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Meeting Date: October 18, 2009

MassHighway Project Name: Fore River Bridge Replacement, Quincy-Weymouth
Bridge No. Q-01-001= W-32-001

MassHighway Contract No.: 50281

MassHighway District: 6

Designer: STV Incorporated

Minutes Prepared By: Nathaniel Cabral-Curtis, Howard/Stein-Hudson

Meeting Place: Fore River Clubhouse, 16 Nevada Road, Quincy MA

Persons in attendance: Meeting attendance lists have been removed to protect the privacy of audience members.

Purpose: The design team held a targeted briefing session for residents of Quincy Ward 2 at the request of Ward 2 City Councilor, Daniel Raymondi. Outreach for this meeting was coordinated through the local city councilor's office. Advertisements were also run in the Quincy Patriot-Ledger and Quincy Sun, a smaller, local newspaper serving Ward 2.

Items Discussed:

Quincy Ward 2 City Councilor Dan Raymondi opened the briefing by welcoming the attendees. He explained that when MassHighway had begun to discuss replacement of the Fore River Bridge, he had requested that the agency provide an informational briefing for the residents of Ward 2.¹ Councilor Raymondi further noted that MassHighway's briefing would provide Ward 2 residents with both information about the project and a valuable opportunity for residents to give the agency input regarding the bridge's replacement. The replacement of the bridge will be completed in 2015 and cost approximately \$255 million—money that is currently available in MassHighway's budget.

Following his opening remarks, Councilor Raymondi introduced Mike O'Dowd (MassHighway). Mike thanked the attendees for their presence and explained that over the past 6 months the design team has held similar presentation and Q&A sessions for local officials, business groups, and other civic organizations. The funds for replacement

¹ Quincy's Ward 2 is informally known as Quincy Point.



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of the Fore River Bridge are being made available through the Accelerated Bridge Program (ABP),² with construction on the new bridge expected to begin in 2011. Design for the new bridge is still underway, but the structure will be designed and built in such a way to serve the needs of motorists, cyclists, pedestrians, and users of the Fore River Channel equally well. Mike then introduced the members of the STV design team, Mark Pelletier, Mark Ennis, and Nikole Bulger, and explained that they would give the presentation.

Highlights of the Presentation³

Mark Pelletier (STV) briefed the group on the current phase of the project, as follows:

- The Fore River Bridge carries Route 3A and connects Quincy in the west to Weymouth in the east. The approximate limits of the project are the rotary on the Quincy side and the intersection of Bridge Street and Monatiquot Street on the Weymouth side. The goal of the Fore River Bridge replacement project is to replace the current temporary bridge with a permanent movable span.
- The Fore River Bridge is being replaced under the Accelerated Bridge Program (ABP), whose goal is to reduce the number of structurally deficient bridges in the Commonwealth. Techniques associated with the ABP include:
 - Faster construction techniques, including design/build;
 - Advanced project scheduling and estimating;
 - Streamlining of the environmental process; and
 - Innovative delivery mechanisms such as design/build and single-phase construction.
- The Fore River Bridge will be replaced using design/build methods. The current team will be responsible for the project up to the end of the 25% design phase, at which point STV will create a design/build package and MassHighway will put the job out to bid to engage a contractor to build the new bridge.
 - The design/build package will contain instructions for how the contractor should carry the work forward. These instructions will be drawn in part from input gathered at community briefings.
- Members of the Fore River Bridge Replacement Design Team include:
 - **STV:** project management, structural engineering, electrical and mechanical, and civil/drainage. STV has had a Boston office for roughly 30 years and has extensive experience with similar complex projects;

² This program commits \$3B over the next 8 years to reduce the number of structurally deficient bridges in the Commonwealth and ensure that additional bridges are not added to the list.

³ This presentation can be viewed at <http://www.mhd.state.ma.us/ProjectInfo/>. Search either Quincy or Weymouth for project number 604382.



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- **AECOM:** environmental and structural;
- **TRC:** environmental;
- **Howard/Stein-Hudson Associates:** public involvement and traffic management;
- **Rosales + Partners:** bridge aesthetics and architecture;
- **ASEC:** survey;
- **Domingo-Gonzalez Associates:** bridge lighting; and
- **Pressley Associates:** landscape architecture.

- The scope of work includes:
 - Coordination with stakeholders and agencies;⁴
 - Evaluation of the movable span and approach structure types;
 - Selection of a preferred alternative;
 - Preparation of the National Environmental Policy Act (NEPA) filing;
 - Establishment of permitting requirements;
 - Advance design, construction staging, and traffic management plans to the 25% level; and
 - Preparation of the design/build procurement package.

