

Maine-New Hampshire Connections Study

Public Informational Meeting

September 24, 2009



Meeting Overview

- Welcome
- Update on Stimulus Application/BICA – 10 minutes
- Study Schedule Update - 5 minutes
- Traffic Forecasts – 10 Minutes
- Fatal Flaw Analysis: Discussion - 1 hour
- Brainstorm New Alternatives - 20 minutes
- Next Steps - 10 minutes

Stimulus Application

- Submitted September 15, 2009
- \$70 Million for Memorial Rehab, \$10 Million for State Pier
- Full application can be found at:

www.mainenhconnections.org/updates

Study Update/Schedule Review

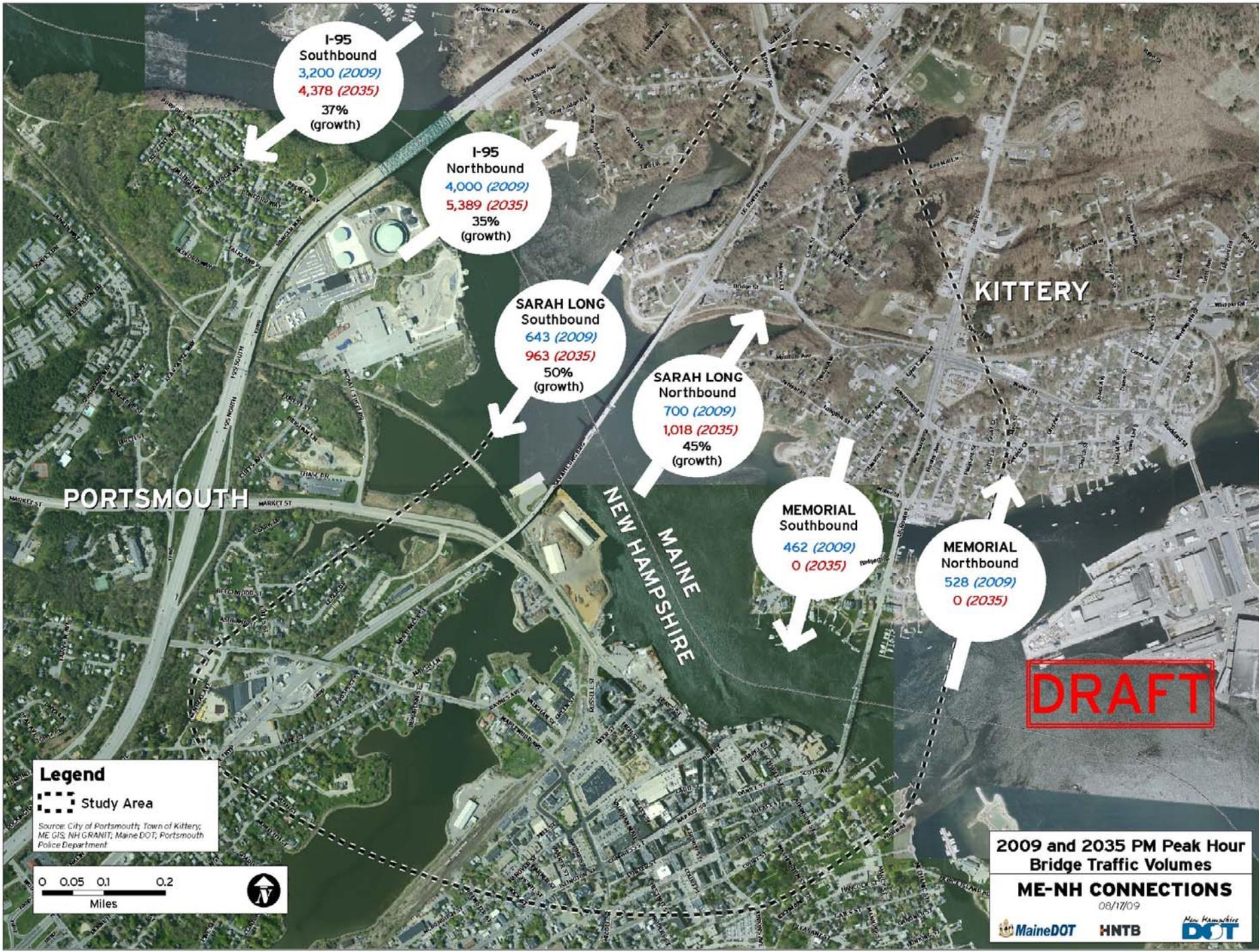
- September: Traffic analysis and travel demand model forecasts complete for no-build conditions
- September: Fatal Flaw Analysis and process
- September: Brainstorm alternatives (solutions)
- Oct/Nov: Ongoing Fatal Flaw Review
- December: Fatal Flaw Analysis yields list of feasible alternatives
- January: Analysis of feasible alternatives begins
- January/Feb: TIGER Grant results/Possible Study adjustment

