

**STATE OF NEW HAMPSHIRE**  
**INTRA-DEPARTMENT COMMUNICATION**

**DATE:** 3/10/2025

**FROM:** Gordon S. Thompson, PE

*Gordon Thompson PE*

**AT (OFFICE):**

Department of Transportation  
Bureau of Traffic

**SUBJECT:** Traffic Impact Study - Review

**Driveway Permit:** IA356

**TO:** Roger Appleton

Name of Facility	<u>Dunkin' Coffee Shop</u>
Location	<u>3 Dover Road (NH Route 108), Durham</u>
Consultant	<u>VAI</u>
Report Date(s)	<u>1/1/2025</u>
Received by Traffic	<u>1/16/2025</u>

In coordination with our on-call consultant, STN, this section has completed its review of the above-referenced Traffic Impact and Access Study (TIAS). This review pertains only to the methodology and adequacy of the projected traffic volumes and does not imply approval of the proposal. You (District) and/or Highway Design will review the mitigation, site access plans, and other elements of the Driveway rules pursuant to this evaluation.

The traffic volumes for this traffic study are:

<input type="checkbox"/>	Acceptable, and may be used for Design purposes.
<input checked="" type="checkbox"/>	Acceptable and may be used for Design purposes; however, the District and/or Design should note the comments below and in the included Stantec review.
<input type="checkbox"/>	Not acceptable. The consultant should respond to the comments below.

In the Existing Traffic Volumes subsection of the Existing Conditions section, the consultant presents the use of NHDOT continuous traffic counter 02133021 to review COVID-19 and seasonal adjustment of collected traffic data in October and November. In the body of the report, VAI notes that this count station is located on Piscataqua Road (US Route 4) in Durham, east of the interchange with Dover Road (NH Route 108) and less than a mile from the proposed development. However, in the footnotes, VAI noted this as a different station on the F.E. Everett Turnpike in Bedford. **We concur with using the US Route 4 permanent count station in Durham for these adjustments but recommend that VAI correct this footnote in the final version of the study for clarity.**

We attempted to review the backing data provided by VAI's vendor in the Appendix to support the speed data summary shown in Table 3 within the Existing Conditions section.

However, the vendor-collected data is corrupted in the traffic study Appendix. **We recommend a resubmission where this backing speed data documentation is not corrupted so that the speed measurements of Table 3 can be verified.**

In the Traffic Operations Analysis, the consultant provided operations analysis utilizing Synchro and following Highway Capacity Manual (HCM) methodologies for reporting performance. One of the intersections is the signalized intersection of Dover Road with Main Street and Newmarket Road (NH Route 108), also identified as NHDOT Signal S-133-04. **We were unable to confirm the traffic signal inputs for the Existing and no-build operations of this intersection. We recommend that the consultant provide the signal timing data documentation, such as coordination with NHDOT or field verification. Delays and queues from this signal directly impact the driveway operations of the proposed development, so verifying the inputs is important in assessing impacts. Notable inputs for the Synchro modeling that would require verification and, if not accurate to the existing signal information, would have impacts on the reporting of delays and queues, including:**

**Minimum and Maximum Recall Designations are applied to all movements except the Main Street eastbound left-turn lane.**

**Concurrent phasing is shown for Newmarket Road and the Holiday Inn Express Driveway, but we would need to review the timing information for confirmation.**

**No overlap shown for the Main Street eastbound right-turn channelized lane, but unsure if this is accurate or not to existing conditions.**

NHDOT's Synchro Inputs Checklist identifies that PHF inputs that are below 0.90 for Synchro analysis should be set at 0.90 for Future No-Build and Build analyses. For Future No-Build and Build analyses where approaches have PHFs above 0.90; the PHF as collected and presented should remain. **We recommend that the consultant revise the following calculations per NHDOT's Synchro Inputs Checklist:**

**o PM Peak Period Analysis:**

**Dover Road at Main Street and Newmarket Road Signal – Dover Road Westbound Approach. No Build: PHF = 0.94 and Build: PHF = 0.90. Correcting this may reduce the delays and queues reported.**

**Dover Road at Irving Gas Station Driveway – Dover Road Westbound Approach. No Build: PHF = 0.93 and Build: PHF = 0.90. Correcting this may reduce the delays and queues reported.**

**Dover Road at Irving Gas Station Driveway and Holiday Inn Express Driveway – Dover Road Westbound Approach. No Build: PHF = 0.93 and Build: PHF = 0.90. Correcting this may reduce the delays and queues reported.**

**Dover Road at Proposed Site Driveway – Dover Road Westbound Approach. No Build: PHF = 0.94 and Build: PHF = 0.90. Correcting this may reduce the delays and queues reported.**

**o Saturday Peak Period Analysis:**

**Dover Road at Irving Gas Station Driveway – Dover Road Westbound Approach. No Build: PHF = 0.95 and Build: PHF = 0.90. Correcting this**

**may reduce the delays and queues reported.**

**Dover Road at Irving Gas Station Driveway and Holiday Inn Express Driveway – Dover Road Westbound Approach. No Build: PHF = 0.95 and Build: PHF = 0.90. Correcting this may reduce delays and queues reported**

**Dover Road at Proposed Site Driveway – Dover Road Westbound Approach. No Build: PHF = 0.95 and Build: PHF = 0.90. Correcting this may reduce delays and queues reported**

In the Appendix, the 2035 Design Year No-Build Weekday Morning Peak Hour Synchro reports section has the 2035 Design Year Build Saturday Midday Peak Hour Synchro reports. The 2035 Design Year Build Saturday Midday Peak Hour Synchro reports section has the 2035 Design Year No-Build Weekday Morning Peak Hour Synchro Reports.

Note:

- Please include in the response letter a description of how the comments were addressed so that the reviewer can quickly check the revised portion of the report.
- It is expected that the Study will be resubmitted in its entirety, with the changes made so that there is a complete and correct record copy.
- The Bureau of Traffic will review the revised Study in the order it was received from the District and will not be prioritized ahead of initial submissions for other developments.

cc: J. Marshall, T. Zanes, Bureau of Highway Design; A. Hanscom, Bureau of Highway Maintenance; N. King, TSMO; L. Baronas, M. O'Donnell, I. Wong, P. Crouch, Bureau of Traffic & File; Evan Drew, Gerard Fortin STN.