

COPY

ORDINANCE NO. 174

AN ORDINANCE OF THE TOWNSHIP OF CAERNARVON, BERKS COUNTY, PENNSYLVANIA, AMENDING THE CAERNARVON TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF 1990, AS SUBSEQUENTLY AMENDED, BY ADDING A NEW SECTION 516 TO REQUIRE A TRAFFIC IMPACT STUDY UNDER CERTAIN CIRCUMSTANCES DESCRIBING THE STANDARDS TO BE MET AND METHODOLOGY TO BE USED, AND REQUIRING IMPROVEMENTS TO BE INSTALLED CONSISTENT WITH THE STUDY

BE IT ENACTED by the Caernarvon Township Board of Supervisors, Berks County, Pennsylvania, and it is hereby ENACTED and ORDAINED by authority of the same as follows:

SECTION 1. The Caernarvon Township Subdivision and Land Development Ordinance of 1990, as subsequently amended, is hereby further amended by adding the following phrase at the end of Section 404(nn) entitled Preliminary Plan Requirements:

"When recommended by the Township Engineer and warranted by the intensity of the proposal, provide traffic impact studies as required by Section 516".

SECTION 2. The Caernarvon Township Subdivision and Land Development Ordinance of 1990, as subsequently amended, is hereby further amended by adding a new Section 516 entitled "Traffic Impact Studies" to read as follows:

SECTION 516 TRAFFIC IMPACT STUDIES

SECTION 516.1 Purpose. Whenever a proposed project will generate seventy-five (75) new vehicle trips in the peak direction (inbound or outbound) during the site peak traffic hour, the applicant shall perform a traffic impact study. Based on this study, certain improvements may be identified to provide safe and efficient access to the development.

In addition, a traffic impact study shall be prepared whenever either one of the following conditions exists within the impact study area:

- A. Current traffic problems exist in the local area, such as a high-accident location, confusing intersection, or a congested intersection which directly affects access to the development.
2. The ability of the existing roadway system to handle increased traffic, or the feasibility of improving the roadway system to handle increased traffic is limited.

SECTION 516.2 Traffic Impact Study.

Traffic Impact studies shall be prepared in accordance with the standards and methodology set forth in the Manual of Transportation Engineering Studies published by the Institute of Transportation Engineers (ITE) latest edition.

- 516.2.01 **Area of Traffic Impact Study.** The traffic impact study area shall be based on the characteristics of the surrounding area. Intersections and roadway segments to be included in the study shall be adjacent to the site or have direct impact upon the access to the site. The intersections shall be mutually agreed upon by the Township and the traffic engineer preparing the study.
- .02 **Preparation by Transportation Engineer Required.** Traffic impact studies shall be prepared under the supervision of qualified and experienced transportation engineers with specific training in traffic and transportation engineering and at least two years of experience related to preparing traffic studies for existing or proposed developments.
- .03 **Horizon Year.** The traffic forecasts shall be prepared for the anticipated opening year of the development, assuming full buildout and occupancy. This year shall be referred to as the horizon year in the remainder of this ordinance.
- .04 **Non-Site Traffic Estimates.** Estimates of non-site traffic shall be made, and will consist of through traffic and traffic generated by all other developments within the study area for which preliminary or final plans have been approved. Non-site traffic may be estimated using any one of the following three methods: "Build-up" technique, area transportation plan data or modeled volumes, and trends or growth rates. Growth rates shall be consistent with those collected by the Pennsylvania Department of Transportation for this area of the state and highway classification.

516.2.10

If a thorough analysis is required to account for pass-by trips, the following procedure should be used:

1. Determine the percentage of pass-by trips in the total trips generated.
2. Estimate a trip distribution for the pass-by trips.
3. Perform two separate trip assignments, based on the new and pass-by trip distributions.
4. Combine the pass-by and new trip assignment.

Upon completion of the initial site traffic assignment, the results should be reviewed to see if the volumes appear logical given characteristics of the road system and trip distribution. Adjustments should be made if the initial results do not appear to be logical or reasonable.

.11 **Total Traffic Impacts.** Traffic estimates for any site with current traffic activity must reflect not only new traffic associated with the site's redevelopment, but also the trips subtracted from the traffic stream because of the modification of a land use. The traffic impact report should clearly depict the total traffic estimate and its components.

.12 **Capacity Analysis.** Capacity analysis must be performed at each of the major street and project site access intersection locations (signalized and unsignalized) within the study area. In addition, analyses must be completed for roadway segments, deemed sensitive to site traffic within the study area. These may include such segments as weaving sections, ramps, internal site roadways, parking facility access points, and reservoirs for vehicles queuing off site and on site. Other locations may be deemed appropriate depending on the situation.

Capacity analyses shall be performed for AM, PM and Off-peak periods. Weekend analyses may be required for certain land uses and traffic patterns. The requirement for weekend analyses shall be determined by the Township Engineer.

The recommended level-of-service analysis procedures detailed in the most recent edition of the Highway Capacity Manual must be followed. The Township considers the overall level-of-service ratings A, B, C and D to be acceptable for signalized intersections (Levels C or better are considered desirable); level-of-service E or F is considered to be unacceptable.

