CITY OF NEWCASTLE
TRAFFIC IMPACT ANALYSIS PURPOSE

It is the policy of the City of Newcastle that review of proposed development with respect to potential significant traffic impacts should be utilized to promote development consistent with transportation infrastructure needs and provide a predictable and consistent development review process.

A Traffic Impact Analysis (TIA) is a specialized study of the impacts that development will have on the surrounding transportation system. The TIA is an integral part of the development impact review process. It is specifically concerned with the generation, distribution, and assignment of traffic from the “new development”.

The purpose of a TIA is:

- To determine the impacts of new development traffic on the existing and proposed street network; and
- To determine the layout and design of the proposed roadway system; and
- To determine if the new development can meet the concurrency aspects of the Growth Management Act; and
- To determine the appropriate traffic mitigation for the project.

A new development is defined as a “site action that triggers SEPA requirements”. This may include previous development on a site with consideration to cumulative impacts for the purpose of making a SEPA threshold decision. In the case of redevelopment, the City will evaluate whether the incremental increase in volume due to site redevelopment meets the criteria requiring a TIA be conducted. Redevelopment shall include expanded or increased development, or use or occupancy of a building or site that has been dormant for a period of more than five years. “New development” shall not include individual one or two-family residential lots within plats.

These guidelines have been prepared to establish the requirements for a Traffic Impact Analysis. The City of Newcastle’s Community Development Department in conjunction with the Public Works Department is responsible under SEPA and City codes for determining the need for a Traffic Impact Analysis.

WHEN REQUIRED

To adequately assess traffic impacts on the transportation system and traffic level of service, the City may require a Traffic Impact Analysis (TIA). A full or partial TIA may be required if any of the following conditions are met:

- The “new development” will generate more than 10 PM Peak Hour Trips.
- The project requires a SEPA review.
- The “new development” is within an existing or proposed transportation benefit area. This may include Latecomer Agreements, Transportation Benefit Districts (TBD), Local Improvement Districts (LID), or local/state transportation improvement areas programmed for development reimbursements.
- The “new development” will generate more than 25 Peak Hour trips at a time other than PM Peak Hour.
- The Community Development Department is unable to determine the traffic generation characteristics of the development.
The Developer feels further traffic analysis may clarify questions about the identified traffic facilities charge for the project.

The “new development” access to the roadway network may create an impact as determined by the Public Works Department.

The “new development” impacts an area identified by the Community Development Department that cannot meet the concurrency requirements of the Growth Management Act.

The “new development” may potentially affect the implementation of the street system outlined in the Transportation element of the Comprehensive Plan, the Transportation Improvement Program, or any other documented transportation project.

Modifications are required to the original TIA that is more than two years old, or where the increase in traffic volume as measured by ADT, peak hour, or peak hour of the critical movement is more than 10%.

A rezone of the subject property is being proposed.

Current traffic problems exist in the local area as identified by the City or a previous traffic study, such as a high-accident location, poor roadway alignment, or capacity deficiency.

The current or projected level of service of the roadway system in the vicinity of the development is perceived to be significantly affected, or is expected to exceed City adopted level of service standards.

**Development Traffic**

This element of the TIA will be conducted initially to identify the limits of the study area. The threshold requirement of development traffic exceeding 10 PM hour trips in the peak direction or 25 trips through an intersection shall apply.

**Trip Generation**

The methodology and procedures used in preparing the trip generation and trip distribution elements of the TIA are as follows:

Site-generated traffic of the “new development” shall be estimated using the peak hour trip rate identified in the latest edition of the *Trip Generation Manual* as published by the Institute of Transportation Engineers (ITE). Average trip rates shall be used for all land use categories where applicable. Trip rate equations will be allowed for those land uses without average rates. Trip generation studies shall follow standard ITE guidelines and be statistically valid for approval by the Public Works Department.

Site traffic shall be generated for daily and PM peak hour periods. For certain types of developments, the Public Works Department may also analyze site traffic estimates for the AM peak period. A “pass-by” traffic volume discount for applicable commercial development shall be calculated based on the Trip Generation Handbook, most current edition, published by the Institute of Transportation Engineers (ITE). If a comparable use is not identified in the ITE Trip Generation Handbook, an independent study of a minimum three comparable uses shall be used. The comparable sites must be approved by the City.

