Date **April 20, 2012**

To **John Tegeder, R.A. (Township of Yorktown)**
Robyn A. Steinberg, AICP (Township of Yorktown)

From **Ray Dominguez, PE (JACOBS)**

Subject **Preliminary Review of Traffic Study for the Proposed Costco Wholesale Store, Yorktown, NY**

Jacobs is conducting a review of the traffic study performed for the proposed Costco Wholesale located in Yorktown, NY. Jacobs has reviewed the submitted materials for completeness with respect to the traffic study requirements set forth in the DEIS Final Scope adopted on December 13, 2010. While a comprehensive technical review has not yet been completed, the Traffic Study was generally found to have addressed traffic related subjects as required by the DEIS Final Scope document, with the exception of the following:

1. Assessment of Construction Period Impacts. The applicant's traffic consultant indicated most construction workers will arrive and depart prior to the commuter AM and PM peak hours. While this may not be an issue for the AM period, the afternoon period may require a more detailed assessment as the peak construction period may coincide with the afternoon peak period for schools. In addition, if lane closures are required when conducting offsite roadway construction, a more detailed construction period traffic assessment may be required. (Scope K.3.g)
2. A quantitative analysis assessing traffic-related impacts of closing Old Crompound Road should be performed if the option is under consideration (K.3.h)
3. Employee trip generation/distribution should be included and incorporation into traffic analysis (K.3.c)
4. Document additional details regarding the potential for the Bee Line Bus servicing the site (i.e. impacts on bus line capacity, scheduling, travel time, etc.). (K.3.c)

In addition, attached is a list of issues and recommendations which should be addressed with the traffic consultant prior to our detailed review of the technical analysis. In particular, a recent traffic study performed for a proposed Costco Wholesale facility in a similar location indicated a higher trip generation rate (See Preliminary Comments Trip Generation section). This discrepancy in the trip generation analysis should be addressed prior to the review of the detailed capacity analysis. In addition, considering the location of the proposed project site, and its proximity to schools in Yorktown (Yorktown High school, Mildred E Strang Middle School, Mohansic Elementary School), analyses should be conducted during the afternoon school peak period to assess safety conditions and traffic operations.

The comprehensive technical review will be conducted subsequent to clarification on open issues and comments, and the Board's acceptance of the application as complete.

Preliminary Comments

Existing Conditions

1. What are typical peak hours for Costco? Midday peak period between of 12 and 3 PM may be appropriate as it coincide with Yorktown's Schools. Can Costco provide information (i.e. temporal distribution) indicating when typical project peak hours would occur based on their other wholesale stores? Please provide data collected at Nanuet the Costco fueling facility.

2. The traffic study may be based on potentially old/stale traffic data. The traffic study indicates that traffic volumes on route 202 are based on counts collected over 5 years ago (Sustainability Study). Did the supplemental counts collect data at additional intersections, or did the counts provide updated traffic data to those taken from the Sustainability Study? Please provide a list of traffic study intersection and associated dates from when the data was collected.

3. Please provide ATR data collected along Route 202.

Trip Generation

1. Page 18 of the traffic study identified the existing travel patterns and trade area data as tools to develop the trip distribution methodology. How was trade area data utilized for trip distribution? How were generated trips distributed throughout the network? Was zip-code information utilized in the analysis? Can Costco provide customer home zip code information at a similar wholesale location that would show the split between local and non-local customers at a similar location? This information may help provide a more accurate trip distribution percentage (or confirm the distribution included in the analysis).

2. What was the vehicle pass-by rate of 25% based upon? Was the trip generation information referenced from PENNDOT based on a similar wholesale store setup (i.e. free standing wholesale store?) A recent traffic study performed for a free-standing Costco located in Oyster Bay, NY conservatively utilized a 10 percent pass-by trip rate and identifies 20 percent as a typical rate for this type of retail project.

3. Are employee trips accounted for during all peak hours?

4. Please provide a table detailing the split between trips generated by the refueling component and the warehouse.

5. Surveys were performed at two existing Costco warehouse membership clubs in 2005 which are similar to the proposed project. The average peak hour trip generation rate for both Costco stores (located in Melville, NY and Hackensack, NJ) indicate a significantly higher trip generator rate than what is recommended in the ITE Trip Generation Manual. The surveys suggest that the two existing Costco store are responsible for an average of approximately 786 trips (or 6 trips/1k sqft) during the weekday PM peak hour and 971 trips (or 7.4 trips/1k sqft) during the weekend shopper hour which is significantly more than what was assumed in the Yorktown Costco traffic study. In addition, the proposed project is larger and includes a refueling component which would likely result in a higher number of

trips. As such, the trip generation rate should be revised accordingly and/or investigated further.

No Build

1. Please provide a table identifying the "other planned developments" and corresponding trips incorporated into the analysis. How were they distributed through the network?

Build

1. NYSDOT proposed improvements at the intersection of BMP and Route 202 include eliminating all southbound left turns. Please revise figures 12-22A (and corresponding HCS analysis) to include this improvement as well as any traffic diversion accordingly.

2. Field observations indicate that during the PM peak hour, westbound Crompound Road between Mohansic Avenue and the Taconic State Parkway Southbound experiences queues that at times are longer than the available vehicle storage. A Vehicle Queuing Analysis is recommended to confirm available storage on the eastbound Crompound Road approach for vehicles exiting the project site onto eastbound Crompound Road.

3. Page III.k-63 identifies the Build and No Build Years as 2013 but the LOS tables indicates show 2010. Please revise to the correct Build Year.

Mitigation

1. What criteria were used to identify significant traffic impact and/or requirements for mitigation? When performing mitigation, were individual lane group operations considered in addition to overall intersection operations?

2. A signal warrant study may be recommended at the intersection of Route 202 and the Bear Mountain Parkway Extension.

Accident/Safety Analysis

1. The traffic study identifies Route 202 as a *Priority Investigation Location* by NYSDOT. Travel speeds are identified as a cause for accidents at high accident locations along 202. Were speed runs/speed check information collected? If motorists are frequently found to be above the speed limit, we recommend looking into implementing traffic calming measures (such as radar controlled speed signs), especially around schools in Yorktown.

2. It appears that only locations between Stoney Street and Strang Boulevard on Route 202 were included in the accident analysis. It is recommended that the analysis should be expanded to include traffic study intersections, particularly those proximate to the Yorktown School District.