Maine-New Hampshire Connections Study
Stakeholder Committee Meeting
September 11, 2009
Meeting Overview

- Welcome | Introductions - 10 minutes
- Study Data - 20 minutes
- Fatal Flaw Analysis: Discussion - 1 hour
- Brainstorm Alternatives (Solutions) - 1 hour
- Purpose and Need Statement Review - 30 minutes
- Upcoming Meetings: 5 minutes
Study Update/Schedule Review

• August: Baseline Data completed
• September: Traffic analysis and travel demand model forecasts complete for no-build conditions
• September: Fatal Flaw Analysis and process
• September: Brainstorm alternatives (solutions)
• December: Fatal Flaw Analysis yields list of feasible alternatives
• January: Analysis of feasible alternatives begins
• January/Feb: TIGER Grant results/Possible Study adjustment
Baseline Conditions and Analysis

What did we learn??
Background Data Categories

- Cultural/Historic
- Natural Resource
- Land Use
- Transportation
- Origin-Destination
Cultural/Historic
Natural Resources
Land Use
Transportation
Origin Destination Survey
Highlights
Vehicle Survey – May 2009
Bicycle/Pedestrian Survey – July 2009
State of Vehicle Registry

<table>
<thead>
<tr>
<th></th>
<th>Memorial NB</th>
<th>Memorial SB</th>
<th>Sarah Long NB</th>
<th>Sarah Long SB</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHER</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>NH</td>
<td>28%</td>
<td>44%</td>
<td>26%</td>
<td>49%</td>
<td>37%</td>
</tr>
<tr>
<td>ME</td>
<td>67%</td>
<td>51%</td>
<td>68%</td>
<td>38%</td>
<td>54%</td>
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</tbody>
</table>
### Vehicle Trip Purpose

<table>
<thead>
<tr>
<th></th>
<th>Memorial Bridge</th>
<th>Sarah Long Bridge</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>9%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Work-based</td>
<td>14%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Home-to-Recreation / Leisure</td>
<td>10%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Home-to-Shopping / Personal Business</td>
<td>31%</td>
<td>22%</td>
<td>26%</td>
</tr>
<tr>
<td>Home-to-Work</td>
<td>36%</td>
<td>44%</td>
<td>41%</td>
</tr>
</tbody>
</table>
Average Vehicle Trip Length

<table>
<thead>
<tr>
<th>Location</th>
<th>Average Trip Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memorial</td>
<td>5.9</td>
</tr>
<tr>
<td>Sarah Long</td>
<td>16.7</td>
</tr>
</tbody>
</table>
Top 3 Movements:
- I-95/4/16 to I-95 N: 18.7%
- 1/33 to I-95 N: 15.4%
- Subarea 5 to I-95N: 13.8%

Most Common Origins:
- External 105: 36.2%
- External 106: 21.0%

Most Common Destinations:
- External 111: 66.7%
- Subarea 9: 7.5%
Most Common Origins:
- Subarea 8: 40.6%
- External 111: 33.3%

Most Common Destinations:
- External 105: 49.7%
- Subarea 4: 15.1%

Top 3 Movements:
- PNSY to I-95S/4/16: 30.1%
- I-95 N to I-95S: 10.6%
- I-95 N to 1/33: 5.0%

Most Common Destinations:
- External 105: 49.7%
- Subarea 4: 15.1%

Most Common Origins:
- Subarea 8: 40.6%
- External 111: 33.3%

Top 3 Movements:
- PNSY to I-95S/4/16: 30.1%
- I-95 N to I-95S: 10.6%
- I-95 N to 1/33: 5.0%

Trips through Sarah Long SB
**Most Common Origins:**
Subarea 1: 33.9%
External 105: 15.4%

**Most Common Destinations:**
External 111: 41.6%
Subarea 9: 20.6%

**Top 3 Movements:**
Downtown to I-95 N: 14.5%
Downtown to Subarea 9: 7.7%
I-95/4/16 to I-95N: 6.0%

Trips through Memorial NB
Most Common Origins:
Subarea 9: 26.1%
External 111: 24.1%

