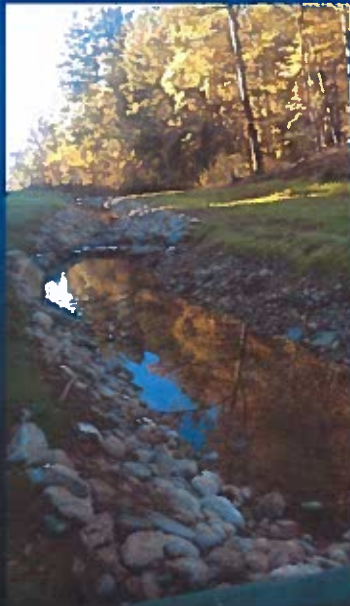


NEWINGTON-DOVER
Improvements to NH Rte. 16 /
Spaulding Turnpike / Little Bay Bridges

TENANTS ASSOCIATION AT PEASE
ONE NEW HAMPSHIRE AVE, PEASE

APRIL 4, 2017



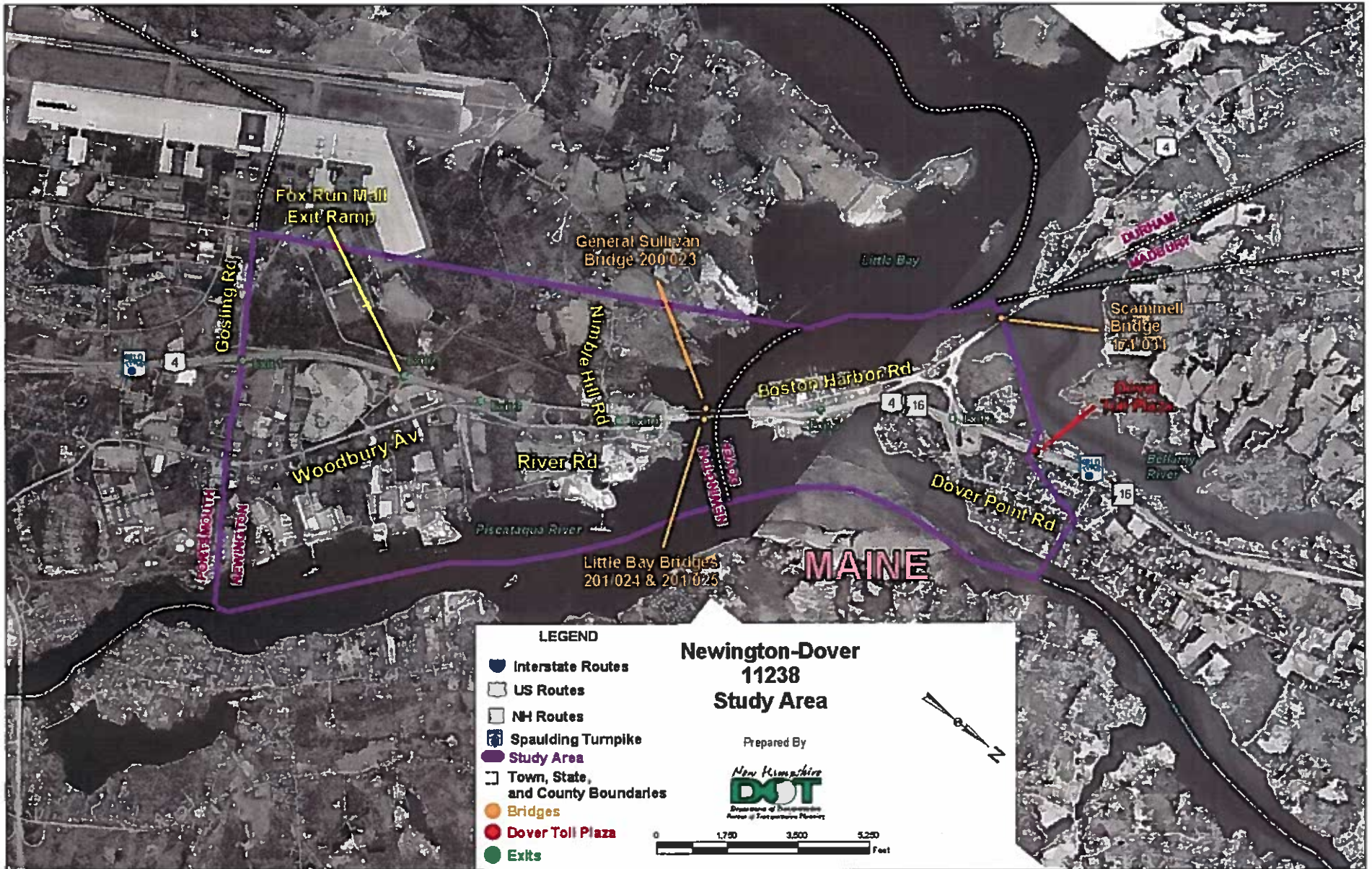
Meeting Agenda

■ Project Overview

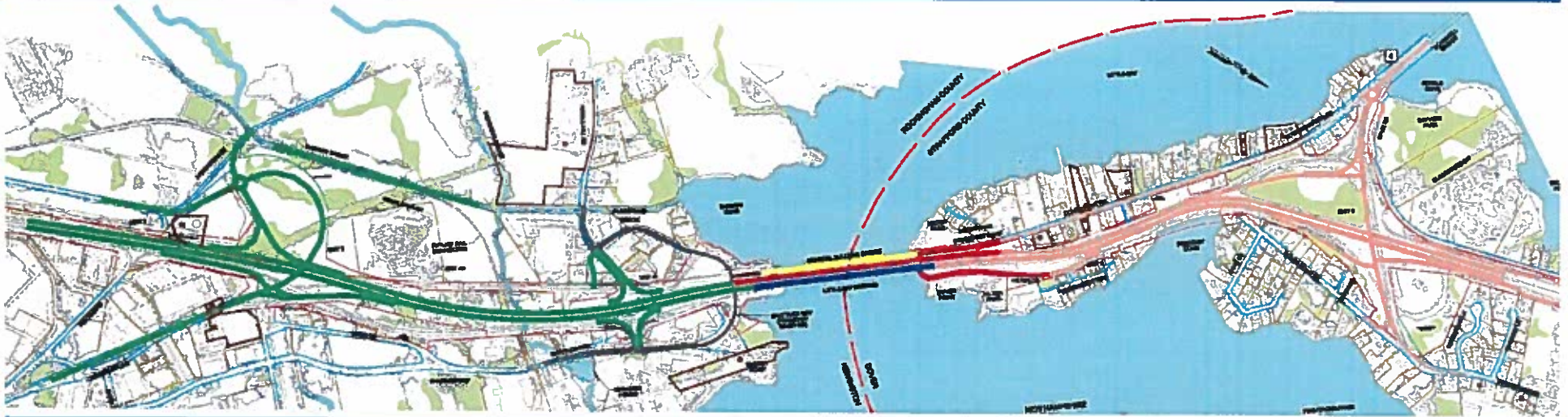
- **Contract L – New Little Bay Bridge SB**
- **Contract M – Newington**
- **Contract O – Little Bay Bridge NB
Rehabilitation**
- **Contract Q – Dover**
- **Contract S – General Sullivan Bridge
Rehabilitation**



