

## **Traffic Summary**

### **Costco Wholesale at Evergreen Walk**

September 2019; Revised May 2020

A revision to the current General Plan of Development at Evergreen Walk is proposed. This revision consists of replacing the proposed retail buildings behind LA Fitness with a Costco Wholesale. This summary discusses proposed improvements to the Site with regards to traffic flow.

It is our professional opinion that the following improvements are necessary as a result of Costco build condition:

- Provide appropriate signing and pavement markings on the Tamarack Avenue approach to Deming Street to establish two travel lanes, as is operationally the condition.
- Install “Keep Right” signs at both ends of Tamarack Avenue’s median at Deming Street.
- Install a “Keep Right” sign at the Buckland Road end of the Hemlock Avenue median.

These measures will be discussed further in the following paragraphs.

Evergreen Walk is an ongoing mixed-use, master planned development located along the westerly side of Buckland Road, north of the Interstate 84 interchange in the Town of South Windsor. This section of South Windsor and adjacent Manchester is generally known as the Buckland area and includes a regional mall, numerous smaller shopping centers, residential developments, restaurants and other uses.

The Buckland area was the subject of a transportation study completed approximately a decade ago for the Connecticut Department of Transportation and the Capitol Region Council of Governments. Several hundred million dollars of transportation infrastructure improvements were recommended to address traffic concerns. Very few, if any, of those improvements have been implemented or are likely to be any time in the foreseeable future.

The approved Evergreen Walk master plan has been built out to about 35% of the total square footage, which allows for  $\pm 1.5$  million square feet of retail, office, other commercial and residential space; however, approximately 85% to 90% of the parcels have been

developed on-site. Most of the remaining build out square footage and parcels are lower traffic generating residential in nature. The Costco Wholesale development program will include a  $\pm 161,200$  square foot membership warehouse building with a 24-position fueling facility. This will replace  $\pm 170,500$  square feet of general retail space in the Evergreen Walk master plan.

The potential impact on traffic operations during the weekday afternoon and Saturday mid-day peak traffic periods was studied at 13 nearby intersections. Capacity analyses were prepared for the study area intersections using the approved Evergreen Walk build out and the revised Costco scenarios.

The net change in peak hour traffic volumes above the currently approved master plan using previously approved trip rates for the retail components of Evergreen Walk, and criteria established by the Office of State Traffic Administration (OSTA) for membership clubs, are very conservatively estimated at 170 new weekday afternoon and 265 new Saturday mid-day peak hour trips. Under the existing no-build conditions, there are approximately 4,000 vehicles travelling on Buckland Road during the PM and Saturday shopping peak hours. These additional trips are less than the traffic expected from the other approved projects in the corridor and represent about a 4% - 7% maximum peak hour traffic increase on Buckland Road right at the Site. They were assigned to the roadway network and superimposed onto projected base build out traffic volumes.

The Buckland Road/Buckland Street corridor has longstanding traffic operational deficiencies that will continue into the foreseeable future, as the remainder of Evergreen Walk and other approved projects come online. Under “background” conditions, which reflect the build out of the current Evergreen Walk master plan plus other approved developments, there are eight overall intersectional (4 each in South Windsor and Manchester) and 48 individual traffic movements (18 in South Windsor and 30 in Manchester) projected to operate at a poor level of service. This should not be surprising, as the last detailed study for Evergreen Walk (AECOM, 2016) projected that three overall intersectional and 36 individual traffic movements would operate at a poor level of service upon the Evergreen Walk build out, without the traffic from the four (4) additional development projects since approved and included in this study. Under “Costco-build” conditions during the two time periods analyzed, there are nine overall

intersectional (5 in South Windsor and 4 in Manchester) and 50 individual traffic movements (19 in South Windsor and 31 in Manchester) projected to operate at a poor level of service.

The only condition of the current Evergreen Walk Certificate of Operation issued by the Office of State Traffic Administration still outstanding is the implementation of an advanced traffic signal system at several intersections in Manchester. This work should be underway shortly and may improve operations at the I-84 interchange. The soon to be constructed improvement at the Buckland Street/Pleasant Valley Road/Buckland Hills Drive intersection by the Town of Manchester will address safety concerns.

### **Recommendations and Conclusions**

Our recommendation is that the Town reestablish the coordinated traffic signal system along Buckland Road in South Windsor and optimize the timings. The optimization of the traffic signal timings better allocates the “green” time to the actual traffic flows and thereby decreases the amount of time the traveling public “sits” in traffic. The five (5) traffic signals along Buckland Road from Tamarack Avenue to Terry Office Park were designed and initially operated as a coordinated system. It appears that this is no longer the case. This was confirmed and similar recommendations made in a recent signal system study prepared for the Town (VHB, March 2020). The Town could investigate Local Transportation Capital Improvement Program (LOTICIP) or Congestion Mitigation and Air Quality (CMAQ) funding to implement the reestablishment of the coordinated traffic signal system.

If, after reestablishment of the coordinated traffic signal system along Buckland Road, future traffic operations warrant additional improvements, the Town could investigate the following:

- Construct a southbound Buckland Road right turn lane at the Hemlock Avenue intersection, if right-of-way is available. The southbound through traffic volume may eventually exceed capacity.
- If future traffic operations warrant, lengthen the northbound Buckland Road left turn lane at Cedar Avenue by cutting into the median.
- If future traffic operations warrant, lengthen the northbound Buckland Road left turn lane at Hemlock Avenue by cutting into the median.

- If future traffic operations warrant, lengthen the northbound Buckland Road double left turn into Tamarack Avenue by cutting into the median and possible other roadway widening.

### **Costco Application Proposed Improvements**

It is our professional opinion that the following improvements are necessary as a result of Costco build condition:

- Provide appropriate signing and pavement markings on the Tamarack Avenue approach to Deming Street to establish two travel lanes, as is operationally the condition.
- Install “Keep Right” signs at both ends of Tamarack Avenue’s median at Deming Street.
- Install a “Keep Right” sign at the Buckland Road end of the Hemlock Avenue median.