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

Public Informational Meeting
AT
Dover City Hall
AUGUST 25, 2015
Meeting Agenda

- **Project Overview**
- **Status of Newington-Dover, 11238 Contracts**
  - 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
- **Upcoming Turnpike Projects**
  - Dover Open Road Tolling
  - Newington Maintenance Facility
Project Area
Project Need
Newington-Dover Project Funding & Estimated Cost

- Total Estimated Project Cost - $269.7M
  - Engineering - $20.4M
  - ROW - $8.9M
  - Environmental Mitigation & TDM (Bus, Park’n’Rides) - $20.9M (2010 Dollars)
    - $12.66M federal CMAQ & Advanced ROW funding
  - Construction - $207.2M (2010 Dollars)
    - $219.5M (w/ inflation)

- Project Primarily Funded with Turnpike Toll Revenue & Bond Proceeds
  - $31.4M dedicated Federal Earmarked Funds & Grants
  - CMAQ/Federal Funding for TDM Elements (P&R)
  - Final two contracts to be paid through combination of toll revenue and bonding, and is on schedule as approved through the State Ten Year Transportation Improvement Plan (STIP-2014).
Environmental Mitigation
Components

- Environmental Mitigation - $4.57M (224 acres)
  - 120-acre Preservation of Tuttle Farm (Joint Effort w/ City, SRC, DOT) – ($1.34M)
  - 40-acre Preservation of Day Property in Blackwater Brook Watershed – ($0.23M)
  - 64 acres of Preservation in Knight Brook Watershed – ($2.0M)
  - Railway Brook Restoration – ($1.0M)
NEWINGTON-DOVER 11238
Park ‘n’ Ride

- Park ‘n’ Ride at Exit 9 in Dover – Completed ($3.49M)
- Rochester – Completed ($1.35M)
- Multi-use Park ‘n’ Ride in Lee – CMAQ Location under Review (est. $85k)
NEWINGTON-DOVER 11238
Improved Downeaster Rail Service

- CMAQ Investment of $2.0 M with N-D Turnpike Match
NEWINGTON-DOVER 11238

Expanded Transit Service

- NH – Boston Bus Service (C&J)
- Express Coast Bus Service from Rochester, Dover, Somersworth/Berwick to Portsmouth Naval Shipyard
- Direct Bus Service – COAST Bus Service from Rochester to Pease
Transportation Demand Management

- Commute SMART Seacoast – a new Transportation Management Association (TMA) to promote:
  - Carpooling/vanpooling
  - Ride mass transit
  - Bicycle/walk
  - Telecommuting
  - Compressed work schedules

- Focus is employers and employees at Pease and within the Greater Seacoast

- More information at www.commuteSMART.org
Current Contract Breakout & Schedule

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CONSTRUCTION OUTREACH

Welcome to Spaulding Turnpike Newington-Dover Project Website

From 2002 to 2005, the project team, advisory task force (ATF), and interested stakeholders have evaluated a range of reasonable alternatives to identify a preferred alternative to improve long-term mobility and safety along the Spaulding Turnpike between Exit 1 and the Dover toll plaza, just north of Exit 6. The 3.5-mile stretch of the Turnpike in this area is characterized by closely spaced interchanges, substantial geometry, and shoulder areas, and capacity constrained conditions during the weekday morning and evening commuter periods. Currently, the Turnpike carries in excess of 70,000 vehicles per day. Future travel demand projections (approximately 94,000 vehicles per day are forecasted in 2025) indicate that if the Turnpike is not improved, weekday traffic congestion will spread to additional hours of the morning and evening, and safety conditions will continue to deteriorate.

Following the completion of the Environmental Impact Statement (EIS), a successful Public Hearing and the Federal Highway Administration’s issuance of the Record of Decision in October, 2008, the Selected Alternative was approved to advance into final design to be developed into contract plans. Preliminary and final design of the selected alternative was initiated on December 18, 2008.