- The phase of the project addressing coordination with stakeholders and agencies is still ongoing. The design team is currently holding informational meetings to gather input from residents to help shape ideas for what type of bridge should be built and how it can be constructed with the least impact to the surrounding community.

- A major component of STV's work is to identify the most appropriate type of bridge for the project site. This is known as the "type study."
 - For the type study, STV is analyzing 2 bridge types: a bascule bridge and a vertical lift bridge.
 - The criteria on which the choice of bridge type will be based include:
 - Acceptance of the proposed channel width by the U.S. Coast Guard;
 - The best vertical clearance in the closed position to minimize openings;
 - Construction and life-cycle costs; and
 - Engineering standards.

- Once STV has evaluated the 2 bridge types and the approach spans, it will put forward a recommended alternative. The target date for this recommendation is the end of winter 2009.

⁴ The lead federal agency on this project is the Federal Highway Administration. The Coast Guard also plays a lead permitting role and will ultimately dictate the required width of the shipping channel. The selected width will influence the type of bridge chosen.



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- Major milestones in the bridge replacement will include:
 - Basic design: 2008–2010;
 - Creation of the 25% design: January–August 2010;
 - Creation of the design/build package: September 2010–April 2011; and
 - Completion of construction of the new bridge and demolition of the temporary span: 2015.

- Replacement of the Fore River Bridge is a complex process. Issues to balance include:
 - Community and environmental concerns;
 - Acceptance of the proposed horizontal channel clearance by the U.S. Coast Guard;
 - Selection of the most appropriate bridge type;
 - Equally serving the needs of marine and vehicular traffic;
 - Construction staging to minimize community and traffic impacts;
 - Bridge aesthetics; and
 - The cost to build and maintain the new structure.

- A significant component of the 25% design process is permitting.
 - The lead permitting agency for the project is the Federal Highway Administration. The U.S. Coast Guard is an important coordinating agency.
 - The project must comply with the Section 106 Memorandum of Agreement already in place.
 - The project will also comply with the National Environmental Policy Act (NEPA). Elements of NEPA compliance include:
 - Gathering of baseline data on elements such as air quality and ambient noise in the project area;
 - Alternatives analysis to select a preferred alternative; and
 - Development of a plan to mitigate construction impacts, including timing construction so as not to interfere with the herring run or winter flounder spawning in the Fore River.
 - MassHighway has already entered into an agreement to restore the public amenities that surrounds the bridge’s Weymouth approach.

- Regardless of which bridge type is ultimately chosen, it will have similar characteristics. It will:
 - Have a 5% grade to be in full compliance with the Americans with Disabilities Act;
 - Have a posted speed limit of 35 miles per hour;
 - Maximize closed position vertical clearance to minimize openings, particularly during the summer months when there is significant sailboat traffic in the river;



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- Connect to the existing touch-down points in Quincy and Weymouth. At this point, no permanent impacts to the rotary geometry or permanent takings of businesses or homes are anticipated, although some temporary construction easements will be required; and
- Include 4 12-foot travel lanes, 2 in each direction; a 5-foot bicycle lane in each direction; sidewalks on both sides, potentially protected by pedestrian railings; and a solid road deck to reduce noise.
- The design team will develop a traffic management plan to mitigate the impacts of construction. Currently, the team is collecting new traffic data and analyzing the traffic management approach used during creation of the temporary bridge to see what worked well and what should not be repeated in the upcoming bridge replacement. The design team welcomes resident input regarding traffic management, particularly with regard to their experience during the creation of the temporary bridge.
- The new bridge will be created in roughly 3 steps:
 - Construction of the new span on the original alignment of the 1936 bridge;
 - Connection of the approach ramps to the new span; several possible options for accomplishing this are under investigation, with an eye towards minimizing commuter impacts; and
 - Demolition of the temporary bridge.
- The 2 spans being considered are a vertical lift bridge and a bascule bridge.
 - The **vertical lift span** is typically used for longer crossings, since there is really no upper limit for the length of this type of bridge. The movable span of a vertical lift bridge is typically a truss that places the supporting superstructure above the roadway deck. This is helpful in terms of reducing the number of bridge openings. For its type study, the design team is considering a vertical lift bridge with a 250-foot horizontal navigation clearance and a 58.5-foot vertical navigation clearance in the closed position.⁵
 - A **bascule bridge** is typically used for shorter crossings. For the type study, the design team is considering a bascule bridge with a 225-foot horizontal navigation clearance and a vertical navigation clearance of 43 feet. While this is better than the 1936 bridge, it is significantly less than can be achieved with the vertical lift structure.⁶ If a bascule bridge were to be built to cross the

