



Public Information Meeting Report

Durham 16236 - Durham Town Hall October 17, 2013, 6:30pm

Bob Landry opened the meeting with introductions of project and design staff.

Project focus is to address the aging bridge on U.S. Route 4 over Bunker Creek.

University of New Hampshire (UNH) & Professor Goodspeed started looking into bridge replacement alternatives with students, and was invited to contribute to the design team with a current graduate student, Beth Kinney.

Bob explained that this Public Information meeting was a “hybrid” meeting because more design details are available than usual at the first Public Informational Meeting in the design development process.

The purpose of the meeting is to solicit public input on the project relative to the planned improvements and current safety concerns within the project limits.

Marc Laurin read the required National Environmental Policy Act (NEPA) information.

National Resource & Cultural resource effort ongoing, some of the resources include:

- Bunker Creek
- Tidal marshes
- Oyster River
- Fresh water wetlands
- State & Local conservation properties
- Possible endangered species

Coordination required with:

- National Oceanic Atmospheric Administration (NOAA)
- Natural Heritage Bureau
- U.S. Army Corps of Engineers (ACOE)
- U.S. Wildlife Services

The project will comply with Section 106 of the National Historic Preservation Act to monitor impacts to historic resources including National Historic & Cultural Resources features greater than 50 years of age.

- Possible consulting party effort – see Marc about opportunities to become a Consulting Party to the Section 106 efforts.



- FHWA is the lead agency for this project relative to historic properties.
- The design team will continue to coordinate on the resources during the design process.

Q: When will the NEPA documentation be completed? A: NEPA documentation sometime next year (2014) in draft form.

John Butler introduced the project using an aerial map.

3 Alternatives

- Colored lines are the 3 alternatives
- Bridge to North Alternative 1
- Bridge to South Alternative 2
- Bridge in current location Alternative 3 – on-line.

- Offline options allow use of the existing roadway to maintain traffic.

- Alt 1 and 2 involve adjacent property and natural resource impacts. Also impacts to conservation properties; both state and town owned.

- Both offline alternatives shift U.S. Route 4 about 50' centerline to centerline.

On-line alternative – minimizes impact to adjacent properties and natural resources.

Profile rises from east to west. The profile shown generally relates to all three options.

Two deficiencies currently exist – the sag vertical curve restricts site distance at night time due to headlight sight distance. This is solved by raising road (the proposed adjustment currently shown is 4.5 feet) and flattening the sag vertical curve. The improved sag would match back into the existing roadway approximately 300 feet in each direction of the current bridge location.

Second deficiency is intersection sight distance at Morgan Way looking west to take a left turn onto U.S. Route 4. To gain site distance the roadway profile is lowered at the “crest” about 1 foot (approx. 300 feet west of Morgan Way).

The improvements to the profile will achieve a 45 mph design.

The width of the improvement includes 12' lanes (matching existing) and 5' shoulders.

Five foot shoulders are the minimum for safe bicycle travel on a designated bike route.

The project intends to retain the left turn and right turn lanes at Morgan Way.

Proposed bridge length is shown at 30' long – this is an issue that is under review. The existing bridge is 15' long.



Hydraulic study to evaluate hydraulic opening requirements at bridge will need to be completed.

NHDOT preferred alternative is on line

- Minimizes impacts to properties
- Minimizes impacts to natural resources
- Minimizes impacts to cultural resources
- Possibly the least cost alternative (depending on how traffic control is handled)

Two Traffic Control Plan (TCP) Alternatives are possible with on-line alternative

- Detour on-site adjacent to current alignment (a tighter alternative 1 alignment for 35 mph)
- Close U.S. Route 4 for short period of time (14 days with 16 hour per day work window). A signed detour route via NH Route 108 and the Spaulding Turnpike would be utilized. The total detour length from one end of the bridge to the other is approximately 12 miles, however, the additional travel distance for vehicles traveling regionally along U.S. Route 4 is approximately 5 miles.