Most Common Destinations:
Subarea 1: 38.6%
External 105: 17.1%

Top 3 Movements:
I-95 N to Downtown: 9.9%
Subarea 9 to Downtown: 7.4%
Subarea 9 to I-95S/4/16: 6.4%

Most Common Destinations:
Subarea 1: 38.6%
External 105: 17.1%

Most Common Origins:
Subarea 9: 26.1%
External 111: 24.1%

Top 3 Movements:
I-95 N to Downtown: 9.9%
Subarea 9 to Downtown: 7.4%
Subarea 9 to I-95S/4/16: 6.4%
Summer Bike/Ped Volumes

<table>
<thead>
<tr>
<th>Time Period</th>
<th>7/15/2009</th>
<th>7/16/2009</th>
<th>7/25/2009</th>
<th>Total</th>
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<tr>
<td>8:00-9:00</td>
<td>53</td>
<td>57</td>
<td>89</td>
<td>639</td>
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<tr>
<td>9:00-10:00</td>
<td>44</td>
<td>56</td>
<td>88</td>
<td>434</td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>76</td>
<td>48</td>
<td>104</td>
<td>434</td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>47</td>
<td>42</td>
<td>98</td>
<td>434</td>
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<td>12:00-13:00</td>
<td>45</td>
<td>31</td>
<td>108</td>
<td>434</td>
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<td>13:00-14:00</td>
<td>37</td>
<td>30</td>
<td>123</td>
<td>434</td>
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<td>14:00-15:00</td>
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<td>93</td>
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<td>15:00-16:00</td>
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<td>16:00-17:00</td>
<td>78</td>
<td>49</td>
<td>103</td>
<td>434</td>
</tr>
<tr>
<td>17:00-18:00</td>
<td>113</td>
<td>47</td>
<td>89</td>
<td>434</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>639</strong></td>
<td><strong>434</strong></td>
<td><strong>988</strong></td>
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</tr>
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</table>
Percentage of Bikes vs. Peds

<table>
<thead>
<tr>
<th></th>
<th>Weekday (Cloudy)</th>
<th>Weekday (Sunny)</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bikes</td>
<td>36%</td>
<td>39%</td>
<td>33%</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>64%</td>
<td>61%</td>
<td>67%</td>
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</table>
Bike/Ped Trip Purpose Summary

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Weekday</th>
<th>Weekend</th>
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</thead>
<tbody>
<tr>
<td>Food</td>
<td>7%</td>
<td>15%</td>
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<tr>
<td>Shopping</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>Personal Business</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Work/Home</td>
<td>37%</td>
<td>8%</td>
</tr>
<tr>
<td>Recreation/Leisure</td>
<td>17%</td>
<td>35%</td>
</tr>
<tr>
<td>Exercise</td>
<td>21%</td>
<td>15%</td>
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Fatal Flaw Analysis
Fatal Flaw Analysis: How it works

- Used to evaluate and screen full range of alternatives (solutions) identified
- Remaining feasible alternatives receive “Higher” level of analysis
- Fatal flaw screening:
  - Does alternative satisfy purpose, need and goals?
  - Does alternative have significant impacts?
  - Is alternative permittable?
  - Is alternative financially/physically feasible?
  - Is alternative clearly inferior to other alternatives?
Fatal Flaw Analysis

All Alternatives identified by Steering and Stakeholder Committees, Public, Agencies → Fatal Flaw Analysis → Evaluate Feasible Alternatives
### Draft Alternatives in Scope

<table>
<thead>
<tr>
<th>Alternative #</th>
<th># of Crossings</th>
<th>Sarah Mildred Long Rehab</th>
<th>Sarah Mildred Long Replacement</th>
<th>Sarah Mildred Long Eliminated</th>
<th>Memorial Rehab</th>
<th>Memorial Replacement</th>
<th>Memorial Eliminated</th>
<th>I-95 High Level Rehab</th>
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</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td>3</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Alternative 2</td>
<td>3</td>
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<td>X</td>
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<td></td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Alternative 3</td>
<td>3</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Alternative 4</td>
<td>3</td>
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<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Alternative 5</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Alternative 6</td>
<td>2</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>Alternative 7</td>
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<td></td>
<td></td>
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<td>Alternative 8</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Alternative 9</td>
<td>2+</td>
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<td></td>
<td></td>
<td>Bike/Ped only</td>
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<td>X</td>
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<tr>
<td>Alternative 10</td>
<td>2+</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Bike/Ped only</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Note – rail is assumed to be maintained under all Sarah Mildred Long bridge rehab or replacement alternatives. If eliminated, alternate rail options will be evaluated.
Fatal Flaw Draft Matrix

