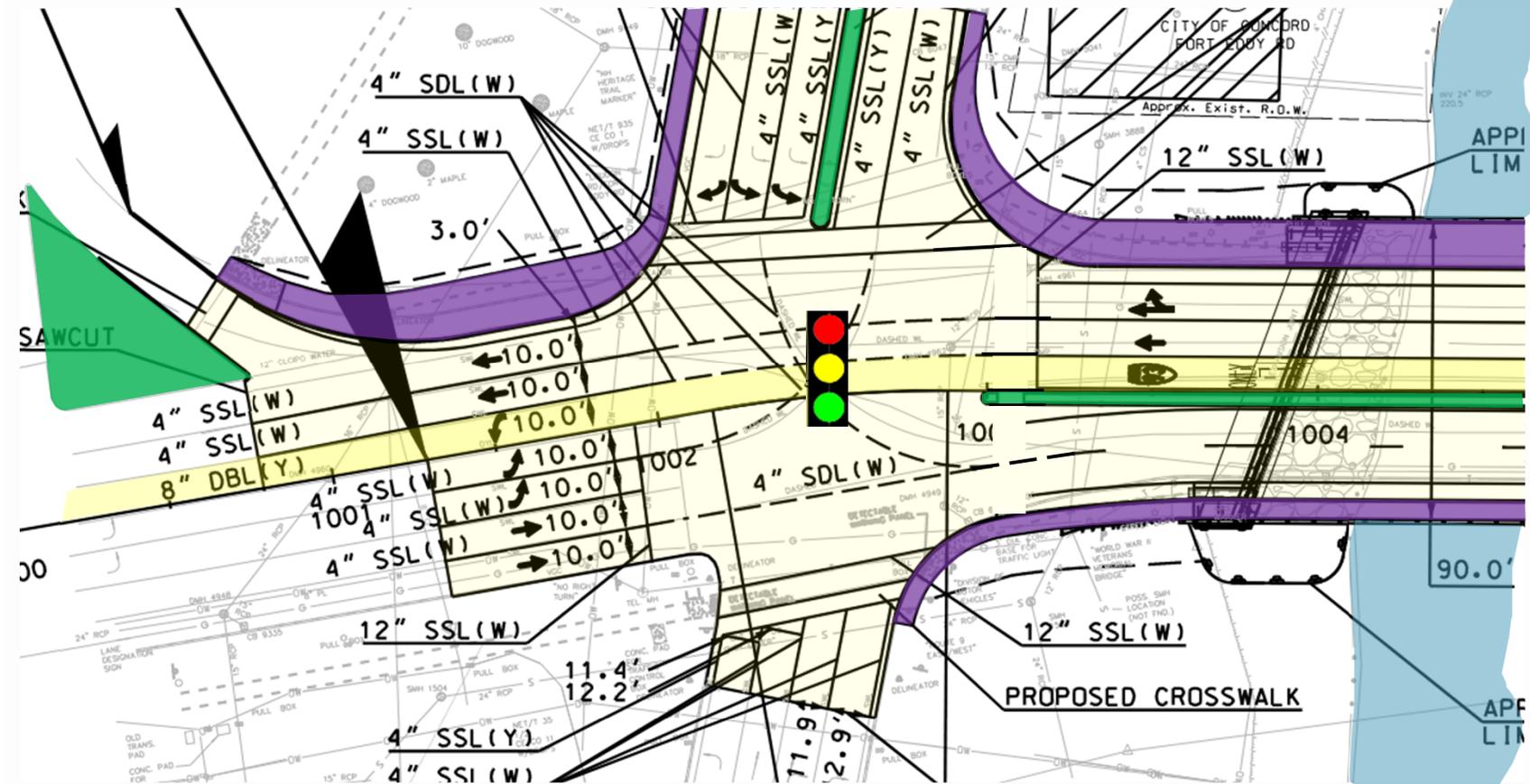
[CONCEPT NO. 5]



FOR AN 11'10" ETS EAST 11' TYPICALLY ON DATE-042

PUBLIC LIMITED PARTNERSHIP
50 NORTH 11'