Land uses not identified in the ITE *Trip Generation* Handbook will typically have a “pass-by” rate between 0% and 25% maximum and shall be consistent with similar land uses approved by the City. If a minimum three comparable uses cannot be identified, the developer may use rates previously approved by the City for similar uses if available. “Pass-by” discounts will not be permitted for residential or office developments.

For multi-use and/or phased projects, a trip generation table shall be prepared showing proposed land use, trip rates, and vehicle trips for daily and peak hour periods and appropriate traffic volume discounts if applicable.

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**Future Traffic Conditions**

Future traffic volumes shall be estimated by including the following elements:

- A minimum 3% annual growth rate shall be applied to the baseline traffic volumes to account for approved residential development. Estimating future conditions shall extend the forecasted period out to a minimum of 10 years.
- All traffic generated by anticipated nearby commercial land development (pipeline projects with an approved traffic scope) shall be included when forecasting future traffic volumes. A pipeline project is defined as a development that is either under construction, approved for construction, or in the permitting process.

The future traffic volumes shall be representative of the year the project development shall be completed (horizon year). The site-generated traffic shall be assigned to the street network in the study area based on the approved trip distribution. The site traffic shall be combined with the forecasted traffic volumes to show the total traffic conditions estimated at development completion.

**Traffic Operations**

Level of Service (LOS) is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion).

Level of service calculations for intersections determine the amount of “control delay” (in seconds) that drivers will experience while proceeding through an intersection. Control delay includes all deceleration delay, stopped delay, and acceleration delay caused by the traffic control device. The level of service is directly related to the amount of delay experienced.

The Level of Service (LOS) and capacity analysis will be conducted for each pertinent intersection in the study area as determined by the Public Works Department. The methodology and procedures for conducting the capacity analysis shall follow the guidelines specified in the most recent edition of the *Highway Capacity Manual-Special Report 209*.

If the “new development” impacts a traffic signal coordination system currently in operation, the Public Works Department may include operational analysis of the system. Timing plans and proposed modifications to the coordination system may be required.

**Access Management**

Site access shall be addressed in the Traffic Impact Analysis. Recommendations shall include 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.

**Sight Distance**

Sight distance is the length of roadway visible to the driver. Specified areas along intersection approach legs and across their included corners should be clear of obstructions that might block a driver’s view of potentially conflicting vehicles. These specified areas are known as clear sight triangles. The dimensions of the legs of the sight triangles depend on the design speeds of the intersecting roadways and the type of traffic control used at the intersection. Intersection sight distance calculations shall be based on either Newcastle’s Public Works Standards or the most recent edition of the AASHTO Manual.

**Alternate Modes of Transportation**

The TIA shall identify other transportation modes that may be applicable, such as transit use, bicycle and pedestrian facilities. New developments are encouraged to implement Transportation Demand Management practices.
Safe Walking Conditions
The TIA must consider pedestrian connections and provision of safe walking routes for school children. It shall consider sidewalks and other planning features to assure safe walking conditions for students who walk to and from school.

Road Adequacy
The TIA shall include detailed discussion and analysis of the adequacy of roads serving the site and within the project. Pavement condition, width of travel lanes, turning lanes, pedestrian and bicycle facilities, sidewalks, shoulders, etc. are to be evaluated, not the capacity of the roadway to accommodate project traffic. Recommendations for needed upgrades to local roadways shall be included in the TIA.

On-Site Planning and Parking Principles
The number of vehicle access points should be minimized by sharing driveways and linking parking lots between adjacent uses. Commercial developments shall provide coordinated internal circulation and connected parking facilities. Well-defined walkways must be designed into all parking lots, with interconnections between walkways to create safe walking conditions.

Safety Analysis
Accident records (minimum of three years of collision history) are to be analyzed to determine whether patterns of accidents are forming at the pertinent intersections within the study area and what alternative treatments should be considered to correct the problem.