The operational analyses in the Highway Capacity Manual should be used for analyzing existing conditions, traffic impacts, access requirements, or other future conditions for which traffic, geometric, and control parameters can be established.

- .05 **Trip Generation Rates Required.** The traffic impact study report shall include a table showing the categories and quantities of land uses, with the corresponding trip generation rates or equations (with justification for selection of one or the other), and resulting number of trips. The trip generation rates used must be either from the latest edition of Trip Generation by ITE, or from a local study of corresponding land uses and quantities. All sources must be referenced in the study.
- .06 **Consideration of Pass-By Trips.** If pass-by trips or shared trips are a major consideration for the land use in question, studies and interviews at similar land uses must be conducted or referenced.
- .07 **Rate Sums.** Any significant difference between the sums of single-use rates and proposed mixed-use estimates must be justified in the study report.
- .08 **Explanations Required.** The reasoning and data used in developing a trip generation rate for special/unusual generators must be justified and explained in the report.
- .09 **Definition of Influence Area.** Prior to trip distribution of site-generated trips, an influence area must be defined for commercial, retail developments, which contains eighty (80%) percent or more of the trip ends that will be attracted to the development. A market study can be used to establish the limits of an influence area, if available. If no market study is available, an influence area should be estimated based on a reasonable documented estimate. The influence area can also be based on a reasonable maximum convenient travel time to the site, or delineating area boundaries based on locations of competing developments.
- Other methods such as using trip data from an existing development with similar characteristics or using an existing origin-destination survey of trips within the area can be used in place of the influence area to delineate the boundaries of the impact.
- This requirement may be waived for residential, industrial and office developments.
- .10 **Trip Assignments.** Assignments must be made considering logical routings, available roadway capacities, left turns at critical intersections, and projected (and perceived) minimum travel times. In addition, multiple paths should often be assigned between origins and destinations to achieve realistic estimates rather than assigning all of the trips to the route with the shortest travel time. The assignments must be carried through the external site access points and in large projects (those producing five hundred (500) or more additional peak direction trips to or from the site during the development's peak hour) through the internal roadways. When the site has more than one access driveway, logical routing and possibly multiple paths should be used to obtain realistic driveway volumes. The assignments can be accomplished manually or with applicable computer models.

- .13 **Required Levels of Service.** The recommendations of the traffic impact study shall provide safe and efficient movement of traffic to and from and within and past the proposed development, while minimizing the impact to non-site trips. The current levels of service must be maintained if they are C or D, not allowed to deteriorate to worse than C if they are currently A or B, and improved to D if they are E or F.

516.2.14 **Documentation Required.** A traffic impact study report shall be prepared to document the purpose, procedures, findings, conclusions, and recommendations of the study.

1. The documentation for a traffic impact study shall include, at a minimum:
 - (1) Study purpose and objectives.
 - (2) Description of the site and study area.
 - (3) Existing conditions in the area of the development.
 - (4) Recorded or approved nearby development.
 - (5) Trip generation, trip distribution, and modal split.
 - (6) Projected future traffic volumes.
 - (7) An assessment of the change in roadway operating conditions resulting from the development traffic.
 - (8) Recommendations for site access and transportation improvements needed to maintain traffic flow to, from, within, and past the site at an acceptable and safe level of service.
2. The analysis shall be presented in a straight forward and logical sequence. It shall lead the reader step-by-step through the various stages of the process and resulting conclusions and recommendations.
3. The recommendations shall specify the time period within which the improvements should be made (particularly if the improvements are associated with various phases of the development construction), and any monitoring of operating conditions and improvements that may be required.
4. Data shall be presented in tables, graphs, maps, and diagrams wherever possible for clarity and ease of review.
5. The report documentation outlined above provides a framework for site traffic access/impact study reports. Some studies will be easily documented using this outline. However, the specific issues to be addressed, local study requirements, and the study results may warrant additional sections.

SECTION 516.3 **Improvements.**

516.3.01 **Responsibility for Improvements.** The applicant shall be responsible for the improvements required to provide safe and convenient ingress and egress to the development site.

516.3.02 **Coordination with Municipal Requirements.** The applicant shall be responsible for other improvements as may be agreed to with the Township or which are required by any municipal impact fee ordinance to be installed or paid for by the applicant consistent with provisions of Article V-A of the Pennsylvania Municipalities Planning Code, Act 247 of 1968, as amended.

SECTION 3. In all other respects the Caernarvon Township Subdivision and Land Development Ordinance of 1990, as amended, shall retain in full force and effect.

ENACTED AND ORDAINED this 12th day of SEPTEMBER, 2000.

CAERNARVON TOWNSHIP BOARD OF SUPERVISORS

Paul L. Whiteman

James W. Bee

Charles E. Byle

Randall T. McEwen

Hal M. Hildebrand

(SEAL)

CERTIFIED to be a true and correct copy of Ordinance No. 174 adopted by the Caernarvon Township Board of Supervisors on SEPT 12, 2000.

Don L. Beuss
Secretary