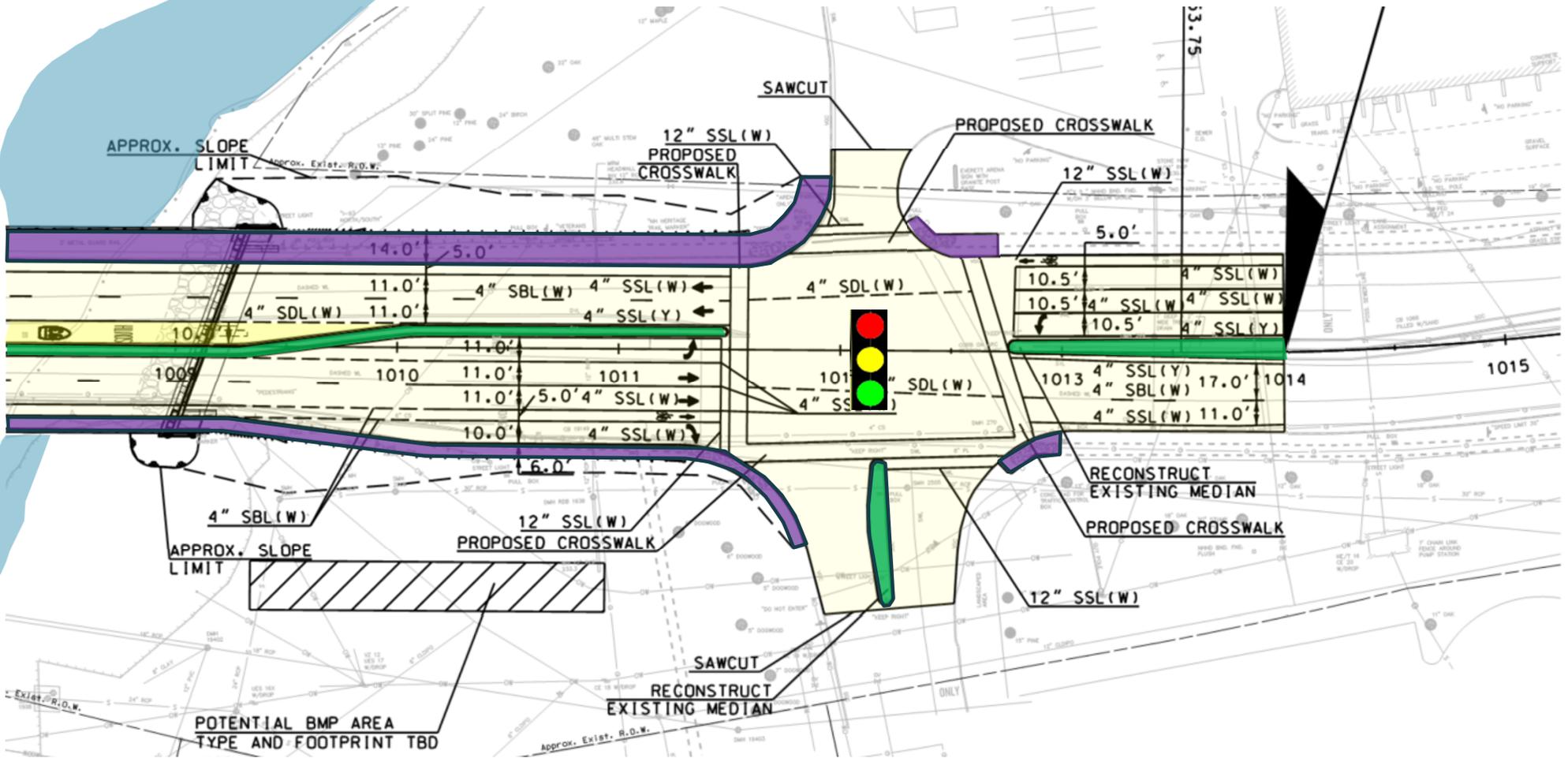
LOUDON ROAD / I-93 NB OFF RAMP / FORT EDDY ROAD



APPL
LIM

APPL
LIM

LOUDON ROAD / GULLY HILL ROAD (ICE ARENA)