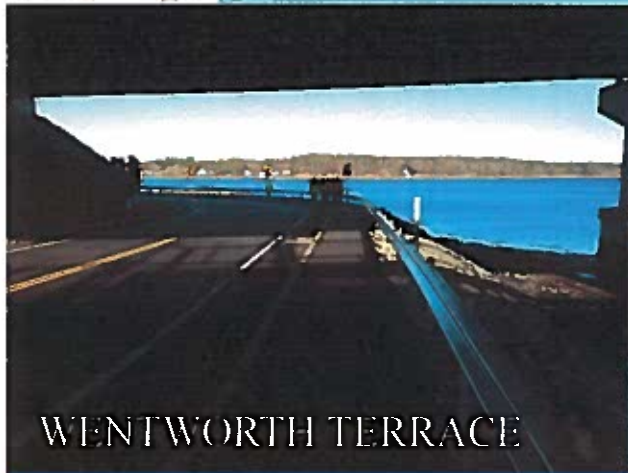
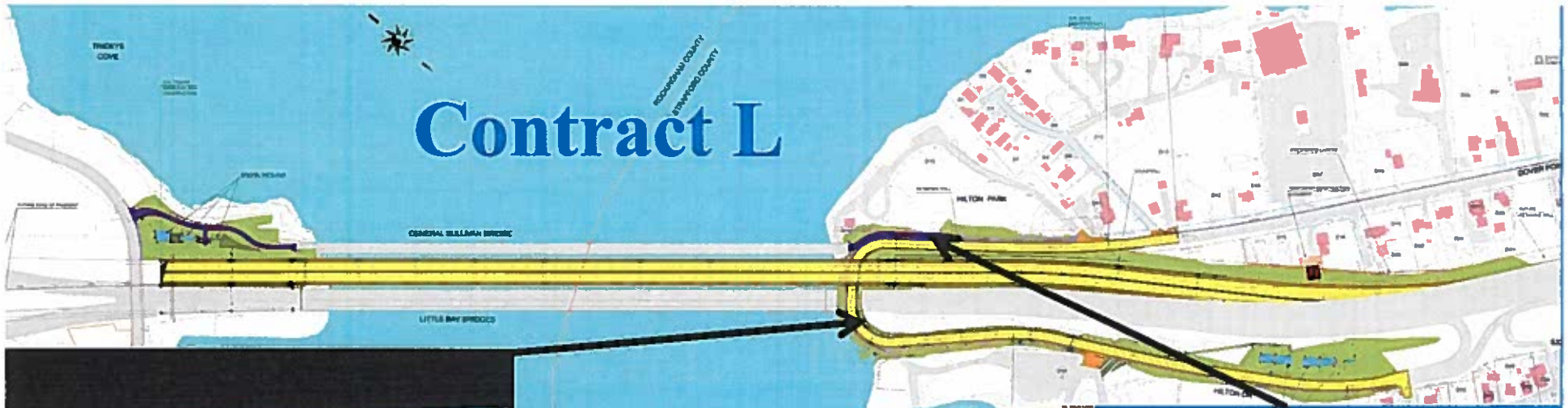
Project Area



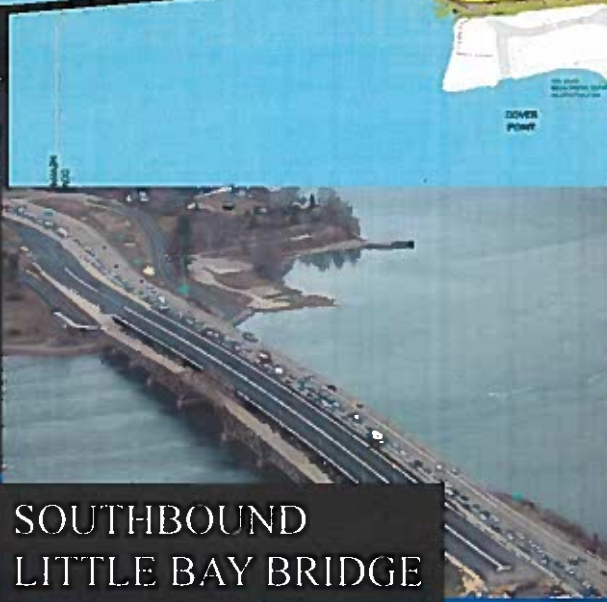
Current Contract Breakout & Schedule



CONSTRUCTION SCHEDULE														
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
CONTRACT L	[Red bar]				\$57.5M									
CONTRACT M			[Green bar]			\$47.5M								
CONTRACT O					[Blue bar]			\$21.9M						
CONTRACT Q									[Pink bar]			\$70.6M		
CONTRACT S										[Yellow bar]			\$29.9M	
DOVER TOLL PLAZA												[Grey bar]		\$18.0M
NEWINGTON MAINTENANCE SHED											[Dark Grey bar]		\$8.0M	



WENTWORTH TERRACE



SOUTHBOUND
LITTLE BAY BRIDGE



PEDESTRIAN & BICYCLE STRUCTURE

Contract L - SB New Little Bay Bridge Construction

- Project completed by Cianbro Contractors of Maine at cost of \$54.1M
- Construction Initiated in 2010 Completed in Fall 2013

Roundabout

Contract M

NEWINGTON DOVER 11238M

RAILROAD BROOK

EXIT 4 INTERCHANGE

EXIT 3 INTERCHANGE WITH
WOODBURY RD.

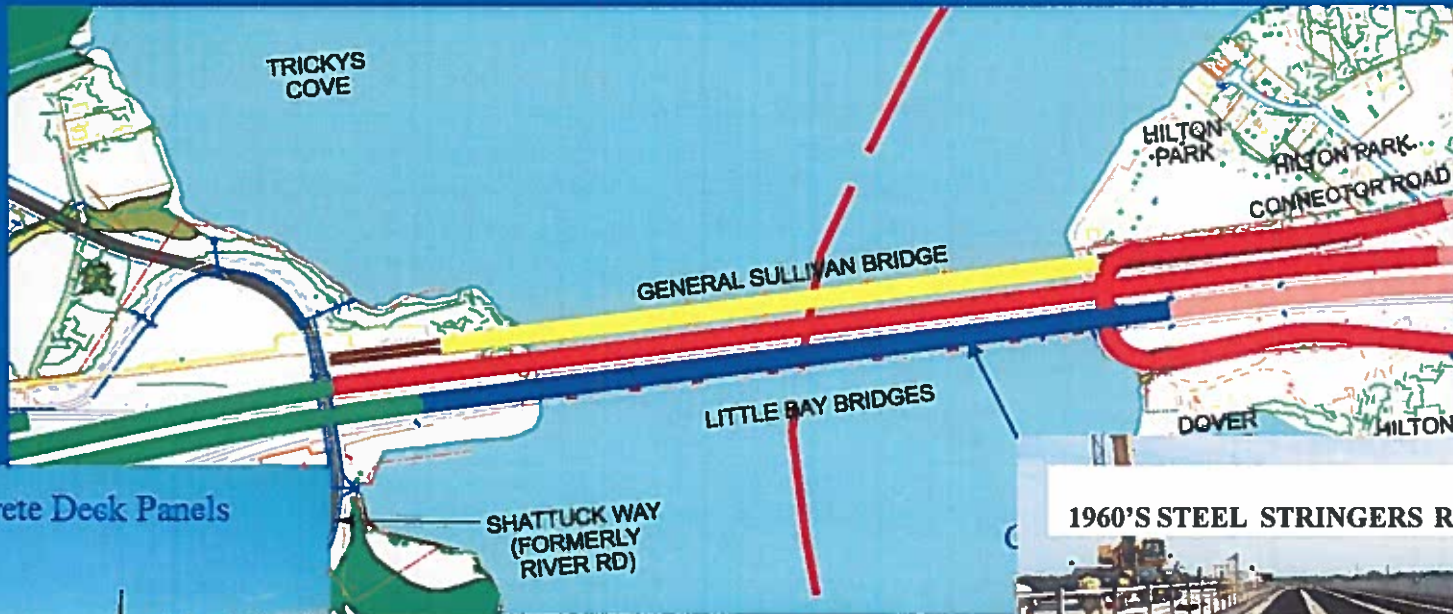
Contract M - NEWINGTON CONSTRUCTION

- Contractor: A. J. Coleman
- Construction Cost: \$47.5M
- Construction Duration: 2012 – 2016

