

LLEWELLYN - HOWLEY  
INCORPORATED  
MEMORANDUM

**To:** Mr. Peter Erb, Zoning Administrator

**From:** Rick Bryant, Llewellyn Howley

**Re:** Proposed Hannaford Bros. Supermarket  
Hinesburg, VT

**Date:** August 8, 2011

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**Summary**

Per your request we have reviewed the *Traffic Impact Assessment for a Hannaford Supermarket* prepared by Lamoureux & Dickinson (L&D) and dated July 20, 2011. The submitted study represents an update of an earlier study dated February 28, 2011. The roadway capacity analyses included in the original study have been updated to consider a reduction in the peak hour traffic volumes generated at the existing Lantman's supermarket site. (It is assumed that the supermarket will close and be replaced with a less intensive use. As Hannaford negotiated the agreement to close Lantman's upon the opening of the Hannaford supermarket, this is presented as traffic mitigation.) New mitigation is also offered in the form of an agreement to relocate the Firehouse Plaza driveway on Commerce Street to the east providing greater separation from Route 116. Congestion mitigation retained from the prior study includes:

- extending the southbound left-turn lane on Route 116 at Commerce Street;
- extending the westbound through and right-turn lane on Commerce Street at Route 116;
- changing lane use conditions on Commerce Street westbound at Route 116; and,
- increasing the signal cycle length for the Route 116 traffic signals at Commerce Street and at Charlotte Road.

With the proposed mitigation L&D concludes that "the existing roadways and intersections in the immediate vicinity of this Project have sufficient capacity and that this Project will not create unreasonable traffic congestion conditions".

No mitigation is offered for the unsignalized intersections of Route 116 with Mechanicsville Road and with Silver Street. Under Build conditions, left-turns from the side streets at these two intersections in fact operate below capacity albeit with long delays. Level of Service E and F operations are anticipated at these two locations and volume levels at the Mechanicsville Road intersection satisfy traffic signal warrants.

Generally we find that the study has been prepared in accordance with industry standards and provides a reasonable depiction of future traffic conditions with the proposed project built. However, we recommend that the applicant consider certain refinements and additions to the traffic mitigation package. We also recommend that when evaluating these refinements that L&D again update elements of the traffic analyses included in the study.

## **Project Description**

The L&D study evaluates a proposal to construct a 36,000 square foot Hannaford Bros. supermarket on Lot 15 of Commerce Park in Hinesburg, Vermont. (For analysis purposes a 36,783 square foot store was assumed consistent with the earlier study.) Commerce Park is a commercial subdivision located in the fork between VT Route 116 and Mechanicsville Road on the north end of Hinesburg village. Commerce Street was constructed to provide access from both Route 116 and Mechanicsville Road to the lots in Commerce Park. Lot 15 is accessed from Commerce Street via a 50 ft wide by 250 ft long right-of-way (Commerce Street Extension) situated between Lot 12 (Dark Star) and Lot 13 (National Bank of Middlebury). This right-of-way is presently used by the National Bank of Middlebury for its entering traffic.

## **Traffic Mitigation**

Our review of the prior traffic impact study included recommendations that the applicant consider proposing a more comprehensive traffic mitigation plan. An enhanced mitigation program has been offered as part of the current study however, further actions should be considered as described below by location.

### **Commerce Street/Route 116**

- Anticipated congestion at the Mechanicsville Road/Route 116 intersection could cause existing westbound traffic using Mechanicsville Road to divert to Commerce Street where traffic can enter Route 116 with the benefit of a traffic signal. Given the potential for these traffic diversions, the adequacy of the proposed extension of the westbound through/right turn lane on Commerce Street at Route 116 (from 25 feet to 200 feet) should be reexamined.
- The assumed traffic distribution for the proposed supermarket is oriented more to the south than traffic for the existing Lantman's supermarket. Should the Lantman's traffic distribution be more reflective of the actual distribution for the proposed supermarket then a higher volume of traffic may approach the site from the north than assumed in the study. Consequently, the adequacy of the proposed extension of the southbound left-turn lane on Route 116 at Commerce Street (from 75 feet to 175 feet) should be reexamined.
- The proposed lane use conditions on Commerce Street and on Farmall Drive at Route 116 should be evaluated with respect to lane alignment across the intersection. The current lane use proposals would suggest much wider cross sections for the two side streets than currently proposed. Likewise, the lane use proposals should be reevaluated to determine if overall traffic delays may be reduced by maintaining the existing exclusive right-turn lane on Commerce Street westbound. In this regard, the Build AM peak hour volumes shown in the study assign greater volumes to the right-turn movement than the left-turn movement exiting Commerce Street suggesting that there may be benefits to maintaining an exclusive right-turn lane on Commerce Street.