Future Traffic Volumes

How will traffic flow in the future??

Future (2035) No-Build Conditions

- Memorial Bridge is closed
- Sarah Long remains, but has reduced weight limits
- Albacore Connector is open to all movements
- What we see – Study Area traffic growth at approximately 24% (about 1% per year)
- Most traffic (not all) shifts to Sarah Long and I-95 High Level bridge



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 permissible?
 - 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

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 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 run-through: Your choice!!

Fatal Flaw Draft Evaluation Matrix

See Handout

Table 1: DRAFT Fatal Flaw Analysis Evaluation Matrix_ September 18, 2009

Alternative #	Description	Study Area Mobility and Accessibility	Satisfy Structural Needs	Lift Span Reliability	Bridge Design Features as they relates to Vehicular Traffic Flow and Safety	Bridge Design Features as they relate to Marine Traffic Flow and Safety	Bridge Design Features as they relate to Other modes (bike, ped, rail)	Vehicular and Emergency Access to Portsmouth, Kittery downtowns and the PNS	Rail Access to Portsmouth, Kittery, and the PNS	Life Cycle Costs (2009\$)	Property and Neighborhood Impacts	Natural Resource Impacts	Physical Resource Impacts	Historic Resource Impacts	Permittable	Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), and Emissions	Total Number of Green/Yellow/Red by Alternative
1	No Build																
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Comparative Evaluation:

Green Box = Within the Range of BEST Alternatives for this parameter

Yellow Box = Within the Range of MEDIUM Alternatives for this parameter

Red Box = Within the Range of WORST Alternatives for this parameter

How Each will be Rated/Measured

- Study Area Mobility and Accessibility: Does the alternative provide adequate* Study Area mobility and accessibility (Green – yes, Yellow – potentially, Red – No)
- Satisfy Structural Needs: Does the alternative provide adequate* structural and functional life of Memorial and Long Bridges to 2060 or beyond? (Green – Yes, Yellow – potentially, Red – No)
- Lift Span Reliability: Does the alternative provide adequate* lift span reliability to 2060 or beyond? (Green – Yes, Yellow – potentially, Red – No)
- Bridge Design Features/Traffic: Does the alternative provide adequate* bridge design features for vehicular (car and truck) traffic (lane width, shoulder width, etc)? (Green – Yes, Yellow – potentially, Red – No)
- Bridge Design Features/Marine Traffic: Does the alternative provide adequate* bridge design features for marine traffic (clearance, bridge skew, etc.)? (Green – Yes, Yellow – potentially, Red – No)
- Bridge Design Features/Other Modes: Does the alternative provide adequate* bridge design features for other modes (bike lanes, crosswalks, sidewalks, etc.)? (Green – Yes, Yellow – potentially, Red – No)
- Accessibility to Portsmouth, Kittery and PNS: Does the alternative maintain or improve access to Portsmouth and Kittery downtowns and the PNS? (Green – yes, Yellow – no change, Red – reduces access)
- Rail Access to Portsmouth, Kittery and PNS: Does the alternative maintain the rail line across the Piscataqua River to PNS? (Green – yes, Yellow – rail line not applicable, Red – no)
- Life Cycle Costs: Estimated 100-year life cycle cost (in Present Value \$\$) for each alternative. Green/Yellow/Red will be comparative based on range of costs for each alternative.
- Property/Neighborhood Impacts: Estimated level of properties/neighborhoods impacted for each alternative. Green/Yellow/Red will be comparative based on range of impacts for each alternative.
- Natural Resource Impacts: Estimated natural resource impacts for each alternative (acres). Green/Yellow/Red will be comparative based on range of impacts for each alternative.
- Physical Resource Impacts: Estimated physical resource impacts for each alternative (acres). Green/Yellow/Red will be comparative based on range of impacts for each alternative.
- Historic Resource Impacts: Estimated level of historic properties/areas impacted each alternative. Green/Yellow/Red will be comparative based on range of impacts for each alternative.
- Permittable: Is the alternative considered permittable? (Green – Yes, Yellow – uncertain, Red – No)
- VMT/VHT/Emissions: Measure of VMT and VHT for each alternative as it relates to vehicle emissions. Green/Yellow/Red will be comparative based on VMT/VHT for each alternative and will be in combination with other alternatives.

* Adequacy relates to the alternatives' compliance with federal and state design criteria

Brainstorm Session: Full Range of Alternatives

Draft Alternatives in Scope

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

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.

Memorial Bridge Alternatives

- Ped/Bike/Cars only
- Rehab: “as is” but historic
- Rehab with bike lane
- Replacement with lift bridge – not historic
- Replacement with increased clearance
- Replacement with new alignment
- Replacement with draw bridge
- Replacement with fixed span
- Replacement with mid-level moveable

Sarah Long Bridge Alternatives

- Rehab: “as is” but historic
- Rehab with bike lane
- Replacement with lift bridge – not historic
- Replacement with increased clearance
- Replacement with new alignment
- Replacement with draw bridge
- Replacement with fixed span
- Replacement with mid-level moveable
- Replacement with vessel improvements
- Replace or rehab with rail only