⁵ This will help reduce summertime openings in particular, since this clearance will accommodate more recreational sailing vessels without needing to open the bridge. If a vertical lift structure is chosen, it will be of a much more substantial construction than the current temporary bridge and, as such, will provide greatly improved operation in high winds and winter conditions. Towers could be of steel or concrete.

⁶ At the August 18, 2009, meeting, maritime interests expressed strong wishes for a wider channel clearance of around 250 feet. This channel clearance is not recommended for a bascule bridge due to the size of the motors and counterweights required. The current bridge and its predecessor provided mariners a



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Fore River and provide a horizontal clearance of 225 feet, it would be the largest bridge of its type in the United States. It would be a massive and heavy structure with piers roughly 100 feet wide to accommodate the counterweights required to shift the movable spans.

- With regard to the approach span, STV is analyzing 2 possible options: steel stringers supported by concrete supports every 150 to 200 feet, or concrete bulb tees. Both options have advantages and disadvantages relative to the site. STV will determine which option is most appropriate as part of the type study.
- The presentation was concluded with a table highlighting the relative advantages and disadvantages of both bridge types. That table is reproduced below:

Bridge	Vertical Clearance above MHW at Fenderline	Navigation Channel Width	Number of Annual Openings
1936 Bridge	33 feet	175 feet	646 (2002)
Temporary Bridge	55 feet	175 feet	587 (2007)
Proposed Bascule Bridge	43 feet	225 feet	612 (interpolated)
Proposed Vertical Lift Bridge	58.5 feet	250 feet	560 (2007)

Question and Answer Session⁷

Mike O’Dowd began the Q&A session by noting that marine interests have made it clear that they would prefer a wider channel clearance, and that the public has made it equally clear that their preference is for a bridge reminiscent of the 1936 bridge but designed to reduce the number of required openings as much as possible. The design team is developing both the bascule and the vertical lift options to the fullest extent possible to show the permitting agencies and the public that the needs of both bridge users and marine interests have been balanced. The type study will be finished during Summer 2010—after which the environmental assessment document will discuss both alternatives and present the preferred alternative.

Q = Question

A = Answer

C = Comment

channel clearance of 175 feet. This width is generally considered unacceptable for larger, modern ships, and allisions with the current fender system are common.

⁷ Because attendees did not universally introduce themselves before giving their comments, commentary is shown anonymously throughout.



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Q. Will there be any takings associated with the new bridge?

A. There may be a need for temporary easements during construction, but the design of the new bridge, whichever type we choose, will ensure that there are no permanent takings of homes or businesses. The footprint will remain the same, and we will keep the current touch-down points in Weymouth and Quincy.

Q. My concern is about traffic flow when the bridge goes up and down. What will be the cycle time for the new permanent bridge?

A. Certainly, cycle time will improve with either a permanent vertical lift or a bascule bridge. Based on current assessments, the difference in the cycle time between the 2 bridge types would be relatively small. Cycle time to move the bridge would be about 2.5 minutes, plus the time it takes to move the safety gates and get traffic flowing again. A big part of how long it takes to cycle the bridge is how fast pilots feel comfortable taking large ships through it. A wider channel opening will make pilots feel more comfortable and allow them to transit the channel faster, leading to reduced bridge opening cycle times.

Q. Between the 2 bridge types, which has the fewest maintenance issues?

A. Movable bridges generally have greater maintenance requirements than fixed spans. Whether it's a vertical lift bridge or a bascule bridge, maintenance will be ongoing to ensure that the bridge remains working throughout its full lifecycle. The existing bridge requires the energy and effort that it does to keep it safely operable because it is a temporary structure, not because it's a vertical lift bridge.

Q. Is there an option to put in a tunnel? Wouldn't a tunnel have fewer traffic impacts?

A. We get that question a lot. The idea of a tunnel was floated several years ago in a report by Vollmer. This report was put together at roughly the same time the temporary bridge was being built, 2002–03, and looked at a high fixed span as well. At the time, it was determined that the tunnel would have been prohibitively expensive and would need to take a significant number of properties and relocate local businesses. The overall length of the project would have been 5,500 feet. The fixed crossing was dismissed as unfeasible for similar reasons, which brings us to the current process of developing a new movable bridge. In answer to your second question, yes, the tunnel would have fewer permanent impacts from the bridge traffic point of view, but it would have more social and environmental impacts.