Contract M



Construction - Contract O



New Concrete Deck Panels



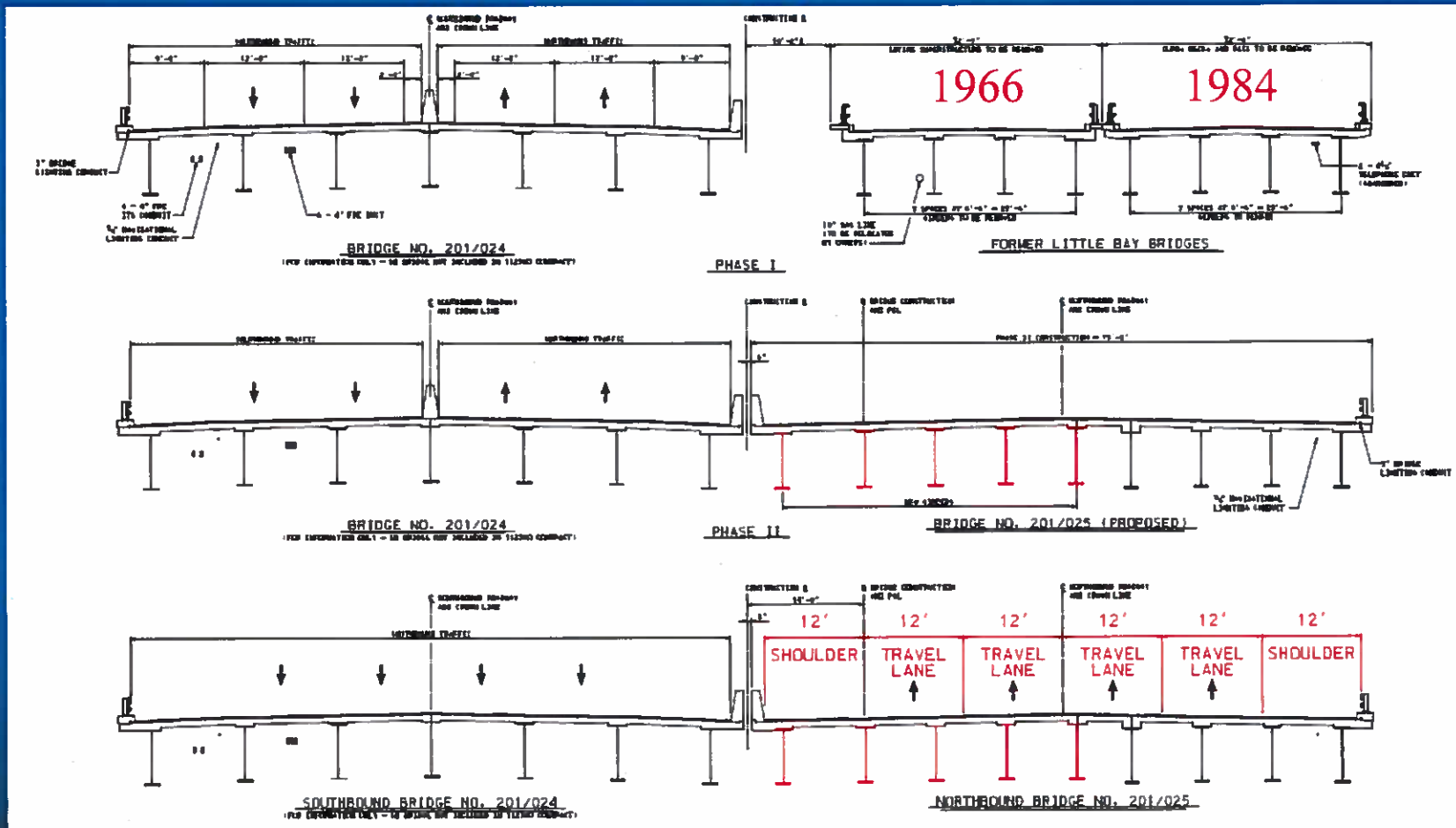
1960'S STEEL STRINGERS REMOVAL



Contract O – Little Bay Bridges Rehabilitation

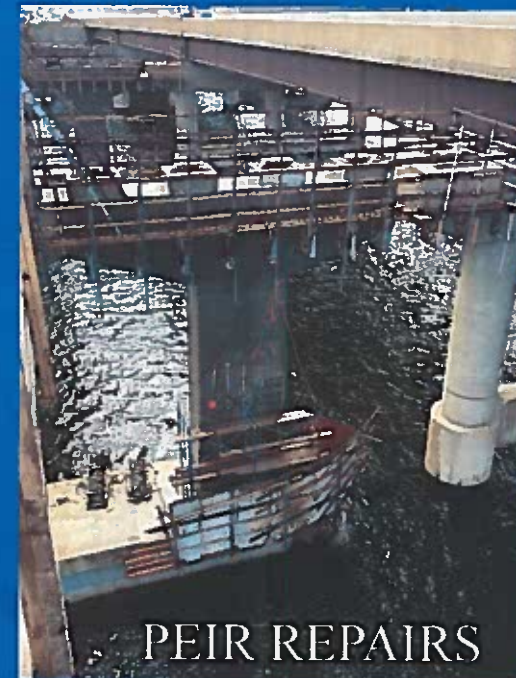
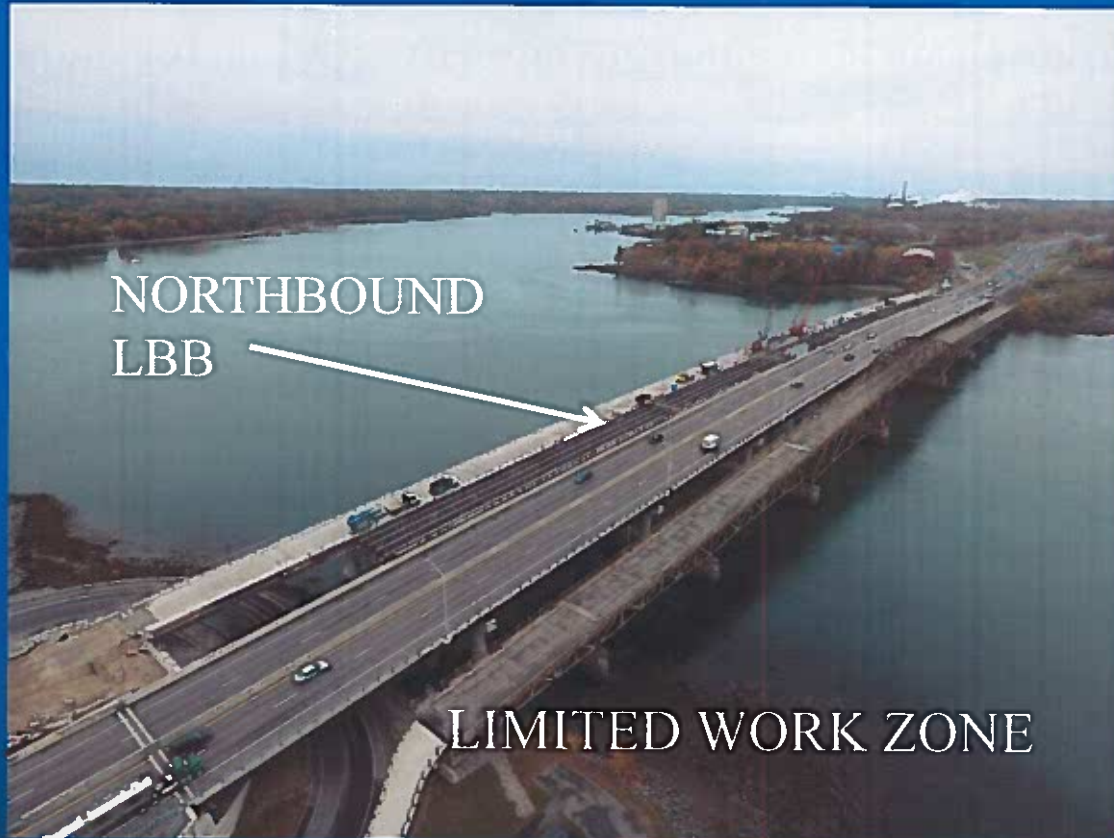
- Opened Bids on October 23, 2014 (\$20.4M)
- Contractor: R. S. Audley, Inc.
- Construction Duration: 2015 – 2017