**Major Project Elements:**

- 4 lanes in each direction (3 general purpose and 1 auxiliary lane) between Exit 3 (Woodbury Avenue) and Exit 6 (U.S. Route 4/Dover Point Road)
- 3 lanes in each direction south of Exit 3 and north of Exit 6
- 5 interchanges consolidated or reconfigured – Exit 2 and 5 are eliminated with Exits 3, 4, and 6 providing full access in all directions
- Rehabilitation and widening of Little Bay Bridges to accommodate 4 lanes in each direction
- Future planning for an elevated rail connection from the Newington Branch Line into Pease Tradeport
- Rehabilitation of General Sullivan Bridge for pedestrian, bicycle, and recreational uses
- Park and ride facilities at Exit 9 in Dover, Exit 13 in Rochester, and along U.S. 4 in Lee

**What’s New:**

- Planned Northbound Lane Closure on Little Bay Bridge – Pavement Repair Scheduled (posted 04/03/2015)
- Work Near Exit 6 – 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 03/11/15)
- VIDEO: Loop’s Gas Line Directional Drill Work Beneath Little Bay

**PAST NEWS:**

- 2013 Updated Financial Plan (posted 10/09/2014)
- October 8, 2014 Work Update
- Tenant Association at Pease Presentation – April 5, 2014 (posted 04/01/14)
- January 2014 Work Update (posted 2/24/14)

WEB SITE: www.newington-dover.com
CONSTRUCTION OUTREACH

For traveler/real-time information, please visit www.nhtmc.com.
Contract L (Completed)
New Little Bay Bridge
Contract L - SB New Little Bay Bridge Construction

- Project completed by Cainbro Contractors of Maine at cost of $54.1M
- Construction Initiated in 2010 Completed in Fall 2013
- Spaulding Turnpike Dover Approach Work
- Spaulding Turnpike Newington Roadway Approach
- Wentworth Terrace - Now Opened for Two-way Traffic
- Pedestrian & Bicycle Structure (Approach to GSB)
Construction – Contract L
Ped and Bikeway Access to GSB

- Pedestrian, Bicycle Access to GSB
- Wentworth Terrance/Hilton Park Access Under LBB’s
Contract M  Construction (Ongoing)

- Contractor: A. J. Coleman
- Construction Cost: $48.7M
- Construction Duration: 2012 – 2015
- Constructs Four Lanes NB & SB along Turnpike within Median of Existing Facility (Minimal ROW Impacts)
- Provides a Full Service Interchange at Exit 3 and Reconstructs Woodbury Avenue with Additional Access into Pease Development Authority
- Accommodates Future Consideration for Railroad Spur
Exit 4 Ramp with New Mitchell Lane

Approach Roadwork into Dover to Shift SB and NB Traffic onto LBB completed under Contract L (Completed)

Improves Stormwater Detention Basins for Water Quality Treatment

Railway Brook Restoration (Completed)
Construction – Contract M

Construction Operations for 2015:

- Exit 2 Ramps and Exit 3 SB Off Ramp Closed - July 2015
- Exit 3 Ramps and Woodbury Avenue Bridge (October Opening)
- Exit 4 Ramps Construction (Ongoing)
- Stormwater Detention Basin & Railway Brook Construction (Completed)
- Mainline Traffic Shifted to New LBB (Completed)
- Newington Turnpike ‘M’ Construction Completion Nov. 2015
Exit 2 Closure - NB

- Utilize Exit 1 Off Ramp to Access Fox Run Road and Woodbury Avenue
- Utilize Exit 3 On Ramp to Access Northbound Barrel

Malls
Shopping Centers
Use Exit 1

Fox Run Mall
Shopping Centers
Exit 3 SB Detour

- Utilize Exit 1 Off Ramp to Access Gosling Road, Woodbury Avenue, and Fox Run Road
Construction – Contract M

Exit 3 NB On Ramp

Woodbury Avenue Bridge – looking NB

Exit 3 SB
Construction – Contract M

Railway Brook Restoration

Plan View

Legend

- Existing Stream Channel
- Proposed "Bankfull" Stream Channel
- Limit of Proposed Wetland Planting
- Proposed Preservation Area

DESIGN

TYPICAL SECTION @ APEX OF MEANDER (LEFT)
NOT TO SCALE
Construction – Contract M

Railroad Brook Restoration

- Initiated in Summer 2014
- Completed in Summer 2015
- Cost: $1.0M
Contract O – Existing Little Bay Bridges Rehabilitation