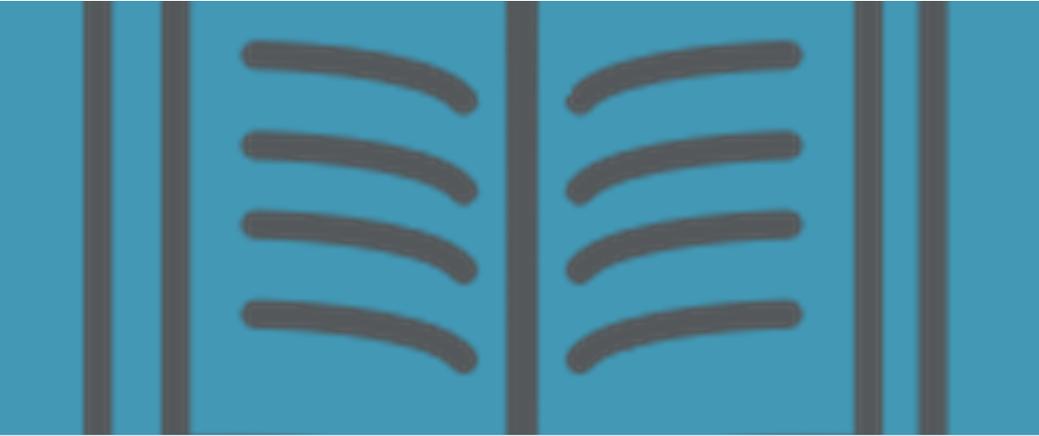


BRIDGE REHABILITATION CONCEPTS CONSIDERED

Concept	Bridge Rehabilitation	Travel Lanes	Median	Shoulder Width	Pedestrian / Bicycle Accommodation	Estimated Costs [1]
1 [2]	Deck Replacement	5	5.3' (Painted)	2'	North: 5' Sidewalk South: 5' Sidewalk	\$9.4M
2 [2]	Deck Replacement	4	6' Raised	5'	6' Sidewalks (n/s) 5' shoulders (n/s)	\$9.4M
3 [2]	1 Girder Widening	5	4' Raised	5'	6' Sidewalks (n/s) 5' shoulders (n/s)	\$14.0M