Construction – Contract O

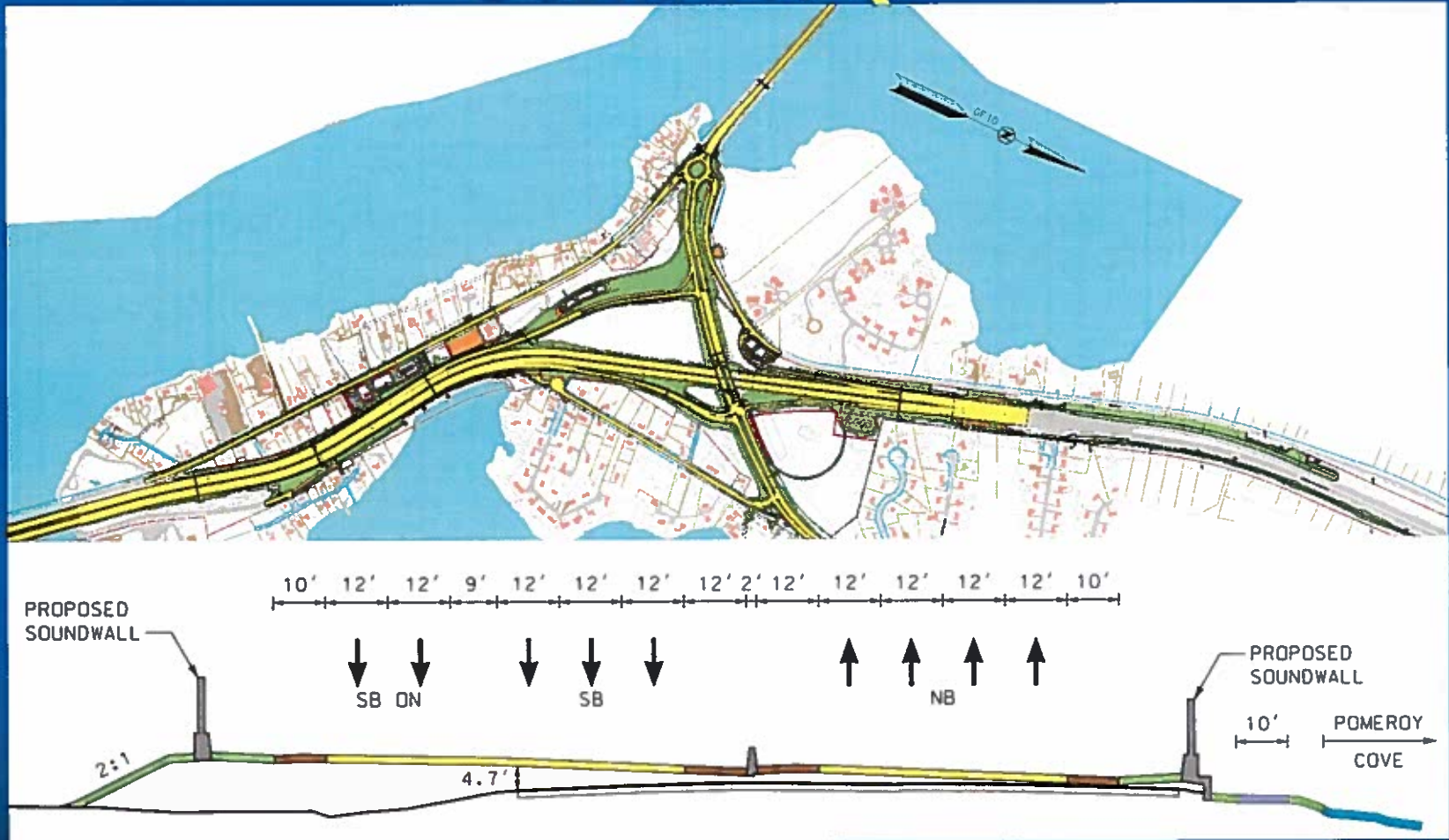


- Older Structural Steel Beams being Replaced to Meet Current Standards
- Use 1966 Beams/Deck to Replace 1984 Deck
- Use 1984 Beams/New Deck to Replace 1966 Deck and Beams

Construction - Contract O



Contract Q



Contract Q - Dover

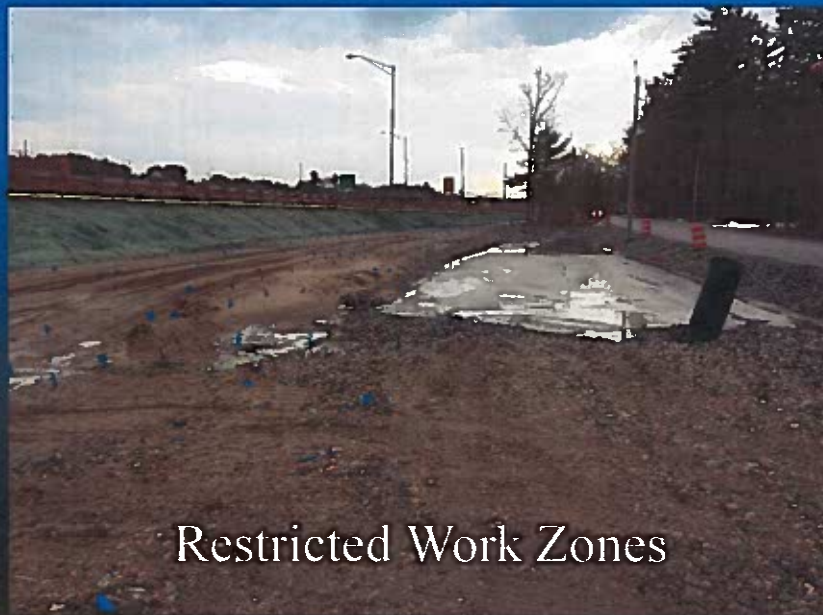
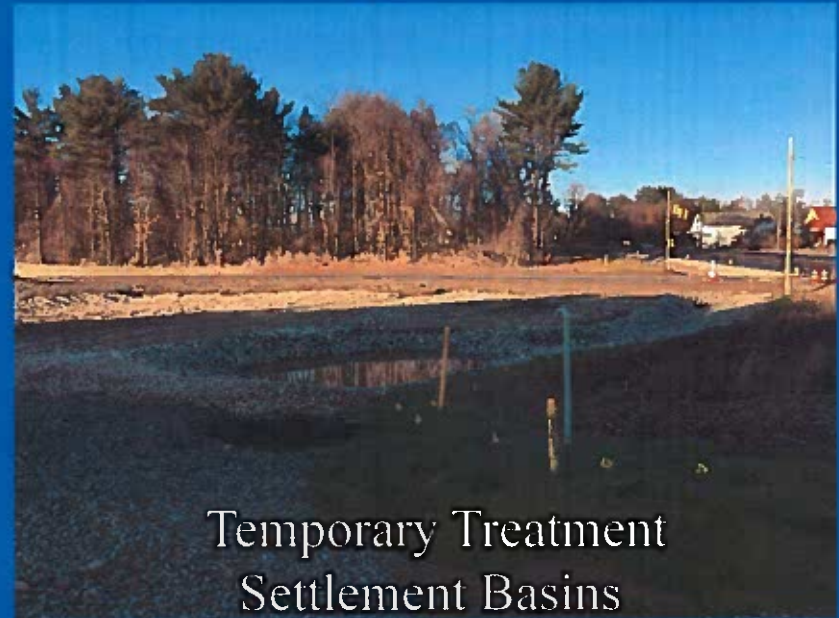
- Contractor: Severino Trucking Co, Inc. – Candia, NH
- Construction: 2016 – 2020 (\$70.6M)
- Completes and Opens All Spaulding Turnpike Improvements