- Opened Bids on October 23, 2014 ($20.4M)
- Contractor: R. S. Audley, Inc.
- Construction Duration: 2015 – 2017
- Concurrent Construction with Contracts M and Q
Rehabilitates Existing 9 Span 1,589’ Little Bay Bridges to provide Four Lanes of NB Traffic
Construction – Contract O

- Older Structural Steel Members being Replaced to Meet Current Standards
- Utilize 1984 Superstructure as Work Platform to Replace 1966 Beams & Deck
- Utilize New Beams & Concrete Deck as Work Platform to Replace 1984 Deck
- Reconstruct Wentworth Terrace Retaining Wall Beneath Bridge
Contract Q - Dover

- Advertising Date: July 2016
- Construction: 2016 - 2020
- Completes and Opens All Spaulding Turnpike Improvements
- Concurrent Construction with Contracts O and S
Contract Q (continued)

- Provides a Full Service Interchange at Exit 6
- Eliminates Exit 5
- Introduces 2 Signalized Intersections for Exit 6 Ramps
- Roundabout Replaces Signalized Intersection at Boston Harbor Rd.
- Constructs 4 Sections of Soundwall – North and South of Exit 6 and Dover Toll Plaza
Contract Q – Boston Harbor Rd.

- Roundabout Replaces Signalized Intersection at Boston Harbor Rd.
- Two-Lane Hybrid Roundabout
- Pedestrian Hybrid Beacon Signal West of Roundabout
- Roundabout Website Link:
Contract Q - Exit 6

- New Bridge South of Existing
- Signalized Intersection at Exit 6 NB Ramps
- New Eastbound Access Along Route 4
- Pavement Overlay Along Dover Point Road East
Contract Q
Spaulding Turnpike

- 40’ of Spaulding Turnpike Widening
- SB Raise in Elevation
- Soundwalls along NB and SB
- Pomeroy Cove Bike and Pedestrian Paved Pathway (10’ wide) is maintained
Contract Q
Spaulding Turnpike

- Stormwater Detention Basins
- Boston Harbor Road Rehabilitation
- Boston Harbor Road Sidewalk
Engineering Challenges
Cross Section
Just North of Pomeroy Cove
Settlement Platform Constructed under Contract M

Initial Construction Phase

- Exit 6 Test Embankment Area
- Settlement Testing
- UNH Study
Settlement Platform

Embankment Area
- Installation of Sand Drains

Settlement Monitors

Sand Wick Drains
Contract Q
Soft Soil Settlement Predictions

- Have seen over 22 inches of settlement
- Anticipate settlement periods of a minimum 45 days to be included in each construction phase

Segment 1 - Test Embankment

Fill Height (feet)

Porewater Pressure (psf)

Settlement (inches)

Time (date)

22 Inches
Water and Sewer Improvements

- Boston Harbor Road Locations
- Wentworth Terrace Crossing
- Pomeroy Cove Area Locations
Water and Sewer Improvements

- Dover Toll Plaza Location
Water and Sewer Improvements

- Roundabout Location
Unitil Gas Relocations

Unitil Gas Engineer: Mark Dupuis
Unitil Gas Line Improvements
Little Bay Crossing
Horizontal Directional Drill

2550’ of 10” X52 Under the Piscataqua River

COMPLETED IN 2013
Unitil Gas Line Improvements
Little Bay Crossing Design

- **DRILL PROFILE**
- **EXISTING RIVER BOTTOM**
- **EXISTING WATER SURFACE**
- **APPROXIMATELY 80’**

[Diagram showing a gas line installation profile over a river with labels for existing river bottom, existing water surface, and drill profile.]
Unitil Gas Line Improvements

1300’-10” Natural Gas
Horizontal Directional Drill
Spring 2016

3950’-10” Natural Gas
Summer 2016
Unitil Gas Line Improvements
Pomeroy Cove
Horizontal Directional Drill

EXISTING GROUND

SOUTHERLY TIE-IN

NORTHERLY TIE-IN

APPROXIMATELY 35'

DRILL PROFILE
Contract Q
Construction Milestones

- Temporary Exit 6 Two Lane NB Off Ramp with Temporary Signal
- Exit 6 NB Off Ramp Closure Detour (Spring 2017)
- Cote Drive NB On Ramp Closed (Summer 2018)
- Exit 6 NB Off Ramp Open (Summer 2018)
- Exit 6 NB On Ramp Open (Fall 2018)
Contract Q
Construction Milestones