Other Alternatives

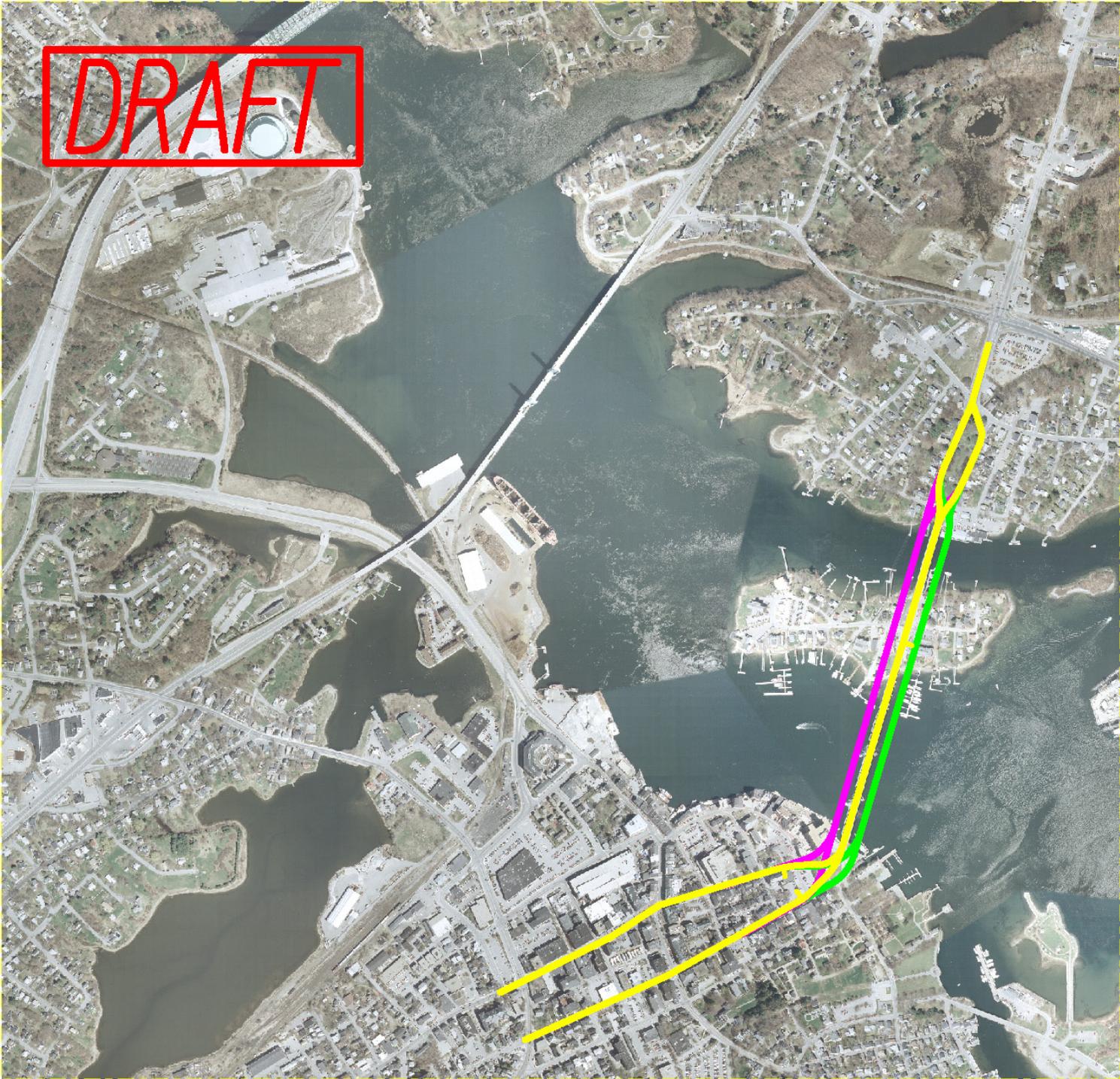
- Vehicle tunnel
- Rail tunnel
- No bridges at all
- Ferry (s)
- Mono rail
- Single high level bridge
- Add trolley to Memorial Bridge
- Light passenger rail

Summary of Stakeholder Input

Memorial Bridge Alternatives

1. Rehab on existing alignment/same clearances
2. Replace on existing alignment/same clearances
3. Replace on existing alignment/mid-level bridge
4. Replace on existing alignment/high-level bridge
5. Close the bridge to all traffic

