New Castle-Rye Bridge
Public Informational Meeting
February 5, 2015
Meeting Agenda

- Welcome & Introductions
- Today’s presentation
  - Project Update
  - Refresher of Alternatives (Fixed and Bascule)
  - City of Portsmouth
  - Town of Rye
  - Town of New Castle
  - Benefit-Cost Analysis (BCA) Overview
  - Cost Comparison
- Moving Forward
- Questions and Comments
Project Update

- Since May 28, 2014, Public Informational Meeting
  - Great Public Input at the Public Informational Meeting
  - Received 30 written comments (by letter and by email)
    - Residents of New Castle, Rye, Portsmouth
    - Local Businesses and Commercial Associations
    - Mooring Owners
    - Historic Preservationists and Conservationists
    - Town of Rye Requested Benefit-Cost Analysis
  - Incorporated comments received into Benefit-Cost Analysis
  - Draft Benefit-Cost Analysis performed Summer/Fall 2014 and was recently completed after review with Public Advisory Committee
Refresher of Alternatives

Fixed Bridge

Bascule Bridge
Review of Bascule Bridge
Review of Bascule Bridge
Review of Fixed Bridge
Review of Fixed Bridge
Review of Fixed Bridge
Review of Fixed Bridge
Review of Fixed Bridge
Benefit-Cost Analysis

- Studies Benefits and Costs of each Alternative
  - Quantifies benefits where possible ("Quantifiable Benefits")
  - Studies and includes benefits which cannot be quantified ("Qualitative Benefits")
- Summarizes and Concludes
  - Decision made weighing both Quantifiable and Qualitative benefits
Benefit-Cost Analysis
Quantifiable Benefits

- Fixed Bridge provides the following benefit:
  - Lower Capital Cost and Maintenance Cost
  - Utilities - Fixed Bridge allows for new water line to be placed between the girders

- Bascule Bridge provides the following benefit:
  - Dredging – Bascule slightly improves dredging access over Fixed, both provide improvement over current arrangement

- The following were found to have negligible or inconclusive benefit:
  - Vehicular delays – negligible costs due to infrequent lifts
  - Construction Duration – Negligible time differential of a few weeks
  - Real Estate Values - Studied, but there is no precedent that bridge access would increase values
Benefit-Cost Analysis

Qualitative Benefits

- Primarily addresses marine benefits, as there is little difference in roadway service between Alternatives
- Bridge currently lifts 2-4 times per year, little use of bascule, 4 hour lift notice probably plays a major factor
- Marine access related benefits assumes that
  - Dredging will occur (not currently funded by USACE)
  - Notice time for lifts will be significantly shortened from current 4-hour notice requirement with the new structure
Benefit-Cost Analysis

Qualitative Benefits

- Bascule bridge provides for potential growth of the following:
  - Commercial Fishing
  - Boat Related Economic Activity (moorings, local business)
  - Tourism Revenue
  - Livability Improvements
  - Safe Harbor
- Bascule Bridge also provides improved Sea Level Rise resiliency
- Fixed Bridge provides slight benefit of decreased noise
# Benefit-Cost Analysis - Costs

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<thead>
<tr>
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<tbody>
<tr>
<td>Bascule</td>
<td>$15.8 million</td>
<td>$1.8 million</td>
<td>$17.6 million</td>
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<tr>
<td>Fixed</td>
<td>$7.0 million</td>
<td>$0.7 million</td>
<td>$7.7 million</td>
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<tr>
<td>Cost Differential</td>
<td>$8.8 million</td>
<td>$1.1 million</td>
<td><strong>$9.9 million</strong></td>
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- **Elements driving cost differential**
  - Bascule pier and machinery construction
  - Lift operation costs
  - Maintenance of mechanical and electrical systems
City of Portsmouth
Water Division

New Castle – Rye Bridge Project
(NHDOT Project 16127)
Public Meeting
New Castle, New Hampshire
February 5, 2015

