



October 15, 2020

Ref: 52688.00

Mr. Brian Groth, AICP
Town Planner
Town of Hudson
12 School Street
Hudson, NH 03051

Email:
bgroth@hudsonnh.gov

Re: Hudson Logistic Center - Traffic Review

Dear Brian,

As requested VHB has, over the last few months, been reviewing the traffic related issues associated with proposed Hudson Logistics Center. As you know, we've been working with the applicant and their traffic engineer through a series of submittals. In addition, we have been coordinating our review efforts with the NHDOT as they conduct their own review. The various submittals have included:

- May 19th - Original Traffic Study
- June 29th - Revised Traffic Study (revisions to vehicle trip estimates)
- September 3rd - Revised Traffic Study (revisions to proposed mitigation and operational analyses)
- September 15th - Revised Traffic Study Supplement (supplemental queuing analyses and VISSIM simulation on Sagamore Bridge)
- September 22nd - Memo on Potential Peak Season Trip Generation
- October 7th - VISSIM Evaluation Memo - Lowell Road
- October 9th - Memo responding to NHDOT comments

Our initial thought on the May 19th submittal was that the site-generated trip estimate was low. On June 29th the applicant resubmitted the traffic study with a revised and higher vehicle-trip estimate, which considered both ITE Trip Generation and user provided information.

At a 7/21/20 meeting with the applicant at Town Hall, we provided our initial comments on the original and the revised 6/29/20 submitted reports. At that time, our comments focused on the vehicle-trip estimate, the operational analyses, and the proposed mitigation actions. For the most part, the operational comments related to the need to apply appropriate lane utilization factors and the need to address vehicle queuing. Additionally, one significant concern was that although the proposed mitigation actions were designed to improve traffic operations, some proposed mitigation actions created secondary adverse impacts at adjacent intersections.

In response, the applicant submitted a revised traffic study (Sept. 3rd) with a revised mitigation package. VHB reviewed the resubmitted package and has concluded that, based on the estimated site-generated vehicle trips, the proposed actions, at a conceptual level, do mitigate the proposed development's impact. There are, however, some design-related comments raised by the NHDOT in their October 2, 2020 memorandum that the applicant is currently working on addressing. The comments include minimizing "trap lanes", providing sufficient shoulders, and ensuring adequate transitions and taper area for lane drops, particularly for the

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proposed northbound triple left-turn from Lowell Road onto the Sagamore Bridge. We concur with the NHDOT comments including a preference for the option of predesignating the southbound lane use for dual left-turns onto Dracut Road as opposed to constructing a 2-lane roundabout.

There are questions as to whether there is sufficient available right-of-way (ROW) or the ability to obtain the needed ROW in order to construct all of the proposed mitigation actions. In particular, with limited ROW on Wason Road, the proposal to provide a double right turn lane onto Wason Road would require the conversion of a designated left-turn lane at the Market Basket driveway to a shared through lane. The ROW issue will need to be resolved.

As for estimating the number of vehicle-trips that would be generated by the proposed development, the applicant's traffic engineer considered both ITE Trip Generation and information provided by the user as to the user's anticipated program. It's important, however, for the Planning Board to understand that these types of logistic centers are relatively new and therefore, the sample size or number of available data points through ITE Trip Generation is relatively low. To be clear, I'm not suggesting that the use of ITE Trip Generation is inappropriate, it's just that the confidence level to estimate vehicle trips for this use is not the same as other more well established land uses such as office buildings, shopping centers, and residential uses, to name a few.

To supplement the ITE data, it was helpful that the applicant's traffic engineer obtained information provided by the user as to their anticipated program and ultimately used the higher of the two estimates. Nevertheless, what complicates the vehicle-trip estimate is that the number of parking spaces shown on the site plan appears to be much higher than would be needed given the vehicle-trip estimate.

For example, considering just Buildings A and B (where the applicant has user provided information) it is estimated that 1,075 automobiles would enter the site over a 24 hour period. Of the 1,027 anticipated employees (542 on the day shift and 485 on the night shift) with not a lot of shift overlap, the demand for parking should certainly be less than the total number of vehicles entering over the entire 24 hours. The plan shows 1,388 automobile parking spaces. Similarly, (again Buildings A and B only) it is estimated that 196 trucks would enter the site over a 24 hour period while the site plan shows 644 tractor-trailer parking spaces.

Again, to be clear, there's no reason to doubt that the user isn't providing their best estimate of their current planned program. Obviously, they would want their operations to function well. Nevertheless, given the capacity of the site with the number of parking spaces proposed, the applicant should provide the Planning Board clarity as to how and if the user's program could change if the demand for the products being processed increase in the future. Additionally, the number of vehicle-trips including truck trips are anticipated to be distributed relatively evenly (with the exception of the commuter peak hours) throughout the 24 hour period. Does the user have control as to when trucks enter and exit the site? And if future demand increases, would the number of truck trips increase and/or move into the peak commuter hours?

In summary, VHB has concluded that, based on the estimated site-generated vehicle trips presented in the Traffic Impact Study, the applicant's proposed upgrades to the study area intersections adequately mitigate the project's traffic impact. Note that the applicant needs to demonstrate that there is available ROW, or the

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ability to acquire the needed ROW to construct the roadway upgrades that are being proposed while meeting design requirements. Additionally, the applicant needs to provide clarity on the user's program as to whether it might change with increased product demand and whether that could increase the vehicle-trip estimate.

Upon resolution of the vehicle-trip generation question, VHB will assess and recommend to the Planning Board an appropriate traffic impact fee.

As requested, I plan to attend the October 21st Planning Board meeting. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Martin F. Kennedy".

Martin F. Kennedy, PE
Senior Principal
mkennedy@vhb.com