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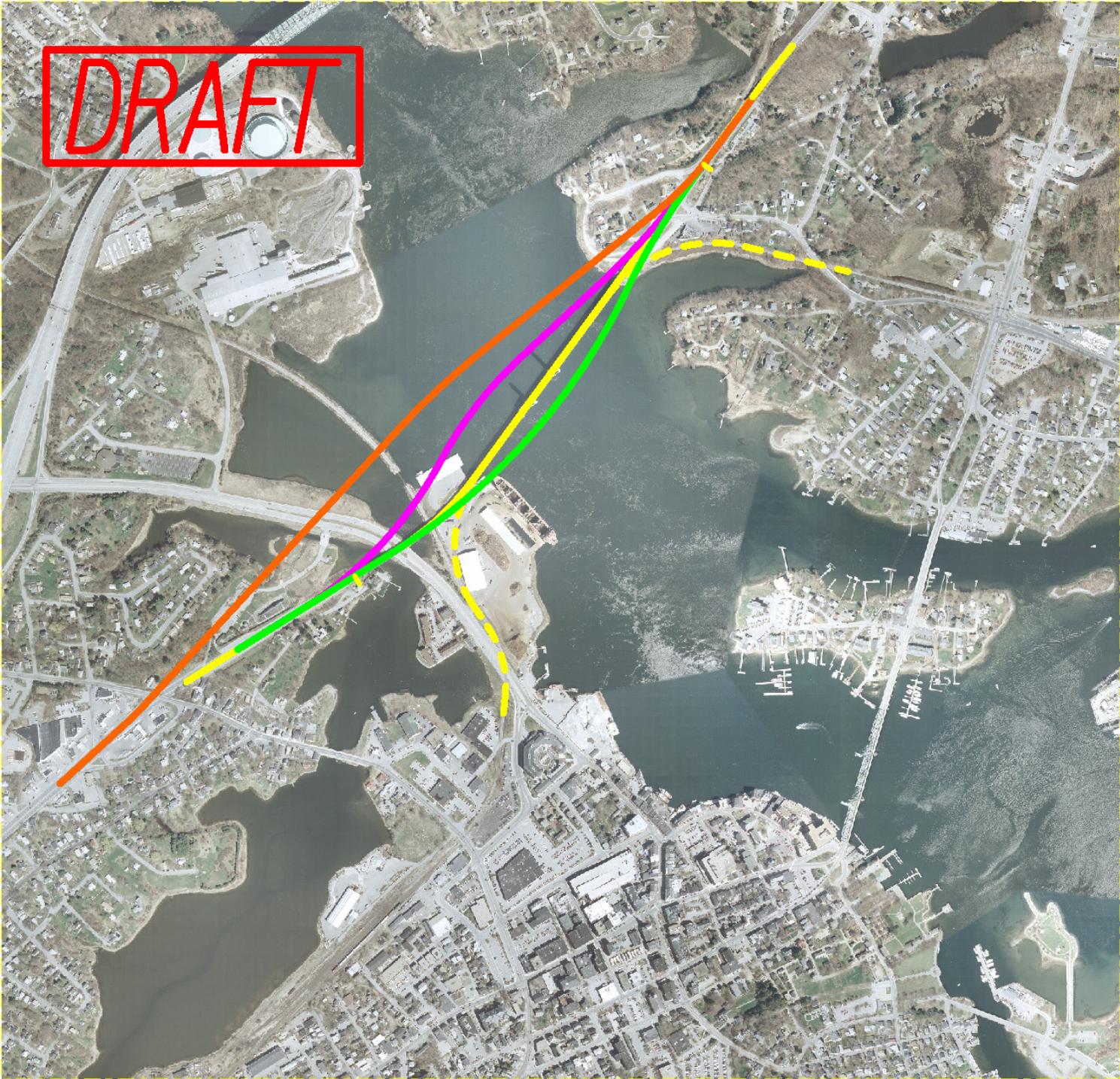


Summary of Stakeholder Input

Sarah Long Bridge Alternatives

1. Rehab on existing alignment/same clearances
2. Replace on existing alignment/same clearances
3. Replace on existing alignment/mid-level bridge
4. Replace on existing alignment/high-level bridge
5. Close the bridge to all traffic