• Tool to “funnel” all alternatives (solutions)
• Criteria based on Purpose and Need Statement and regulatory requirements
• This analysis less detailed than for final feasible alternatives
• At this point do not have detailed information on such categories as aesthetics and economic impact. These will be applied later to feasible alternatives
• Today’s hypothetical exercise: Your choice!
Brainstorming Session:
Full Range of Alternatives
Note – rail is assumed to be maintained under all Sarah Mildred Long bridge rehab or replacement alternatives. If eliminated, alternate rail options will be evaluated.
Additional Alternatives
Purpose and Need
Purpose and Need Statement: The Process

- Gathered initial feedback from Public – April 09
- Draft presented to Stakeholder Committee June 30
- Comments incorporated - revised P&N to Steering Committee and Stakeholder Committee on July 7
- Federal agencies commented on format
- SC met to discuss in early August and agreed to revised format with adjustments
- Revision sent to SHC on August 11
- Conference call with SHC on August 17 and 19
- Feedback solicited at August 20 Public Meeting
- Version 9 includes that feedback
Purpose and Need Statement

Statement of Purpose

• The purpose of the Maine-New Hampshire Connections Study is to identify and evaluate feasible long-term (2035) transportation strategies that facilitate the safe, secure and effective multi-modal movement of people and goods across and upon the Piscataqua River between Kittery, Maine and Portsmouth, New Hampshire and which support the region’s objectives with respect to economic, cultural, historic, archeological and natural resources and its community quality of life.
Statement of Need: *Transportation Deficiencies*

The Need for the Study is based on present and future transportation deficiencies, specifically:

a) Structural deficiencies exist that threaten accessibility and mobility to the region and require load postings on the Memorial Bridge and the Sarah Mildred Long Bridge,

b) Decreased reliability of the lift spans and increasing maintenance needs of the Memorial and Sarah Long bridges are causing unnecessary delays to marine and land transportation, including response times of emergency vehicles

c) These two bridges are functionally obsolete and include outdated design features that may affect marine and land transportation safety,

d) Multi-modal (*pedestrian, bicycle, rail, maritime traffic, vehicular*) opportunity is limited by inadequate or outdated facilities.
Study Goals:

In order to achieve the stated Purpose and Need, the Study will strive to achieve the following goals:

• Improve local and regional economic growth and stability, tourism and recreational opportunities
• Maintain or improve access to Portsmouth and Kittery downtowns and Portsmouth Naval Shipyard
• Improve local connections to regional transportation modes, for example the Portsmouth International Airport at Pease
• Minimize long-term costs for the regional transportation system
Study Goals

• Improve bicycle and pedestrian access across the Piscataqua River Reduce operational and maintenance costs (currently $1.1+ M per year per bridge)

• Avoid or minimize detrimental impacts to the historic significance and integrity of the Kittery-Portsmouth area

• Conserve the aesthetic setting of the Piscataqua River

• Conserve the environmental quality of the Piscataqua River
Study Goals

• Avoid or minimize detrimental impacts to residential neighborhoods in Kittery, Portsmouth and neighboring areas.

• Reduce or maintain emissions of pollutants, including greenhouse gases

• Maintain or improve emergency evacuation efficiency across the Piscataqua River.

• Do not preclude future transportation opportunities, for example, providing for passenger rail service or bus service across the Piscataqua River.
Upcoming Meetings: Fatal Flaw Analysis

– Sept. 17: Steering Committee Meeting
– Sept. 24: Public Meeting
– Oct./Nov.: Possible Stakeholder Committee Meeting to check in on Fatal Flaw Analysis