Traffic Calming
Internal traffic calming shall be incorporated into all developments to control cut-through traffic and reduce speed within the development. The Traffic Impact Analysis shall identify and propose specific traffic calming measures and locations to be incorporated in the development.

Traffic calming shall be aesthetically pleasing. Public transportation shall also be evaluated. The traffic-calming plan shall include an overall drawing of the development and identify specific locations and features to be included in the development.

Concurrency Management
A concurrency management evaluation shall be prepared. Each “new development” subject to this procedure shall be analyzed in the order the completed project application is received by the Department. Concurrency traffic evaluations will be completed sequentially in the order of project application. The most recent concurrency management evaluation will be the beginning point for each succeeding concurrency management analysis.

In performing the concurrency evaluation, the Department shall determine the impact of the traffic generated by the proposed “new development” on the City’s road system. The evaluation shall be based on data generated by the City, by professional associations, by the applicant, and if needed, by independent analysis. The City shall examine the data to verify that:

A. The density assumptions for the “new development” are consistent with the underlying zoning.
B. Existing and projected trip generation is consistent with the latest edition of the Trip Generation Manual as published by the Institute of Transportation Engineers (ITE).
C. Level of service calculations for all affected intersections are accurate and based upon horizon year conditions with and without the “new development”. The City shall determine if the capacity on the City’s road facilities, plus the capacity that is or shall be generated by all existing and approved development can be provided while meeting the LOS standards adopted by the City.
D. For concurrency purposes, the following LOS standards shall apply for the intersections under the concurrency review.
1) In all residential zones, LOS C or better and the applicant agrees to fund improvements needed to attain an LOS C.

2) In all community business center, LOS D or better and the applicant agrees to fund improvements needed to attain an LOS D.

3) A calculated LOS E or better on arterial intersections within the community business center overlay area.

4) A calculated LOS D or better on all arterial intersections outside the community business center overlay.

Fees
A complete TIA will identify all fees in the report. These fees include the City of Newcastle’s Transportation Impact fees (Ordinance No. 2004-299) and King County’s mitigation fees.

Mitigation
The TIA shall clearly identify potential impacts to streets, intersections, pedestrian facilities, etc. that will require traffic mitigation. Based on the results of the TIA, the City will identify the appropriate mitigation for the “new development”.

The following guidelines shall be used to determine appropriate mitigating measures of traffic impacts generated by new developments.

A. To maintain the adopted Level of Service Standard, the “new development” shall provide a financial guarantee or construct improvements to maintain the level of service at or above the adopted standard. This improvement must be consistent with the City’s Transportation Comprehensive Plan goals and policies.

B. On transportation facilities where the need to construct improvements by the horizon year of the “new development”, the cost for the mitigation will be entirely borne by the “new development”. However, in the event the Community Development Department identifies more than one development under simultaneous review, accumulative impacts and distribution of mitigation costs may be considered. A latecomer’s agreement could be formulated by the “new development” for reimbursement of mitigation costs.

C. On transportation facilities programmed for new improvements as part of a City project, the adverse traffic impacts of the “new development” will be considered mitigated by payment of a transportation facility charge in effect for the current Six-Year Transportation Improvement Program.

D. The amount of the transportation facility charge for the project will be calculated by the City of Newcastle based on the PM peak hour trips generated by the project utilizing the trip rates provided in Ordinance No. 2004-299.

E. On transportation facilities where the existing Level of Service is less than the adopted concurrency standard, and where no improvements are programmed to improve capacity and traffic operations, the “new development” shall mitigate the intersection back to pre-development conditions to ensure the operational performance of the intersection is not exacerbated.

F. Unsignalized intersections that currently operate at less than a Level of Service D condition and that are not located in the urban core area shall be analyzed for traffic signal and intersection improvements. If two or more traffic signal warrants are satisfied, signal and intersection improvements may be required by the City.

G. Signalized intersections in the city where the projected Level of Service condition is LOS D but where one or more of the Level of Service conditions on the approaches falls below LOS D, mitigating measures may be required to improve the capacity and traffic operations at the intersection. The City reserves the right to review all adverse traffic impacts at these intersections and to determine appropriate mitigating measures.