- Exit 5 NB On Ramp Closed (Fall 2018)
- Exit 6 NB On Ramp Opens (Fall 2018)
Contract Q
Construction Milestones

- Exit 5 NB Off Ramp Closure (Fall 2018)
Contract Q
Construction Milestones

2017/2018

FALL 2018

SPRING 2019
Contract Q
Construction Milestones

SUMMER 2019
SB
NB

SPRING 2020
SB
NB

FALL 2020
SB
NB
Contract S

Contract S – General Sullivan Bridge Rehabilitation

- Tentative Advertising Date: Summer 2018
- Tentative Construction: 2018 – 2021
- Concurrent Construction with Contract Q
Rehabilitates Existing 9-Span (1527 ft.) General Sullivan Bridge for Pedestrian and Bicycle Use
Contract S - General Sullivan Bridge Pedestrian and Bicycle Construction Access

- Temporary Shuttle Service During Closure Period
- Hilton Park Area in Dover to Shattuck Way Area in Newington
General Sullivan Bridge - Work To Date

- First Detailed Inspection Completed in 2009
- Underwater Inspection Completed in 2011
- New Dover Approach Bridge Constructed in 2013 (Contract L)
- Dover Abutment Rehabilitated 2013 (Contract L)
- In-Depth, Hands-On Inspection Completed in May 2014
- Capacity Load Rating Completed September 2014
General Sullivan Bridge – Preliminary Results from 2014 Inspection

- Deterioration Continues - Worse than 5 Years Ago
- Deck Concrete Significantly Spalled on Underside
- Outside Stringers **Critically** Deteriorated
- Interior Three Stringers in Fair to Good Condition
- Floor Beams Fair to Poor
- Span 7 (previously fenced) Span - Truss Limited Capacity
- Lattice Trusses for All Other Spans Fair to Poor
General Sullivan Bridge - Overview
General Sullivan Bridge - Next Steps

Install 15’ Wide Fencing Full Length of Bridge
General Sullivan Bridge - Next Steps

- Detailed Structural Analysis/Evaluation Continues
- Evaluate Environmental Commitments (Historic Preservation) – Fall 2015
- Assess Rehabilitation/Replacement Options - Winter 2015-2016
- Develop Rehabilitation or Replacement Plans – 2016-2017
- Follow-up Inspection in 2016
Upcoming Turnpike Projects

Turnpikes Assistant Administrator: Dave Smith
Existing Conditions

- Existing Facility
  - Built in 1956
- Operational Challenges Exist with Exit 6 at Current Location
- Rehabilitation Results in No Realized Benefits to Customers
Dover Toll Plaza Conversion to Open Road Tolling (ORT)

- Increase Mobility
- Improved Safety for Employees
- Reduction in Accidents
- Reduce Energy Consumption
Dover Toll Plaza Conversion to Open Road Tolling (ORT)

- **Option 1** – Reconstruction at Current Location
- **Option 2** – Construction of New Toll Plaza 1.25 miles North of Existing Toll Plaza
Dover Toll Plaza ORT Typical Section

- 2 Open Road Tolling (ORT) Lanes in Each Direction (E-ZPass only)
- 2 Conventional Toll Plaza Lanes in Each Direction (E-ZPass and Cash)
Dover Toll Plaza Schedule

- Funded in Ten Year Plan 2015 – 2024
- Anticipated Start of Construction Spring 2021
- Anticipated Completion of Construction Fall 2022
Newington Maintenance Facility

- Need Results from Expansion of Spaulding Turnpike
- Proposed Location on Turnpike Owned Parcel
- Between Exits 3 and 4 on West Side of Spaulding Turnpike (Former Drive-in Site)
Newington Maintenance Facility

- Funded in Ten Year Plan 2015 - 2024
- Anticipated Start of Construction – Fall 2019
- Anticipated Completion of Construction – Fall 2020
- Existing Dover Maintenance Shed Discontinued in Fall 2020
Contact Information

**Newington-Dover**

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**Upcoming Turnpike Projects**

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THANK YOU

Questions/Comments

http://www.newington-dover.com/