Contract Q



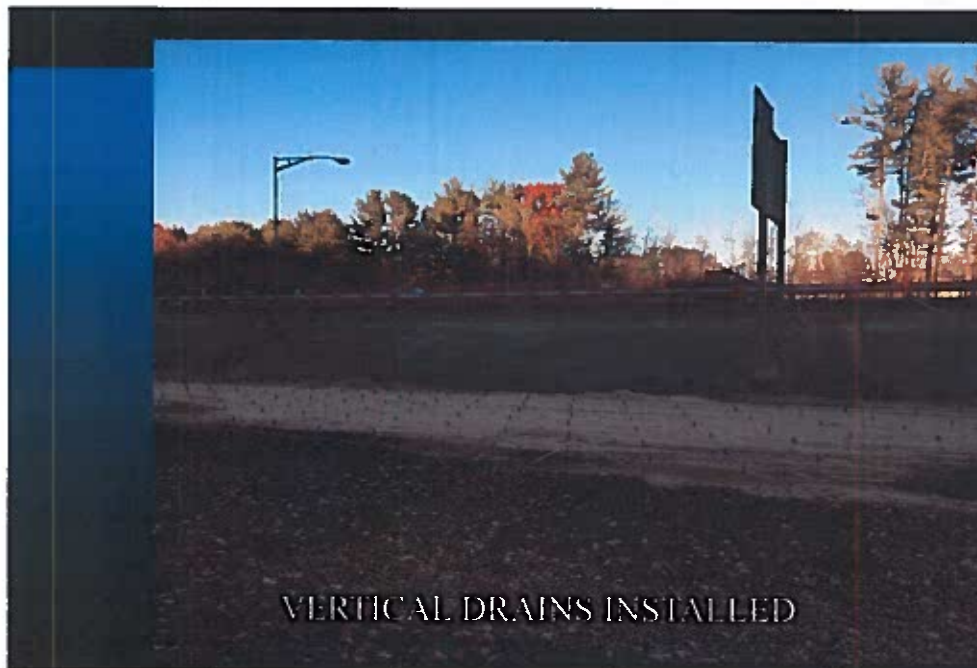
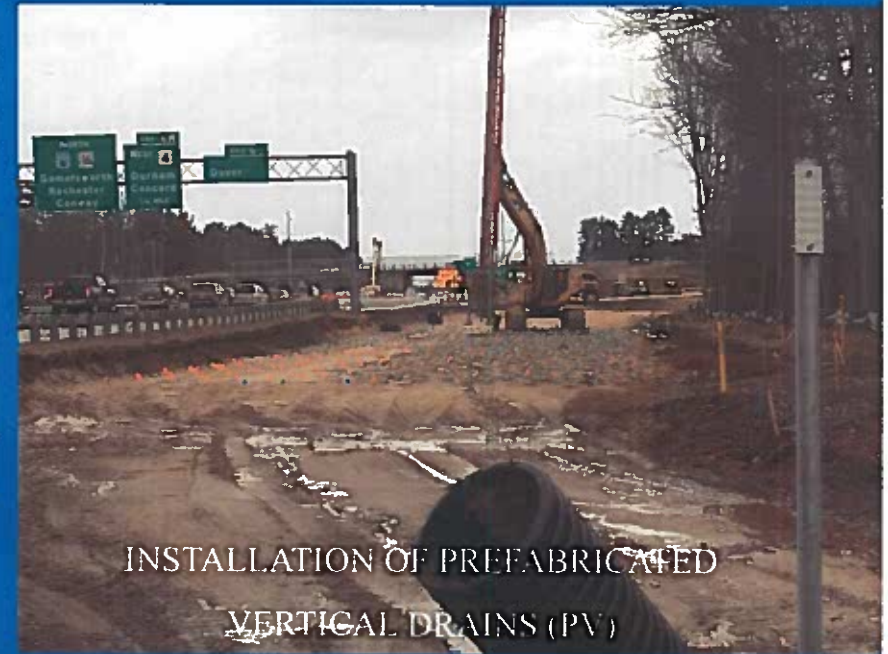
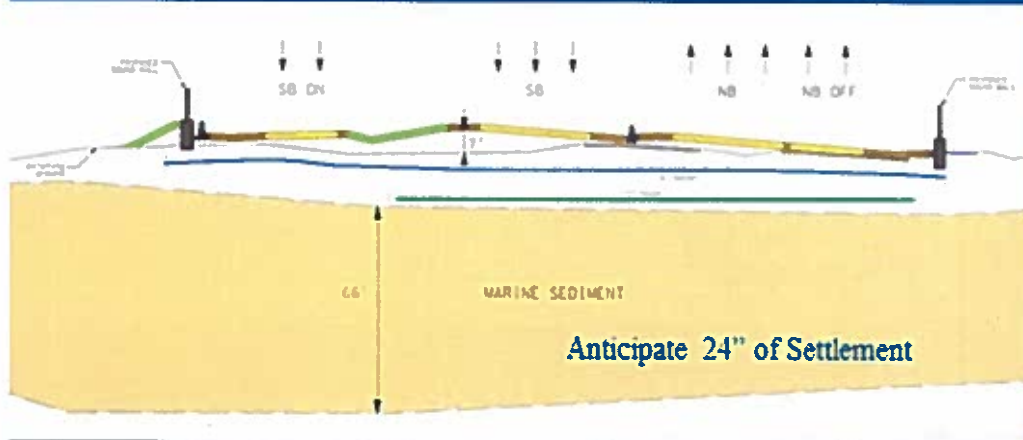
- **Construction of New Road Over Existing**
- **Stage Construction Through Nine Traffic Shifts**
- **Incorporation of ITS and Incident Management Strategies**

Contract Q Challenges



CONTRACT Q CHALLENGES

MARINE SEDIMENT



- Compressible Marine Deposits
- Embankment Placement
 - 30 to 60 day settlement period

CONSTRUCTION OUTREACH



The screenshot shows a web browser window displaying the website for the Spaulding Turnpike Newington-Dover Project. The browser's address bar shows the URL <http://www.newington-dover.com>. The website header features the New Hampshire Department of Transportation (DOT) logo and a navigation menu with options like Home, Project History, Project Information, Project Process, Details/Maps, Selected Alternatives, Schedule, Project Documents, Final Environmental Impact Statement, Roundabouts, Meetings, FAQs, Contact Us, Feedback/Mailing List, Newsletters/Fact Sheets, Construction Updates and Alerts, and Webpage Listing. The main content area is titled "Welcome to Spaulding Turnpike Newington-Dover Project Website" and includes an aerial photograph of the project area. To the right of the photo is a section titled "Construction Updates and Traffic Alerts" featuring a traffic cone icon. Below this is a "What's New..." section with several news items, including "NEW: Northbound Traffic Shift onto New Little Bay Bridge - Major Traffic Impacts Anticipated on June 3 and 4" (posted May 26, 2015), "Planned Northbound Lane Closure on Little Bay Bridge - Pavement Repairs Scheduled" (posted 04/03/2015), "NIGHT WORK NEAR EXIT 4 - Lane closures for installation of overhead sign structure" (posted 03/31/15), "CLOSING OF EXIT 5 NORTHBOUND RAMPS - Detour for several months to allow for construction work" (posted 03/31/15), and "VIDEO: Union's Gas Line Directional Drill Video Beneath Little Bay". There is also a "PAST NEWS:" section with items like "2014 Updated Financial Plan" (posted 10/09/2014), "October 9, 2014 Work Update", "Tenants Association at Pease Preservation - April 9, 2014" (posted 04/09/14), and "January 2014 Work Update" (posted 1/14/14). At the bottom left of the website, there is a logo for "NH RECOVERY department of transportation".