- The proposal to relocate the Firehouse Plaza driveway further to the east is beneficial in reducing traffic conflicts on the Commerce Street westbound approach to Route 116. However, this relocation does not eliminate all turning conflicts on the intersection approach. Also, the proposed “Don Not Block Intersection” striping, if as ineffective as the existing striping at the Lantman’s entrance on Route 116, will not fully preclude traffic blockages and unsafe maneuvers. The applicant should also consider:
  - Restricting left-turns from the western Jolley-Mobil driveway;
  - Providing signage on Commerce Street eastbound directing motorists to the eastern Jolley-Mobil driveway;
  - Defining a contingency plan should future operations prove to be problematic;
  - Monitoring conditions at this location after the Hannaford project is built; and,
  - Committing to implementing all or part of the contingency plan, as appropriate, if conditions warrant action based on the monitoring program.

### Mechanicsville Road/Route 116

Left-turns from Mechanicsville Road to Route 116 operate with long delays (Level of Service F) under existing peak hour conditions. The intersection volumes reported already satisfy traffic signal warrant criteria. Traffic impacts from the proposed project will measurably impact delays and queues on the Mechanicsville intersection approach. Accordingly, the applicant should consider providing “post-Build” traffic monitoring at this intersection to determine if traffic conditions worsen relative to existing conditions and if improvements should be provided.

### Charlotte Road/Route 116

Traffic mitigation at the Charlotte Road/Route 116 intersection is comprised of increasing the signal cycle length and closing the Lantman’s supermarket. (The L&D report also mentions that adding a southbound right-turn lane on the Route 116 intersection approach would significantly improve operations but there is no discussion provided relative to the feasibility of this change or any commitments to make this change.)

To the extent that a change in use of the Lantman’s site is included in the Hannaford project as traffic mitigation, then there should also be some legally binding commitment to cap the traffic generation for the Lantman’s site to the figures used in the traffic study. Such a commitment would require the current or future owners of the site to perform a traffic impact study and provide mitigation if they choose to redevelop the site in a manner that would generate significantly more traffic than indicated in the L&D study. Such a requirement might also create an opportunity to improve the existing intersection geometry. The current location of the entrance drive for Lantman’s is the cause of significant congestion at the Charlotte Road/Route 116 intersection. If the driveway could be relocated as part of a redevelopment project it may improve existing intersection operations.

Relative to the proposed change in the traffic signal cycle length it is unclear why this is proposed. Analyses should be provided with and without the proposed change to demonstrate the impact of the change on intersection queues and delays. A longer cycle length will often lead to longer queues during peak hours and longer delays during off-peak hours. Consequently, the change may have more negative impacts than positive impacts. (Similar analyses would also be

required for the Commerce Street/Route 116 intersection where the signal cycle length is also proposed to change.)

### Commerce Street/Hannaford Drive

The applicant proposes to increase the corner radius on the National Bank of Middlebury driveway at Commerce Street to accommodate trucks. A detailed plan of this change should be provided for review as the proposed two-lane driveway is narrower than driveways typically found at supermarket entrances.

### **Traffic Analysis**

As noted, the updated traffic study provides a reasonable forecast of projected future traffic conditions. However, there are certain assumptions made in the analysis that should be updated to the extent that the analyses are used to support the design of proposed traffic mitigation measures. These are noted below.

- Turn volumes into the existing Lantman's driveway should be shown in the traffic flow networks and incorporated into capacity analyses for the Charlotte Road/Route 116 intersection. (Incorporation may take the form of using even lower saturation flow rates for the Route 116 southbound approach at this intersection.)
- Potential traffic from the "Dark Star" parcel should be included in the No Build traffic flow networks as development of this site has been "approved" under the original Act 250 permit for Commerce Park.
- Trips deducted from the traffic flow network to represent exiting Lantman's traffic should be adjusted to consider the fact that a portion of the existing Lantman's traffic includes pass-by trips. (The Lantman's traffic was removed from the system as if it were all "new" traffic.)
- Future use of the Lantman's site should consider the more generic Institute of Transportation Engineers "Shopping Center" (Land Use Code 820) trip generation rates since the potential new users of the site are unknown.
- Signalized intersection analyses should include the use of Peak Hour Factors (PHF's) to adjust base traffic volumes. (The L&D report states that this adjustment is not required by VTrans when studying Design Hour Volumes [DHV's]. Presumably, this is to avoid an overly conservative analysis since observed traffic volumes are usually inflated to develop DHV's. However, when creating the DHV's for this traffic study L&D actually lowered observed traffic volumes at some locations.)
- A signal warrant analysis should be provided for the Silver Street/Route 116 intersection since it reportedly operates at Level of Service E under Build conditions.

### **Closing**

As always, we are ready and willing to meet with you, your Board and/or the applicant to review our comments in person.

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