Brian Goetz
Deputy Director of Public Works
Portsmouth Regional Water System

~ 8,000 Accounts
New Castle Water System

- Water Main from Shapleigh Island
- Water Main under Little Harbor to Campbells Island area of New Castle
- Water Main under Little Harbor from Odiorne Point in Rye to New Castle
Water System

Water Main under Little Harbor to Campbells Island area of New Castle

Both Water Mains have a history of leaks and are difficult to maintain – Repairs require divers to work underwater

Water Main under Little Harbor from Odiorne Point in Rye to New Castle
Little Harbor Road – Campbell’s Lane Crossing
Water line Installation in 2005
Water System Planning

- 1999 Water System Master Plan
- 2013 Water System Master Plan Update
- Annual Capital Improvement Plan

V. ENTERPRISE FUNDS

WATER

The project replaces the water lines in New Castle which are recommended as part of a water distribution system hydraulic model which is currently underway. These lines may include the water main that crosses Little Harbor from Odiome Point as well as that section of water line along Wild Rose Lane. These lines were installed in the 1940's and have been the source of significant maintenance in recent years. This project will improve the function of the water system in New Castle.
Water System Planning – New Castle Improvements

The project replaces the water lines in New Castle which are recommended as part of a water distribution system hydraulic model which is currently underway. These lines may include the water main that crosses Little Harbor from Odiome Point as well as that section of water line along Wild Rose Lane. These lines were installed in the 1940’s and have been the source of significant maintenance in recent years. This project will improve the function the water system in New Castle.

- Replace Existing 1941-era Water Main under Little Harbor
- Cost Estimate of $3.04 million
2013 Water System Master Plan
Recommendations for New Castle
New Castle – Rye Interconnection

Rye Water District
New Castle – Rye Water District Interconnection:

• Under Water vs. Installing on a Fixed Bridge

• Rye Water District’s water line currently ends just before the existing bridge

• A new water line across the bridge would provide redundancy to the Wentworth Road area of Rye and also provide increased fire flow to New Castle

• The current cost estimate for installing a new main on a fixed bridge is $600,000 and would be easier to maintain than another underwater line

• The 2013 Master Plan looked at Alternative NC13 which included construction underwater adjacent to the bridge, which is estimated at $1.1 Million. There are significant construction challenges with this approach because of space restrictions adjacent to the bridge on both sides
Town of Rye, Selectman Priscilla Jenness

- Rye Selectboard supports Fixed Bridge
  - Fixed Bridge saves money over Bascule Bridge
  - Facilitate water system improvements of benefit to Rye
  - Allow for continued maintenance dredging of the Back Channel by USACE
Town of New Castle,
Selectman Dave McGuckin
Fixed Bridge

- The Fixed Bridge is NHDOT preferred alternative due to both Capital and Operational and Maintenance cost savings, approximately $10 million
- Fixed Bridge would allow for the installation of a new water line along Wentworth Road (NH 1B) at a cheaper cost than going under the harbor along side the bridge
  - Portsmouth Water would place new water line that would serve New Castle and Rye from Portsmouth along Wentworth Road (NH 1B)
- No change in responsibility of Back Channel Dredging, still USACE, per Mike Walsh for USACE
Fixed Bridge Rendering
Fixed Bridge - Elevation View
Moving Forward

Next Steps

- Receive Public Comments at Tonight’s Meeting and through letters and emails (ideally by the end of February)
- Proceed with permit application
  - US Coast Guard bridge permit
  - US Army Corp permit, Section 404 and 408
  - NHDES Shoreland, Coastal Zone, and Wetlands Permit
  - Essential Fish Habitat (EFH) Consultation with NOAA
  - Section 7 Consultation with NOAA
- Coordinate with FHWA and Division of Historic Resources
  - Determination of Effect Memo and Section 4(f) evaluation
  - Memorandum of Agreement (MOA)
- Project advertised in 2017
Questions or Comments