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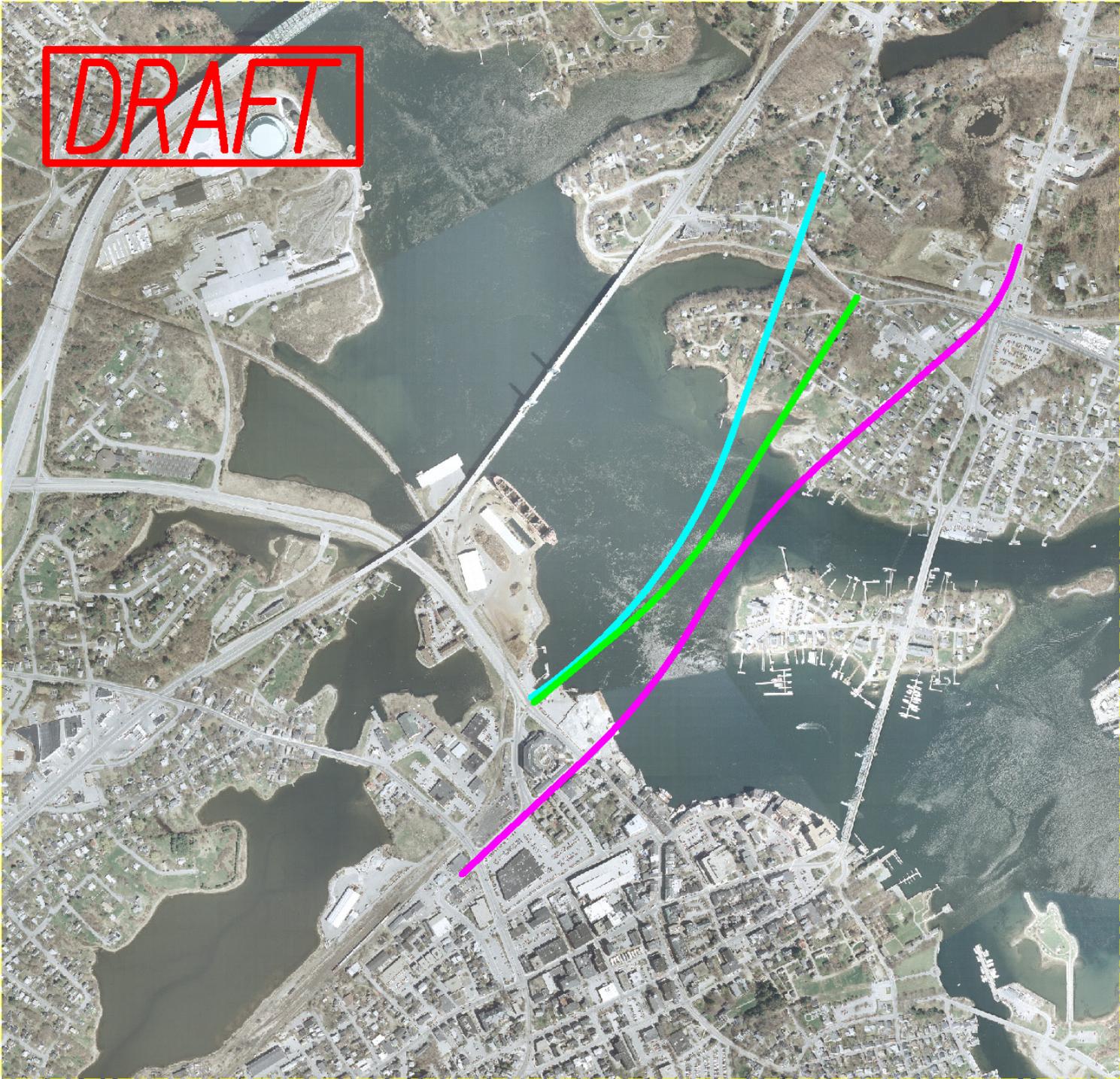


Summary of Stakeholder Input

New Alternatives

1. Close both PM and SML bridges and replace with single, high level bridge on a new alignment with rail
2. Close both PM and SML bridges and replace with tunnel on a new alignment with rail
3. Close both PM and SML bridges and provide ferry service. Maintain rail bridge
4. Combination of PM and SML Alternatives 1 through 5
5. Combination of PM and SML Alternatives 1 through 5
6. Etc.

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Additional Alternatives

- YOUR INPUT!!

Upcoming Meetings

- October/November: Steering/Stakeholder Committee Meeting(s) to check in on Fatal Flaw Analysis
- December: Public Informational Meeting(s) on Fatal Flaw Analysis results