



September 29, 2016

Anthony L. Del Gaizo, P.E.
Town Engineer
500 Dedham Street
Needham Massachusetts 02492

Re: Follow-up Questions on Quiet Zone Report - Response

Dear Mr. Del Gaizo,

BETA Group, Inc. (BETA) received the follow up questions from the Board of Selectmen and Transportation Committee regarding our May 10, 2016 presentation. We have reviewed the questions and offer the following responses.

1. Q. Would the safety of the grade crossings in Needham be increased by the use of Supplemental Safety Measures (SSMs) such as quad gates or median barriers?

A. The addition of SSMs would increase the safety of the grade crossings.
2. Q. Which would have greater crossing safety: (i) with SSMs and no routine use of train horns; or (ii) without SSMs but with routine use of train horns (existing status quo)?

A. Our rail expert, Mr. Egan, believes that the use of train horns provides a safer grade crossing than can be accomplished in a Quiet Zone.
3. Q. In the event that a Quiet zone is established, will bells on the train engine and crossing gates still sound and will lights on the engines and on crossing gates still flash at each level crossing?

A. In a Quiet Zone the bells and lights on the grade crossing warning devices will activate as normal. The bells and ditch lights on the locomotives will not activate.
4. Q. In the event that a Quiet zone is establish, will routine use of train horns be used in the absence of unusual hazardous situations?

A. There is no "routine" use of train horns in a designated Quiet Zone. Train horns will be used when, in the locomotive engineer's opinion, an emergency situation exists, such as person or vehicle on the right of way, which requires use of the train horn to warn those people of an impending situation.
5. Q. In the event that a Quiet zone is establish, will train engineers have the discretion to sound the horn in the event of any unusual situation of danger, such as a person or vehicle on the tracks?

A. Same answer as No. 4. There is no "routine" use of train horns in a designated Quiet Zone. Train horns will be used when, in the locomotive engineer's opinion, an emergency situation exists, such as person or vehicle on the right of way, which requires use of the train horn to warn those people of an impending situation.

6. Q. Are Constant Warning Time devices, Vehicle Presence detectors, and Power Out features required improvements for installation of Quad Crossing gates to permit the establishment of a Quiet Zone?

A. Constant Warning Time Devices and Power Out Features are required prerequisites for a Quiet Zone. Vehicle Presence Detectors are not required for a Quiet Zone, and are a further SSM, as Four Quadrant Gate Systems can be developed either with or without Vehicle Presence Detectors.

7. Q. Which of the grade crossings in Needham are equipped with Constant Warning Time Devices?

A. We did not investigate this matter with the MBTA/Keolis as this was outside the scope of our services.

8. Q. Which of the grade crossings in Needham are equipped with Power Out features?

A. We did not investigate this matter with the MBTA/Keolis as this was outside the scope of our services.

9. Q. What is the estimated cost of providing Constant Warning Time at each Needham crossing that is not already so equipped?

A. It is difficult to offer an exact number since Keolis will be responsible for securing and installing the equipment but the equipment will likely be in the \$150,000 range per crossing.

10. Q. What is the estimate cost of providing Power Out features at each Needham crossing that is not already so equipped?

A. As with question 9, it is difficult to offer an exact number since Keolis will be responsible, but equipment will likely be in the \$100,000 range per crossing.

11. Q. Do the cost estimates for the quad gate installation include Vehicle Presence Detectors and if not, what would the cost be?

A. Yes.

12. Q. What entities are qualified to do the pedestrian crossings assessment at Needham Center and Hersey, and what would be the estimated cost of the assessment?

A. These assessments are normally done by a committee formed by the Town (and its consultant), the FRA, the owner of the Rail Line (The MBTA), and possibly, the operator (Keolis).

13. Q. The BETA study states: "We have asked the FRA for a clarification ...at the Needham Country Club grade crossing." What was the result of the regional manager's inquiry with his superiors regarding the private (golf course) crossing?

A. We have reviewed this matter with Mr. Frangella, of the FRA. He clarified the FRA position on the private crossing. Since the Country Club crossing is more than a quarter mile from the last public grade crossing it cannot be included in the Quiet Zone. He further advises that if the town reaches an accommodation with the MBTA regarding the private crossing, it is not necessary to involve the FRA in that decision, since that would fall outside the purview of the FRA.

14. Q. Is it BETA's opinion that the Town could reach an accommodation with the MBTA regarding the private crossing and amend the private grade crossing agreement accordingly to allow no routine train horn operation at the Golf Club crossing?

A. Yes.

15. Q. What is BETA's recommendation as to how to pursue reaching such an accommodation and its opinion of the cost of doing so?

A. The first step would be to request a meeting with John Ray, head of commuter rail. While the ultimate revision of contract language will be done by others, if Mr. Ray agrees in principal, this will assist the process. The cost will be a function of the hours expended. Does the country club have its own counsel who would handle such negotiation, or is the town going to take the lead?

16. Q. If the Town cannot reach an accommodation, in BETA's opinion what would the most cost-effective way to eliminate the need to sound horns at the Golf Club crossing?

A. It is important to understand that, from the MBTA perspective, this grade crossing (and every grade crossing) is a potential liability. The goal of the MBTA is to minimize their exposure as relates to any incidents at crossings. This dictates their maintenance practices, operating practices and their use of warning devices. That said, there are two alternatives if an accommodation cannot be reached: Eliminate the crossing or create a grade separation. Neither of which is desirable, but are options.

17. Q. What would be the additional cost of such required improvements (Constant Warning Time devices, Vehicle Presence detectors, and Power Out features), in addition to the Quad Crossing gate improvements, to allow the establishment of a Quiet Zone?

A. That cost has not yet been developed.

18. Q. Are there any of the level crossings in Needham that could be acceptable for the Quiet Zone by installing median barriers as Supplemental Safety Measures? What is the estimated cost of median barriers at these crossings compared with Quad Crossing gates?

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A. Public Works has advised against Median Barriers. The reason cited was concern regarding snow removal issues. Additionally, three of the streets (West, May and Oak) are generally narrow and have driveways in close proximity to the grade crossing(s). Movement of trucks into and out of these driveways and parking areas would be significantly impacted by median barriers. As such, we did not develop a cost for median barriers.

Please let me know if you have any questions.

Very truly yours,
BETA Group, Inc.

Robert T. Mackie, PE, BCEE
Vice President

cc: File
Thomas Egan, ECG

Job No: 5176