Bob solicited questions and comments:

Comment: Abutter stated that the marsh grass has receded appreciably over the years. Marsh grass when exposed to wave action and wind is undermined and lost. Any alternative should take this into consideration.

Q: Can the profile at the bridge be lowered if the crest is cut more on the hill?

A: Yes, alternatives will be developed for the next Public Information Meeting showing this option for the profile.

Comment: Left turn from Morgan Way onto U.S. Route 4 is a difficult movement and dangerous.

Q: Will the geometric improvements increase speed?

A: The proposed shape/geometry of the improvements are generally the same as the existing. The width has more influence on the speed, but the increase in width is modest.

Comment: Ms. Johnson has difficulty getting out of her driveway on the south side across from Morgan Way.

Comment: Green option (Bridge to north alternative 1) will increase speed.

Mr. Smith: Overbuilding and straightening the highway will result in faster speeds. Right sizing the improvement makes sense.

Beth Kinney, Masters in Civil Engineering student at UNH, presented her alternative for improvements and construction sequencing.



Existing bridge was built in 1933. The existing bridge has been repeatedly repaired. Substructure is mostly original.

Traffic Considerations

- High volume.
- Long Detour.
- Important truck route.

Design speed unchanged (45mph).

This alternative proposes Accelerated Bridge Construction (ABC) methods to replace bridge. Replacement would be mostly precast. Alternative proposes a 14 day closure of U.S. Route 4.

Two months of post bridge replacement site work.

Q: Does the project consider the future traffic volume growth on U.S. Route 4?

A: U.S. Route 4 carries about 17,000 vehicles a day now. Typically growth is assumed to be about 1% per year. This results in 20-21,000 vehicles a day in the 20 year future design volumes (2033). However, State traffic volumes have been level or decreasing in recent years.

Mr. Smith – There was an opportunity to develop a limited access road 15 years ago. It is too late now.

Beth showed a rendering depicting the sequence of construction.

Bob stated, the Department, working with UNH, replaced a bridge on a low volume road in Epping in 8 days using the closure option. The Department feels a 14 day closure is a reasonable for this replacement and may be improved upon once design details are developed. VTrans regularly completes bridge replacements using a 14 day closure and the costs are typically lower.

Q: How do we get this out to the users and detour routes like Back River Road?

A: An extensive Public Outreach campaign would be required to notify all users of U.S. Route 4.

Comment: The detour route involves a toll plaza that is also an issue.

Bob estimated that the cost of a detour using a temporary bridge within the project limits is likely \$0.5 - \$1 million. An on-site detour alternative will need to be further developed and a cost estimate prepared to help make the decision for next Public Informational Meeting.

A 35mph design speed would be used for the detour. If the bridge is closed, property impacts outside the existing Right of Way (ROW) may be avoided, thereby eliminating the formal public hearing process.

If the public hearing process can be avoided, the bridge could possibly be replaced (based on funding available) in 2016 instead of 2018.



The public outreach in the event of a closure of U.S. Route 4 may include:

- Media Advertisements
- Webpage
- Social media
- Coordination with the trucking community

Cost is a real consideration – the closure is very likely the less expensive option.

The NHDOT will have at least two more meetings in Durham. The next meeting in January – February, 2014, will show design development of alternatives and solicit additional comments.

The construction work is likely to occur between November and April due to the environmental sensitivity of the site.

There is a permanent traffic counter just to the east of the project, so much data is available.

Daily lane closures are possible from 9am-3pm in the non-summer months, as they have been employed successfully at this site for repair (January, 2013).

If U.S. Route 4 is closed, the contractor will likely want to work 24 hours/day, but 16 hours/day makes more sense in residential areas as construction activities will be loud.

The NHDOT will develop time frames for each activity during construction to evaluate the duration of the closure of U.S. Route 4.

Mr. Smith: The short term inconvenience outweighs long duration construction.

Access to homes will be maintained during construction.

Mr. Terrill – Road closure small price to pay to lessen impacts and cost of the project.

Attendance List Attached.