4	2 Girder Widening	5	4' Raised	5'	12' Shared-Use Path (n/s) 5' shoulders (n/s)	\$20.3M
5	2 Girder Widening	5	4' Raised	5'	14' Shared Use Path (n) 6' Sidewalk (s) 5' shoulders (n/s)	\$18.6M

[1] Includes Construction, Engineering and Permitting. Does not include right of way costs

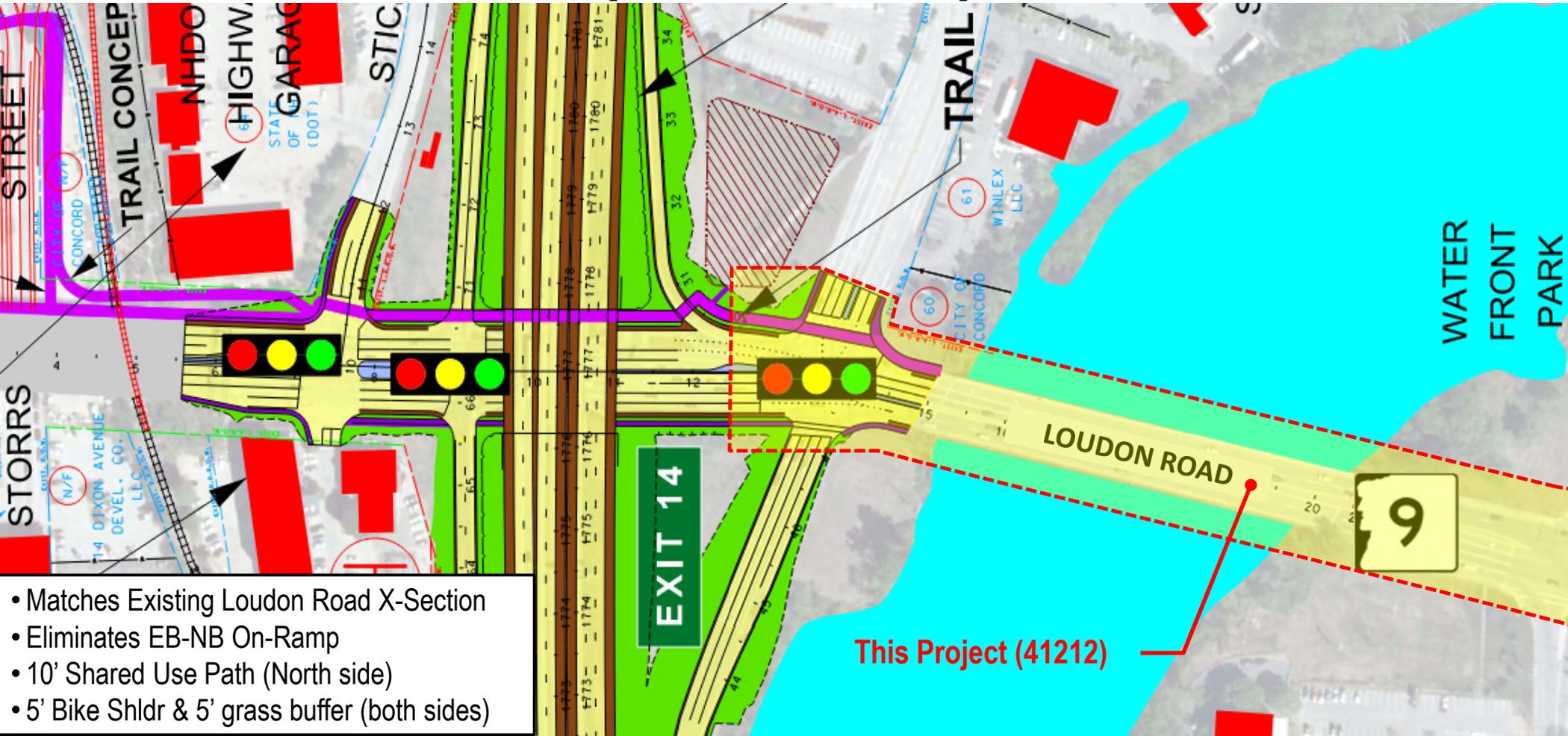
[2] Multi-modal connectivity may be provided via separate pedestrian/bicycle bridge (Estimated Additional Cost \$6.0M)



