LANGAN

Memorandum

888 Boylston Street, Suite 510 Boston, MA 02199 T: 617.824.9100 F: 617.824.9101

To: Brian Desfosses/NHDOT

From: John D Plante

Info: Brian Groth/Town of Hudson
Elvis Dhima/Town of Hudson
Marty Kennedy/VHB
Justin Dunn/Hillwood
Nate Kirschner/Langan
Luke Mauro/Langan
Christopher McLean/Langan

Date: September 15, 2020

Re: NHDOT Email Question Responses
Hudson Logistic Center
Hudson, NH
Langan Project No.: 151010101

Please find below **Langan's responses** to various NHDOT *comments and questions* posed in emails of various dates. In general, these comments have been incorporated into the traffic impact study and the various supplemental analyses provided.

7/9 Email from John Butler/NHDOT to Luke Mauro/Langan and Nick Sanders/NHDOT:

Attached is a graphic with pink highlighting of my expectations regarding modeling limits on the Circumferential Highway (Sagamore Bridge Road). If you are planning to use VISSIM for the microsimulation, that is fine, but we don't have that software so I would ask that you submit video clips of the worst case periods of the microsimulation so I can visually see how the traffic is expected to flow. I primarily want to see the microsimulation in the area between Lowell Road and the DW highway ramps, as I don't believe this area can be analyzed as a weaving section per HCM definition, but obviously there will in fact be weaving and merging going on. I would also expect to get conventional HCM weave/merge/diverge analyses for the other weave/merge/diverge areas as shown on the attached graphic.

Langan Response: These limits and analyses will be provided in supplemental highway modeling, videos and analyses by Langan and Stantec, our subconsultant.

Are you planning to use Synchro/SimTraffic for the intersection analyses along Lowell Road? That would be my preference as we have that software and can more confidently check results. If so, we typically prefer delay, LOS, and v/c results being reported from Synchro, and queuing results reported from SimTraffic due to the closely-spaced coordinated signals and potential for spillback between intersections.

Langan Response: The Synchro analyses are provided in our revised Traffic Impact Study and the SimTraffic analyses are provided in our Traffic Impact Study Supplement that was submitted electronically on 9/14/2020.

Both opening year and opening year+10 should be analyzed for all Circumferential Highway operations and Lowell Road operations.

Langan Response: Analyses for the potential opening year, 2022 and the 10 year horizon, 2032, are included in the Traffic Impact Study, the Traffic Impact Study Supplement, and the VISSIM Evaluation of Merge and Weave Segments along Sagamore Bridge Road by Stantec.

I rarely travel this area so don't have any knowledge of existing capacity or congestion issues along the Circumferential Highway. I will ask others in maintenance. I agree that it will be important for your team to do a field review during typical peak hours to insure that your No Build model results are in line with actual field conditions.

Langan Response: During the course of this study Langan has observed existing conditions in the area roadway network. Langan has also conducted a detailed review of the data collection video to observe actual operating conditions. This data collection took place in October 2019, prior to any impacts on traffic volumes due to COVID-19.

7/13 Email from John Butler/NHDOT to Nick Sanders/NHDOT, Brian Desfosses/NHDOT and John Plante/Langan

In the interest of expediting, I gave the TIS a quick scan, and have a few broad comments:

- *In my July 9th email below to Luke Mauro, I had requested that all queuing results (at least for NHDOT intersections) be reported from SimTraffic, not Synchro. That does not appear to be the case.*

  Langan Response: See response above.

- *Please submit your Synchro files for all 2032 analyses (No Build, Build, Build with Improvements) for our review.*

  Langan Response: See response above.

- *Attached are NHDOT guidelines regarding Synchro and SimTraffic inputs. Not sure if you had received these previously.*

- **Langan Response: These guidelines were used to develop the analyses included in both the TIS last revised September 2020 and the TIS Supplement dated September 2020.**

- *I understand that your analysis of the Circumferential Highway (Sagamore Bridge Road) operations will be submitted separately.*

  Langan Response: Correct, see above response.

8/12 Email from John Butler/NHDOT to John Plante/Langan

From the Bureau of Highway Design's perspective, I don't feel that we are at a point yet where I can provide meaningful comments on your operational analyses or potential mitigation proposals as there are still significant questions on the trip generation and distribution assumptions, as noted in Nick Sander's August 10, 2020 memo and Marty Kennedy's (VHB) July 27, 2020 memo. However, I would offer the following broad comments on the materials you submitted on August 10th.

Langan Response: The trip generation was approved in memorandum from NHDOT, dated June 18, 2020 and the trip distribution methodology was approved in a memorandum from NHDOT dated August 19, 2020. We have been requested to provide additional trip generation information for the peak holiday season of the development, which will follow under separate cover.

- *Do the operational analyses address the comments in the 7/27/2020 memo from VHB, especially relative to lane distribution due to downstream conditions? I agree with all of VHB's operational analyses comments.*

  Langan Response: The revised Traffic Impact Study and supplemental analyses reflect these comments.

- *What is the status of your operational analyses along the Circumferential Highway (Sagamore Bridge Road)? The interaction of this analysis and your analysis along the NH 3A corridor will be important, particularly regarding how the Circumferential Highway is able to receive and process the traffic from NH 3A, given the westbound lane drops and various downstream destinations on Circumferential Highway.*

  Langan Response: The Traffic Impact Study Supplement and the analysis by Stantec in VISSIM Evaluation of Merge and Weave Segments along Sagamore Bridge Road reflect this comment.

- *Are the queue lengths in the capacity analysis summary sheets from SimTraffic, as opposed to Synchro, as I had requested in my July 13th email to you?*

  Langan Response: The revised Traffic Impact Study reflects Synchro analysis and the SimTraffic is presented in the Traffic Impact Study Supplement.

- *I see that a roundabout is now proposed at the NH 3A/Dracut Road/Steele Road intersection. Why the change?*

  Langan Response: Langan has presented two potential options for improving the existing operating conditions at this intersection. Either option would represent an improvement to existing conditions. As this is a state highway, we are suggesting that the NHDOT and the town determine their preferred improvement at this location.

8/18 Email from Rich Radwanski/NHDOT thru Brian Desfosses/NHDOT to John Plante/Langan

Proposed conceptual mitigation seems largely appropriate. However, with so little of their traffic headed south, I question the need for a 2-lane roundabout at the 3A intersection with Dracut Road. May be a lot cheaper and more effective to reassign one of the southbound thru lanes as a 2nd left turn lane onto Dracut and widen Dracut to accept the 2nd lane with a lane drop transition.

Langan Response: Understood, the revised Traffic Impact Study provides analyses of both options. Either option would represent an improvement to existing conditions. As this is a state highway, we are suggesting that the NHDOT and the town determine their preferred improvement at this location.