



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

CAROLANN WICKS, P.E.
SECRETARY

August 26, 2010

Mr. Ted Williams
Landmark Engineering, Inc. / JCM Environmental
One Corporate Commons - Suite 301
100 West Commons Boulevard
New Castle, DE 19720

Dear Mr. Williams:

We have received the traffic operational analysis (TOA) that you submitted on August 9, 2010 for **Suburban Plaza II**. While we will continue our review of the document as submitted, it does not contain sufficient information for us to determine whether the signal recommended for the intersection of Christina Parkway Extended, the existing shopping center and the proposed bank is justified. Please provide this information in a separate report.

Following is a general list of what our Traffic Section requires in a Signal Justification Study. Some of the material may be copied from the TOA, but as you can see, more information is needed.

- 1) Analysis of existing conditions:
 - o Approach lane widths
 - o Approach lane configurations
 - o Location and lengths of exclusive turn lanes (storage and taper length should be noted separately)
 - o Other geometric features
 - o Horizontal and vertical geometry (description)
 - o Roadside features
 - o Adjacent land use
- 2) Collection and analysis of turning movement count data:
 - o 12 hours worth of data is ideal, but 8 hours is acceptable (include surrounding peak periods)
 - o Separate cars from heavy vehicles
 - o Bicycles and pedestrians
- 3) Collision data:
 - o Obtain at least three (3) years of data to be used for the Traffic signal warrant analysis
 - o This requirement may be waived at DelDOT's discretion for new intersections

4) Traffic signal warrant analysis:

- o Three scenarios are typically analyzed when considering signalization related to developments:
 - a) Existing conditions (Is a signal warranted now?)
 - b) Build out of proposed site to determine when a traffic signal would be warranted. For example, if the site was commercial, how many operational parcels would warrant a signal? For a residential site, how many lots would warrant a signal? (Multiple scenarios may be required based on the construction schedule. The analysis should reflect the construction schedule, keeping in mind the Plan Review approval process, of the site.
 - c) Complete build out of the site (Is a signal warranted only when the entire site is built out?)
- o All eight (8) warrants provided in the Delaware Manual on Uniform Traffic Control Devices should be evaluated. Some may not be applicable to the specific location being studied.

5) Intersection Capacity Analysis:

- o Evaluate the operation of the intersection based on the outcome of the traffic signal warrant analysis. If a signal is warranted, how will it operate? If not, how will it operate?
- o Evaluate queue lengths at impacted intersection and effected intersections in the surrounding area.
- o Conduct capacity analysis, typically using HCS or Synchro. If the proposed signal is in a corridor and will be coordinated with other signals, now or in the foreseeable future, cycle lengths in the analysis should match existing signal's cycle lengths.
- o Conduct a Critical Movement analysis at the impacted intersection.
- o If applicable, evaluate the impact a pedestrian crosswalk may have at the impacted intersection. A recommended location for the crosswalk(s) should be provided, considering both pedestrian path desire lines and the impact to vehicular traffic.

You may contact me at (302) 760-2109 if you have any general questions concerning this correspondence. Questions about the list may be directed to Mr. Peter Haag at (302) 659-4084.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator

TWB:km

cc: Roy H. Lopata, Planning Director, City of Newark
Theodore G. Bishop, Assistant Director, Development Coordination
Peter Haag, Traffic Engineer, Traffic, DOTS
Troy E. Brestel, Project Engineer, Development Coordination