Other Design Considerations

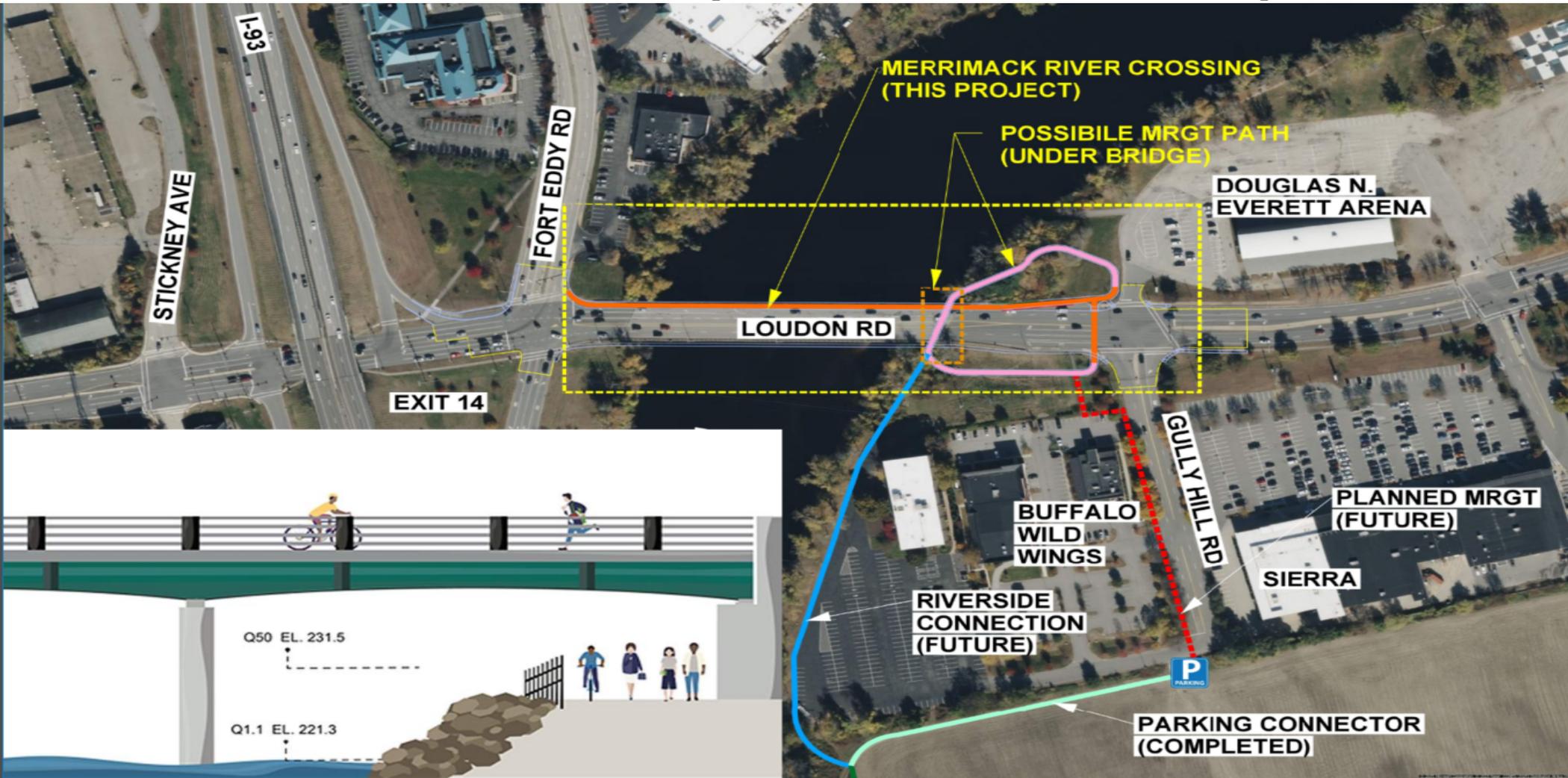
OTHER DESIGN CONSIDERATIONS

I-93 – PREFERRED (F2.2) ALTERNATIVE
[EXIT 14 INTERCHANGE]



OTHER DESIGN CONSIDERATIONS

RAIL-TRAIL CONNECTIONS [UNDER BRIDGE CONNECTION-EAST]



OTHER DESIGN CONSIDERATIONS

GUARDRAIL OPTIONS [ON NEW BRIDGE]



US Rte 4 Scammell Bridge - Dover, NH



Connecticut River Crossing - Hanover NH



175A over Pemi - Plymouth NH



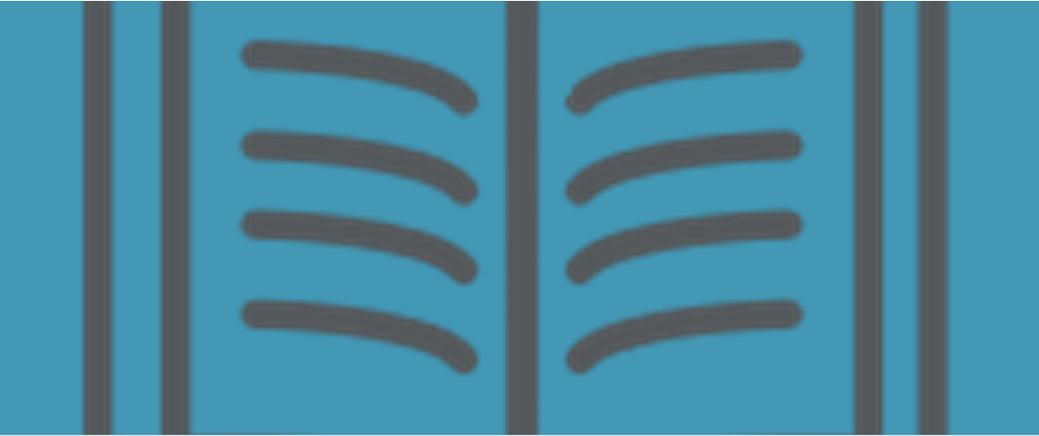
Fore River - Portland Maine

GUARDRAIL HEIGHT MUST BE:

- ✓ Outside Rail: 54" (4.5')
- ✓ Inside Rail: 42" (3.5')
- ✓ Crashworthy Barrier

Design Reference:

AASHTO Guide for Development of Bicycle Facilities 5th Edition.