WEB SITE: www.newington-dover.com

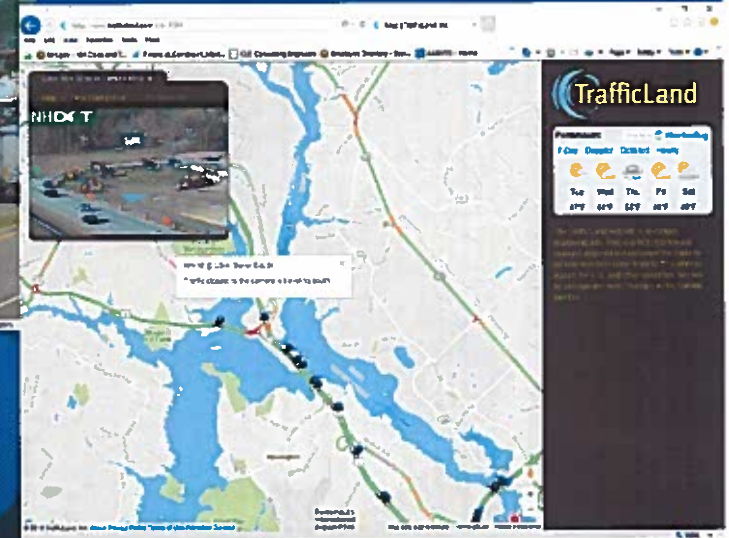
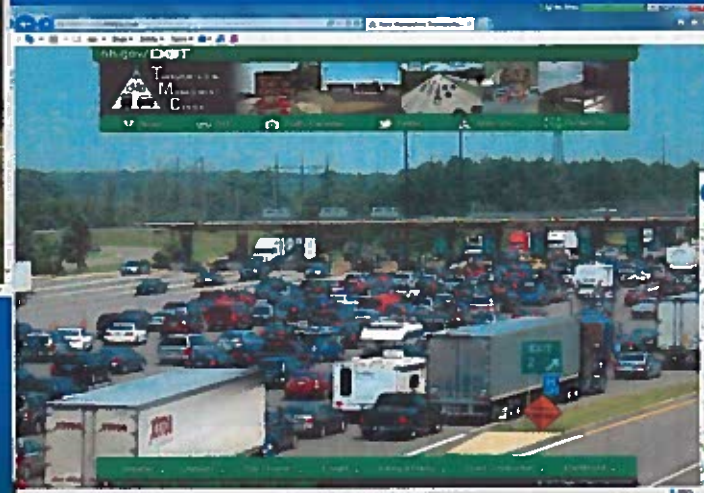
Real-Time Traffic Management System



CONSTRUCTION OUTREACH



TWITTER



TRAFFIC CAMERAS

- For traveler/real-time information, please visit www.nhtmc.com.

Contract S



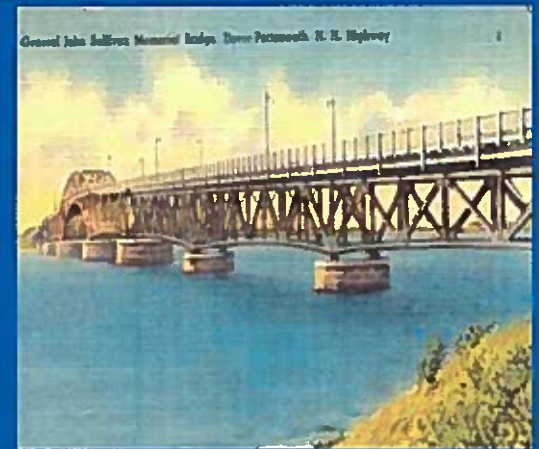
Contract S – General Sullivan Bridge Rehabilitation

- Tentative Advertising Date: 2018/19
- Tentative Construction: 2019 – 2021
- Concurrent Construction with Contract Q

Project Goals

Maintain the existing bridge to provide pedestrian and bicycle access and allow for fishing use.

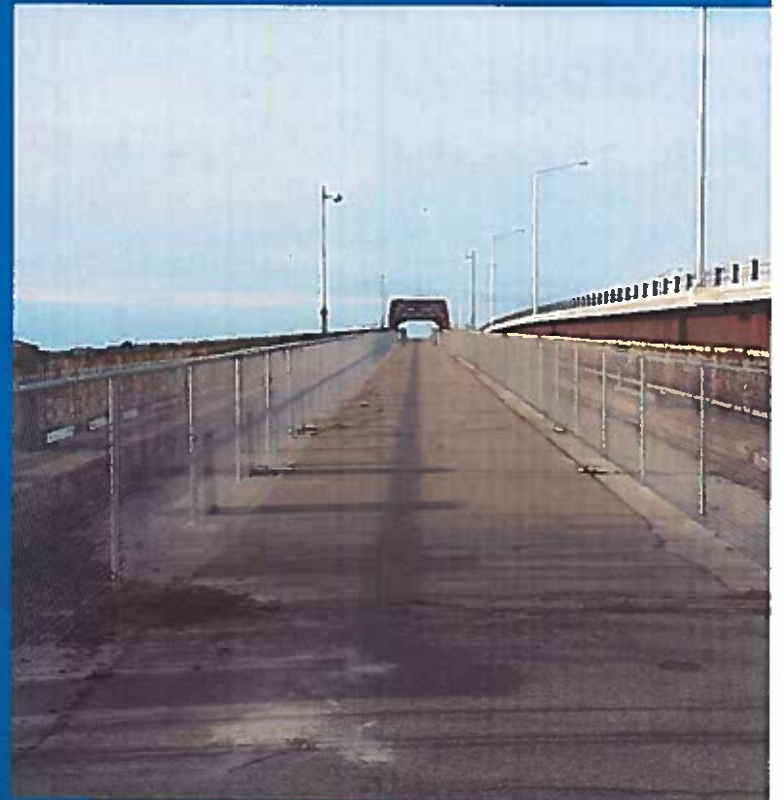
FHWA/SHPO MOA & NEPA Stipulations



- Rehabilitate the General Sullivan Bridge (GSB) including:
 - Removal and Replacement of the deck and floor system
 - Replacement of rivets with high strength bolts as necessary
 - Removal of the north embankment and portions of the north abutment
- Mitigate impacts by providing large format photographs with supplemental descriptions, key map, and an individual property inventory form
(COMPLETED)

Background History and Functional Use

- **1935** – Original Bridge Opened
- **1966/1984** – Little Bay Bridges Open
- **1991** – GSB is Pedestrian and Bicycle Use Only
- **2010** – New Ramp Bridge and Abutment Modifications - Dover
- **2015** – Pedestrian and Bicycle Access Width Limited to 15' max with Chain Link Fencing



Timeline of Recent Engineering Activities

- 1990/1991** In-depth Inspection & Rehabilitation Study by Kimball Chase Co. Inc.
- 2009/2010** In-depth Inspection, Load Rating, & Deck Study by Ammann & Whitney
- 2014/2016** In-depth Inspections & Load Ratings by VHB and HDR
- 2016** GSB Alternatives Study by VHB and HDR
- 2017** Final GSB Alternatives Study and Recommendation by VHB and HDR

Condition and Structural Capacity

- Floorsystem and deck in critical condition and must be replaced
- Truss member conditions and capacity vary

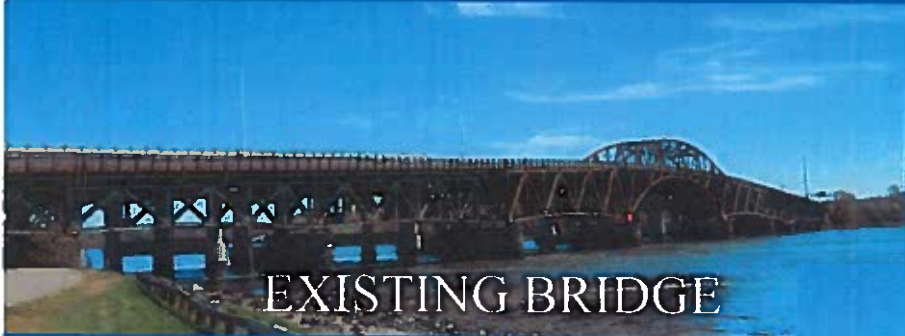


Several truss elements require strengthening or replacement to support full design loads and maintenance vehicles