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Q. What is the expected depth of the shipping channel?

A. The Army Corps of Engineers recently completed a dredging project in the Fore River that gives it a depth of 35 feet. That will serve nearly all current commercial ships that use the channel. The Corps is open to the idea of more dredging, but there may not be much more depth possible from this particular river, given the substrate and the existing utility crossings.

Q. What are your expected hours for construction?

A. That's not an easy question. We understand that night work is never popular, but a conventional 7:30 a.m. to 3:30 p.m. shift will only prolong the agony. We anticipate some night and weekend work at times. We need to afford the contractor the ability to move through the work quickly to minimize disruptions. The contractor will also be required to hold regular meetings with the public to update them on construction progress and address any construction-related issues.

C. You say "at times"; would the night work be a rarity? My house is right next to the bridge. When the big trucks idle under the bridge in the wintertime so their drivers can keep warm, we can hear it in my house. Anything you do at night will impact my house. If I can't keep my tenants because it's noisy, I won't be able to pay my mortgage.

A. One of the key things about the ABP is that we are looking for whatever techniques we can use to speed up construction. The design we choose will be influenced by how quickly it can be built. We are striving to develop designs that lend themselves to preassembly off-site and then being barged to the site. Hopefully that will keep some of the noisiest work off-site.

Q. Will there be impacts to the rotary?

A. We may need to do some temporary things at the rotary to facilitate construction, but there will be no permanent changes.

Q. Do either of your proposed options do anything to contain noise from the bridge?

A. The new permanent bridge will be quieter than the 1936 bridge, because it will have an asphalt or concrete riding surface as opposed to the old open grid deck. Also, the permanent bridge will be quieter than the current temporary structure.



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Q. In the vertical lift option, are you envisioning concrete towers? The Zakim Bridge has concrete towers that are already starting to crack. I would recommend steel towers given the extremes of weather that bridges on the edge of the ocean tend to endure.

A. The vertical lift option is currently pictured with concrete towers, because we think they look a little nicer. We can use steel towers as well. We appreciate your comments regarding concrete next to the ocean.

Q. Will the shipyard be used for construction staging? Will you bring in large bridge elements on trucks like what happened with the Big Dig?

A. The current design team is only charged with getting to 25% design. At the bid stage, we will select a contractor based on qualifications to do work of this level of complexity. When contractors submit their proposals, they would outline their staging ideas to us. Essentially, it's premature to talk about staging right now.

Q. Approximately 30,000 vehicles go over the bridge each day. The construction for the permanent bridge will be underway right next to the temporary bridge. Given how people like to "rubberneck," the inclination will be for drivers on the temporary bridge to slow down a little and look at the work. There's already a traffic congestion situation on Washington Street; while the traffic is good for business, it is an issue for residents. Do you have a plan to divert traffic from Washington Street and then get it back onto Washington Street after construction is over? To what extent does Mass-Highway have resources to work with the City of Quincy's traffic engineering staff to ensure that there's a police officer present to keep people moving.

A. Certainly public safety is our number one job. We will attempt to build as much of the project as we can without impacting traffic. Will there be interruptions? Of course there will, but we are going back and forth over this with STV to get the best construction sequence possible. We will attempt to maintain 2 lanes of traffic in each direction over the bridge as much of the time as possible. HSH has done the traffic counts to determine when it might be viable to bring the bridge down to a single lane in each direction. Over the weekend, it could work all right. We do not anticipate that there will be a total shutdown of the bridge for any extended period of time. We have met with the resident engineer for the district and reviewed the traffic management plan associated with building the temporary bridge. Generally, that plan kept things moving—though of course there's always room for improvement.

C. There were times during construction of the temporary bridge that traffic was bad. We understand that there are times when something needs to be finished and you will



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have work into a peak travel time. Our concern is that during construction, traffic will filter into the neighborhoods and then, once the work is done, it will take a long time to get the traffic back onto the main road.

- A. Thank you for bringing that particular issue to my attention. I look forward to working with you to address that and other traffic management concerns.

Q. In listening to you, I'm very concerned that this project will adversely impact my house and tenants. If I can't keep my units rented and use the rent to pay my mortgage, I'll lose my house. Will you work with me to address this issue? If I lose my tenants, will there be efforts undertaken to keep me in my home?

