

Dear Joe and Alex,

Thank you for meeting with me last week. I thought it would be useful to summarize items from our conversation that I ask you to forward to the select board. The retired engineer friend has helped me understand the science of traffic modeling and design and has reinforced my suspicion that there are many ways to interpret data. My goal is to be sure that the proposed road way intersection changes that may meet the minimum standards to obtain a VTrans permit but ultimately don't function at optimal levels will become a burden for Hinesburg residents and tax payers.

VTrans has the authority to issue a permit for the project that meets the standards but as a state agency it doesn't design the intersection or suggest better solutions. Based on what I have learned there may be elements that were not considered in their proposal and the town should take every opportunity available to demand the best outcome for residents not only of Hinesburg but for all travelers on RT 116. The expertise of an engineer who can evaluate and explain the nuances of the proposed traffic intersection design from the town's perspective would help insure that the taxpayers won't end up paying for any potential deficiencies. The expense for input at this stage of the project will be much less than paying for the consequences of a failed intersection 5 or 10 years from now. I sensed that you, Alex, may have not have been satisfied with the information provided to the DRB by Rick Bryant. Perhaps this is the opportunity to engage a different firm and to be clear that the town is interested in not just meeting minimal standards but in understanding the deficiencies of the proposed design and how it could be improved from the start. Representing the town's interest in this matter can best be served by having a knowledgeable professional as part of its team. Below is the summary of what I understand to be some of the issues.

- Many towns commonly have a developer pay for an independent traffic review. Unfortunately, as you explained it to me, there is a hole in our ordinance that doesn't allow this to happen in this case. This needs prompt attention to correct this.
- Both sides of VT 116 need to be widened – not just the east side as shown in the Act 250 submission by Hannaford.
- All of the corners at Commerce Street and 116 need to be checked for turning radius of trucks. The newest plan submitted by Hannaford for Act 250 only shows the stop bar set back for the left turn lane of southbound 116.
- A lot of left turn lanes and right turn lanes get blocked by traffic and different capacity numbers.

- The right turn corner of northbound 116 at Commerce Street is clearly problematic. At least three of the corners need to be checked for stop bar setbacks and the distances of the set backs need to be viewed from the whole picture and not just each individually. Some of the thru lanes will also likely need some element of stop bar setback, so they should be checked for that.
- Rough analysis done using WB62 (62' wheel base) showed there is insufficient accommodations for trucks turning in several of the turns of the intersection. The state may even require a WB 67 analysis.
- What is the design vehicle – WB62 or WB67?
- The stop bar for the left turn lane of 116 at Commerce Street is still not set back far enough when using the turning radius tool for a WB62. This then impacts measurements at Patrick Brook.
- A longer queue on the thru lane of southbound #116 blocks access to the left turn lane – it then reduces the capacity because it doesn't function as well.
- The model proposed by Hannaford has a SL (signal length) that assumes 7 cars for the 175' needed in the left turn lane of southbound #116 at Commerce St. What is the source for the 7 cars? Also the numbers used in the centerline shift aren't clearly explained. In your communication to VTrans, Alex you stated in a memo to VTrans that **Hannafords engineer expressed uncertainty about the necessary length needed for the left turn lane. With the possibility of traffic gridlock, there is no margin for error with the constriction at the brook.**
- What is the mph used in the SL determination? Did they use 40 mph or some other figure? What mph number should be used?
- There is a need for capacity data for storage.
- The warrants at Mechanicsville Rd need to be checked.
- Specific attention needs to be paid to the dynamics of the curb cuts going into the Mobil station such that patterns of entering and exiting are viewed in the context of stacked vehicles on Commerce Street.
- Is there a prescription for fire trucks at Commerce St (freezing lights to allow fire trucks to pass)?

- Safety: Need to say that these changes are not accident prone. Need to make an accident design that shows an “accident pattern”. Are you going to add any pattern of increased number of accidents?
- Study need to also include the length of the lane tapering on #116 which also includes the speed of vehicles.
- Proper storage length needs to be determined.
- 30th highest traffic hour in year is used for determining the model needed. This should be a model that looks at traffic for 5 years into the future from the date the store opened.
- There needs to be a proper design and is very important for the town.
- VTrans won't do any design work but will only check it to make sure it works. It is in the town's interest to have an independent engineer to help protect the town from future expensive costs.