Study Alternatives

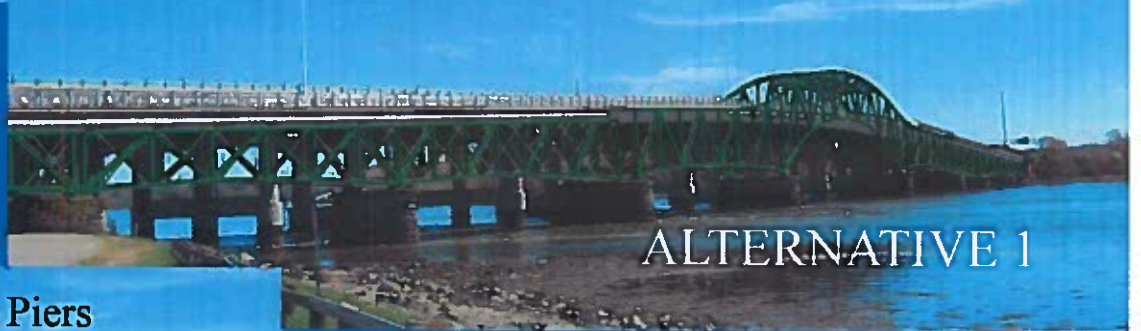
- #1 - Rehabilitation (including new floor system, deck, and railings) – Consistent with MOA
- #2 - Truss replacement with new trusses; retain and rehabilitate piers and abutments
- #3 - Rehabilitation of truss spans 4 thru 6; replacement of trusses in spans 1 thru 3 and 7 thru 9 with new trusses (simple spans); retain and rehabilitate piers and abutments
- #4 - Bridge replacement with new steel girder superstructure on new concrete piers

TS&L ALTERNATIVES



EXISTING BRIDGE

Full Rehabilitation



ALTERNATIVE 1

Replace Superstructure on Existing Piers

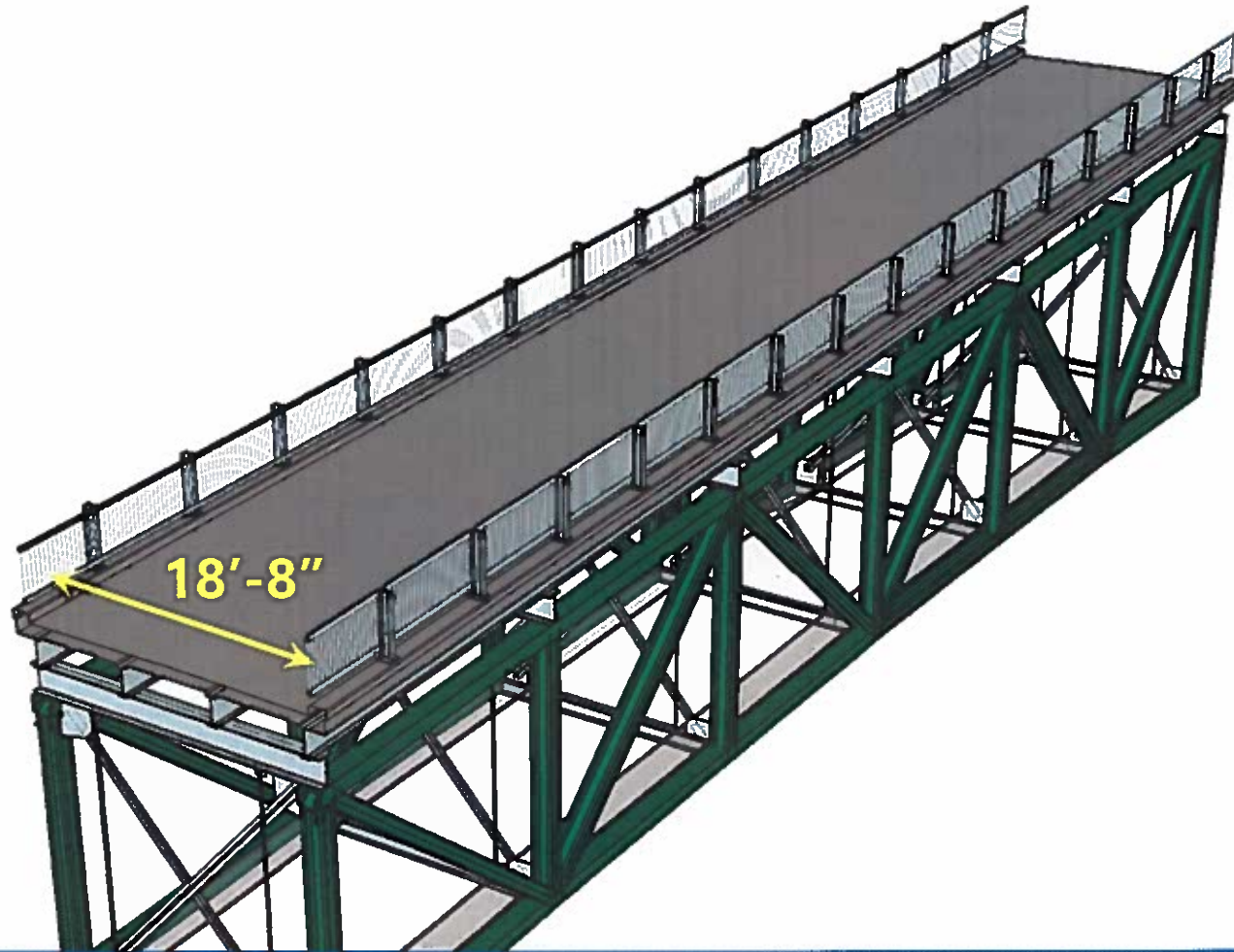


ALTERNATIVE 2

Rehab Center Arch. and Replace Approach



ALTERNATIVE 3



Alt.#1 Rehabilitation - Partial Span 3 (Lateral Bracing Not Shown)



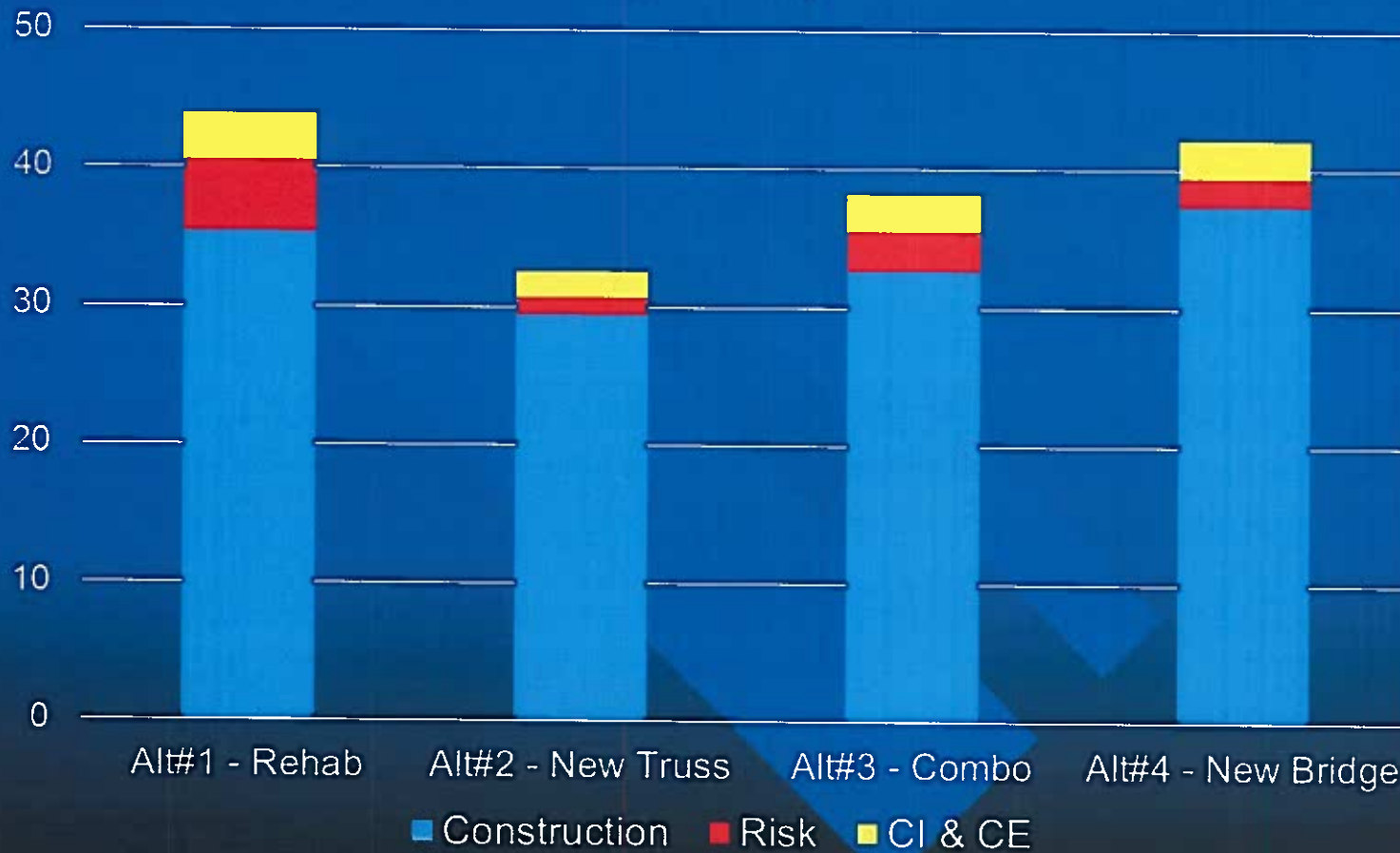
Alt.#1 Rehabilitation - Span 5 (Lateral Bracing Not Shown)