- A. MassHighway definitely wants to work with residents. If there is a problem during construction, we will sit down and discuss it with you. We will ask the contractor to have meetings on a monthly basis to update the public and hear feedback so it can come back to us. We will ensure open communication. I understand your concerns about your home. I hope it never comes to the situation you describe. We will direct the contractor to work with you constructively. You do need to understand that in getting this project done quickly and correctly, there will be some hardships. This is a big project, but if you bear with us, at the end, you will have a bridge that will last 75 years and be much nicer than what you have now.

Q. You said you were including stakeholder input in your design plans, but who will ultimately choose which type of bridge we get?

- A. Your comments mean a lot to us. We will also take into account input from all of the regulatory agencies. MassDOT's design consultant will conduct an alternatives evaluation, which will lead to a recommended preferred alternative. The preferred alternative bridge type is the one that has the fewest environmental impacts and meets the goals and objectives of the project. MassDOT Highway Division will ultimately make the decision.

Q. What would be the concerns associated with building a really futuristic bridge?

- A. The Bacalan-Bastide Bridge from Bordeaux is an engineer's delight. They accomplished that look by sinking long shafts under each tower into which the counterweights drop as they raise the bridge's movable segment. That's a very expensive approach and probably not something we would be able to accomplish here.
- C. From the information you've provided us tonight, I can't see any other bridge but the vertical lift. With the bascule bridge, just to get the minimum clearance you need, you have to use the maximum capabilities of that type. I'd say you are headed for the



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vertical lift. I think the vertical lift bridge you've presented here tonight is nice. The one from Bordeaux is nicer, but I think the one you are showing would work here.

- A. I certainly would not say we have selected a vertical lift bridge. Both types you see here tonight are feasible at this location and can be made to meet the needs of users, but of course both types have benefits and constraints associated with them.

Q. Is there a significant differential between the 2 bridges in terms of construction cost?

- A. They are both comparable. We're looking at approximately \$250 million either way.

Q. When will the bridge type be decided? Who makes the final call on what type of bridge is built?

- A. That will be around the first of the New Year. MassHighway will ultimately decide which bridge to build but with plenty of input from all concerned parties.

Q. If there's a loss of power in the area, will you still be able to move the bridge?

- A. By code, we need to provide 2 separate power sources for the bridge. One will be from the general electricity grid and the other a generator in the machine room of the vertical lift—or somewhere nearby, in the case of the bascule bridge.

Q. Once you select a construction team, will we have an opportunity to talk to them about construction hours and traffic management?

- A. Before they get started, we will put stipulations into their contract that they must meet. When we select a contractor, we will bring them in and have them meet with community members. They will lay out their schedule for you and work with the impacted communities on the traffic issues.

Q. Will there be more meetings with the community when you select the final design?

- A. When we have a preferred alternative, we will come back before the community and explain to you exactly why we made the decision we did.

Q. When the Big Dig was underway, there was a terrific rat problem in Boston. Will do anything to control rats on this job?



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- A. Typically, MassHighway inspects the job area before beginning construction to look for evidence of a rat problem. If we see signs of infestation, we will instruct the contractor to pre-treat for rats before beginning the work.

Councilor Raymondi concluded the Q&A session by reminding attendees that replacement of the Fore River Bridge is a state project and that both Representative Mariano and Senator Morrissey will be involved in the project. He expressed his own willingness to facilitate openness and transparency with regard to the project and his appreciation to MassHighway for their forthright approach to the community. He closed by noting that while the replacement of the bridge will cause some inconvenience to the neighborhood, the new structure will be safer, quieter, friendlier to bicyclists and pedestrians, and a structure of which the community can ultimately be proud.

Next Steps

The next public involvement milestone will be a larger public briefing, similar to the one held in June 2009, to be held when the type study has been finalized. This is likely to take place in either late November or early December.



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End of Meeting

Note to the Reader: the materials made available through this section of the website have been developed by the project team to support the public involvement process. As the materials cover roughly a year's worth of meetings, the reader should assume that all materials reflect the project team's best understanding of the project at the time prepared. Later materials offer the reader a deeper and clearer look at the project and should be assumed to supersede earlier materials.

These minutes are a close representation of what transpired at the meeting summarized herein, but should not be considered a verbatim transcript. Contact information provided by meeting attendees has been removed to protect their privacy.