Project Program Budget



2025 - 2034 Ten Year Plan

9/13/2024

CONCORD (41212)

Route/Road NH ROUTE 9 (LOUDON RD) OVER MERRIMACK RIVER

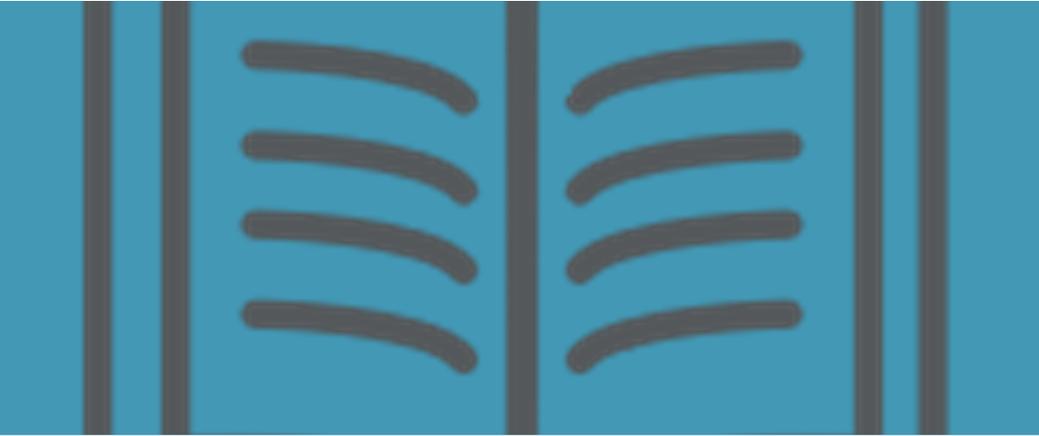
Category BRIDGES

Scope BRIDGE REHABILITATION-NH ROUTE 9 (LOUDON RD) OVER MERRIMACK RIVER BR. #163/111 (SAB+MOBRR) RED LIST

Strategy TIER 5

Phase	Year	Funding	Program
Preliminary Engineering	2025	1,716,318	SAB *
Right of Way	2025	106,604	SAB *
Construction	2025	11,265,066	Bridg-LPA-Rehab-Rcn
Construction	2026	11,681,874	Bridg-LPA-Rehab-Rcn

Total	\$24,769,862	Previous Funding	\$0
		Current TYP Funding	\$24,769,862
		Future Funding Required	\$0
		Total Project Cost	\$24,769,862



Next Steps & Schedule

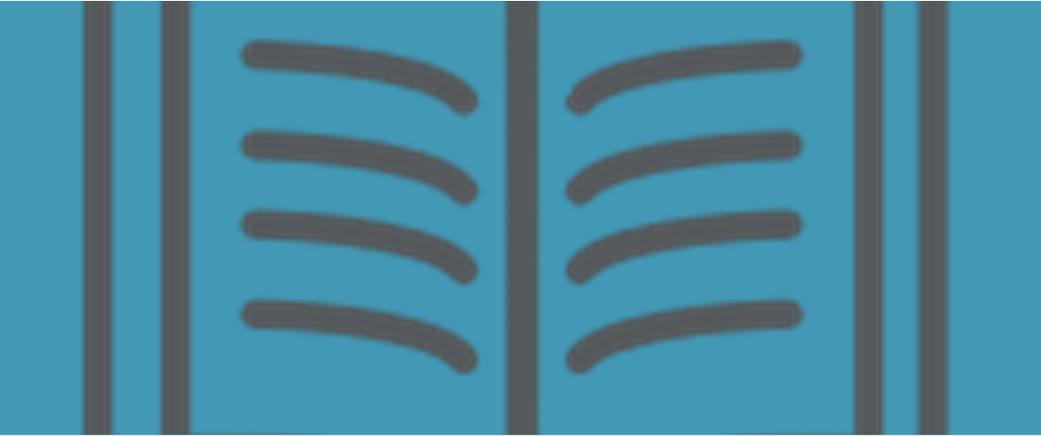
NEXT STEPS

- Develop Preferred Alternative
- Complete Preliminary Design
- Finalize Environmental Study (NEPA)
- Public Information Meeting No. 2
- NTP Final Design & Right-of-Way
- Complete Final Design
- Clear Utilities and Right-of-Way
- Prepare Bidding Documents



ANTICIPATED PROJECT SCHEDULE

- ✓ Topographic Ground Survey.....*Completed June 2020*
- ✓ Engineering Study.....*Completed January 2022*
- ✓ Traffic Data Collection.....*Completed June 2024*
- ✓ **Local Concerns/Public Info. Meeting No. 1.....March 20, 2025**
- Preliminary Design / Environmental Study.....*Spring - Fall 2025*
- **Public Information Meeting No. 2.....Fall 2025**
- Final Design Efforts.....*Summer - Winter 2026*
- Bidding and Construction.....*Spring 2027 – Fall 2029*



Questions?

PROJECT CONTACTS

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