Section 106 and TS&L Evaluation

- Capital Cost
- Life-Cycle Cost / Maintenance
- Constructability
- Historic Resource Impacts (Re-opening of Section 106) – Ongoing
- Public Outreach for Inclusion of Consultant Parties – Ongoing 2017

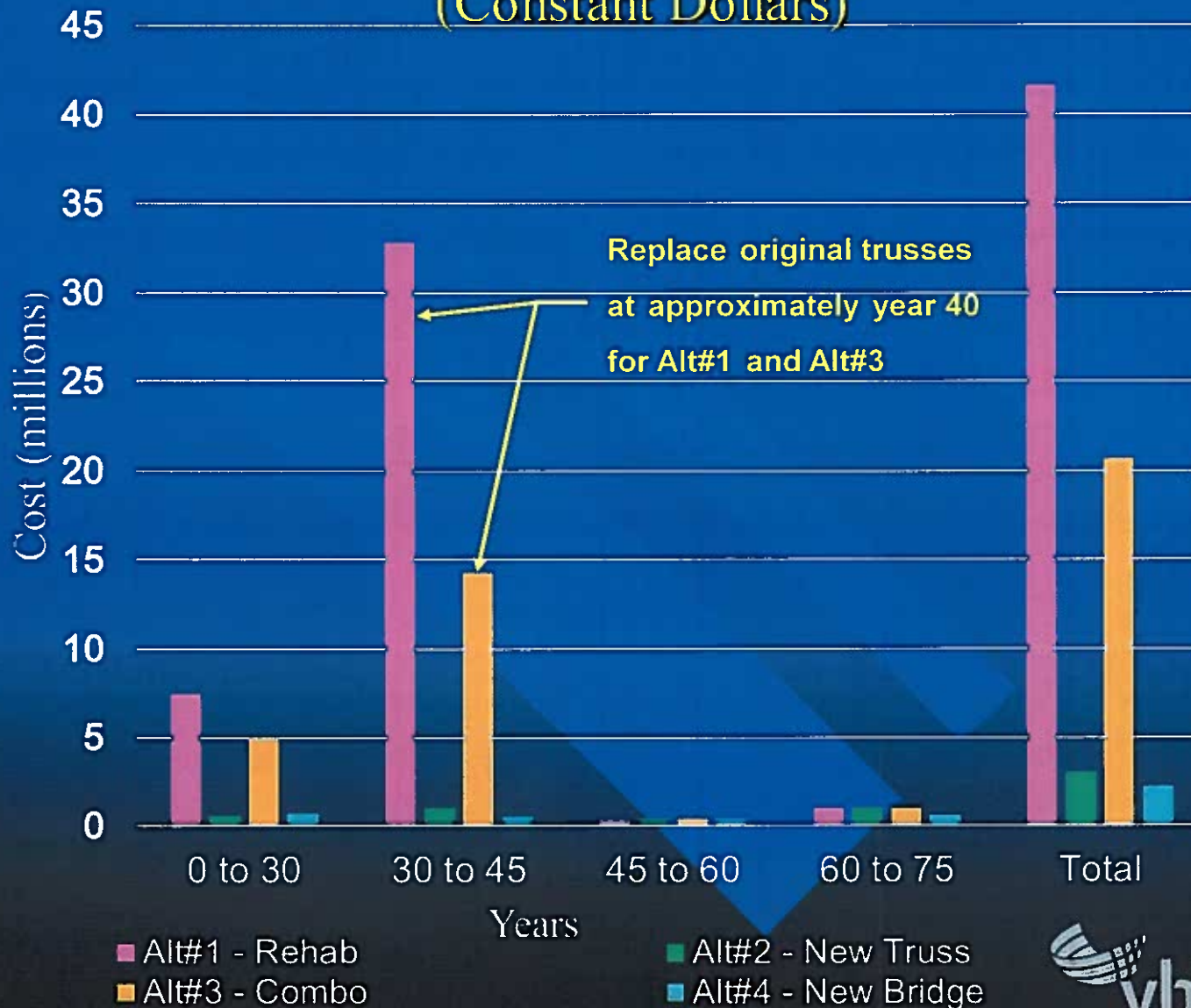
Construction Estimates

(\$ millions)



Maintenance Costs

(Constant Dollars)



Summary of Alternatives

Alternative	Const. Est.	LCC (Present Value)	LCC (Constant Dollars)	Constr. Risk	Constr. Duration	Historic Impact	Maint-enance
1 - Rehab	\$43.9 M	\$53.9 M	\$85.6 M	High	3-4 Years	<u>Low</u>	High
2- New Truss	<u>\$32.6 M</u>	<u>\$33.4 M</u>	<u>\$35.6 M</u>	<u>Low</u>	<u>1-2 Year</u>	High	Moderate
3 - Combo	\$38.2 M	\$43.4 M	\$59.0 M	High	2-3 Years	Moderate	High
4 – New Bridge	\$42.2 M	\$40.9 M	\$44.4 M	<u>Low</u>	2-3 Years	High	<u>Low</u>

Alternative 1A – Rehabilitation consistent with MOA with least impact to the historic GSB resource

Alternative 2 – Truss replacement is least cost (capital and life-cycle cost) and shortest duration

Alternative 3 – Combination of truss replacement of approach spans and rehabilitation of truss main spans

Alternative 4 – All new bridge with steel girders supported on concrete column piers

? GSB Recommendation ?

- Which Alternative Provides:
 - Meets project commitment for ped and bike access?
 - Lowest initial cost and low maintenance cost?
 - Provides a 75-year bridge to meet project goal?
 - Low constructability risk compared to the rehabilitation alternative?
 - Shortest construction duration to limit bridge closure and shuttle service for pedestrians and cyclists?
 - Meets environmental and cultural resource commitments (including Section 106 and 4f)?

Contact Information

Newington-Dover

Keith Cota, PE

Chief Project Manager

NH Dept. of Transportation

J.O. Morton Building

7 Hazen Drive

PO Box 483

Concord, NH 03302-0483

Phone : (603) 271-1615

Email: Kcota@dot.state.nh.us

<http://www.Newington-Dover.com/>



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THANK YOU

Questions/Comments

