

ORDINANCE NO. 2007-63

AN ORDINANCE REQUIRING THE COMPLETION OF A TRAFFIC IMPACT ANALYSIS PRIOR TO THE APPROVAL OF CERTAIN DEVELOPMENT RELATED PROCESSES; CONTAINING CERTAIN DEFINITIONS; PROVIDING CRITERIA FOR VARIOUS TYPES OF ANALYSIS; SETTING FORTH MITIGATION PARAMETERS AND LIMITATIONS ON MITIGATION; SETTING MINIMUM VALUES FOR LEVEL OF SERVICE; AND PROVIDING FOR EXEMPTIONS; PROVIDING FOR A VARIANCE

WHEREAS, the City Council finds that to protect the health, safety, property and welfare of the public it is necessary to determine the effect of proposed subdivisions, developments or proposed changes in zoning uses on the transportation system within the community;

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOERNE, TEXAS THAT:

Section 1: General

The specific intent of a Traffic Impact Analysis is to: Ensure that traffic impacts are identified early and incorporated into the development planning of sites at the earliest possible stage when the approximate potential full build-out of a development project is known. Determine the appropriate local transportation network in accordance with the Master Plan and the Major Thoroughfare Plan. Allow negative impacts from traffic to be avoided or mitigated through planning and design solutions for the development.

Section 2: Purposes

- (1) To ascertain the operational conditions on the adjacent roadway network with a proposed development is accommodated within the existing transportation infrastructure along with other proposed developments (as reflected in the Comprehensive Master Plan)
- (2) To identify transportation improvements required to maintain the existing operational conditions.
- (3) To determine whether access to the proposed development will impede traffic operations and safety near the site.
- (4) To identify present or future transportation system deficiencies with and without the new development.
- (5) To provide decision makers with a basis for assessing the transportation implications of approving proposed zoning changes and development applications.
- (6) To provide a basis for estimating the cost of proposed mitigating measures. Consequently, a traffic impact analysis can be used to determine the "fair share" of the improvement cost to be paid by the developer.

Section 3: Definitions

Average Day – A Tuesday, Wednesday or Thursday for most uses. The average day may be a Saturday for uses that have higher peak-hour traffic volumes on a Saturday rather than mid-week.

Boundary Street – A public street that is adjacent to and/or abutting one or more sides of a proposed site.

City Manager – The City Manager and/or his/her duly authorized representative.

Development – a site plan, subdivision or re-subdivision, condominium project, redevelopment, reuse or expansion of a use or building.

Impact Area - The limits of the area for which the analysis is to be conducted. This area shall be determined by the Engineering Firm conducting the study and City Manager prior to the start of the study.

Level of Service (LOS) – A measure of the level of congestion experienced on roadways. The acceptable methodologies for calculating level of service are:

- A. Operational Analysis from the transportation Research Board Special Report 209, Highway Capacity Manual, latest edition.
- B. PASSER III-90 from the transportation Institute.
- C. The Texas Model, version 3.0, from the University of Texas.
- D. Other methodologies approved by the City Manager or his/her duly authorized representative

In addition, the following characteristics shall be addressed when evaluating levels of service:

- A. Physical Configuration – Intersection and roadway geometry
- B. Traffic Characteristics – peak hour factor
- C. Traffic Control – signalized and unsignalized control
- D. Environmental Condition – topography, sight distance and other safety hazards
- E. Capacity – as determined in the latest addition of the Highway Capacity Manual, Transportation Research Board.

Master Plan – The plan adopted by the City of Boerne which illustrates the intended future land use pattern and the Thoroughfare Plan which describe roadway functional classifications and intended improvements to the transportation system.

Peak Hour – A one hour period representing the highest hourly volume of traffic on the adjacent street system during the morning (a.m. peak hour), during the afternoon or evening (p.m. peak hour); or representing the hour of highest volume of traffic entering or exiting a site (peak hour of generator).

Peak Hour Trips (Generated) – PHTG -The number of vehicle trips generated by the proposed land use(s) in the development, during the peak hour of adjacent street traffic (defined as one hour between 7-9 AM or 4-6 PM, whichever is higher).

Section 4: Traffic Impact Analysis (TIA)

- (a) Traffic Impact Analysis (TIA). No Subdivision, Development Plat, change in zoning, Planned Unit Development submission, Petition for Annexation, City Council approval of a use as required by the City of Boerne Zoning Ordinance, shall be approved unless a traffic impact analysis (TIA) or peak hour trip PHT generation form is completed and approved as provided for in this ordinance. A traffic impact analysis (TIA) or a PHT generation form shall be performed by the property owner (or its agent) according to the format established in Appendix "A". The type of submittal shall be based upon the number of peak hour trips (PHT) generated by the proposed development, as set forth in Table 1.

Table 1

Peak Hour Trips	Submittal Category (see Section 1)
1,001 or more	Level 3 TIA
251– 1,000	Level 2 TIA
101 - 250	Level 1 TIA
75 or less	PHT Generation Form (no TIA is required)

When an activity on, or change to, property is proposed to occur that varies from the previous activity on the property, and the new activity generates an increase of at least 100 PHT relative to the previous

use, the property owner (or its agent) shall perform and submit to the city a TIA (or an amended TIA, whichever applies) under the formats specified in Appendix "A", to determine if the increase in the PHT impacts capacity and requires additional mitigation as defined herein.

(b) Rezoning.

- i. A TIA shall be required any time a property owner seeks to rezone property in a manner that would result in the PHT under the proposed zoning and use exceeding by more than 100 PHT the maximum PHT that could have been generated by uses permitted in the existing zoning, or results in a TIA level different from that derived from the existing zoning.
- ii. The requirement to perform a TIA under this subsection shall not apply if the existing zoning is a temporary zoning resulting from annexation.

(c) Impact Area.

i. The impact area is the area within which any analysis is conducted in order to determine a compliance with the level of service standards. This area shall be based on the size of the development and the PHT projected to be generated by the proposed development. The impact area studied shall be determined by City Manager based on the points of access and key streets and intersections that may be affected by development of the subject tract. Table 2 shall be used to assist the City Manager in the determination of the impact area to be studied:

Table 2

Category	Impact Area
Level 1 or 2 TIA	The site, and the area within a one-quarter (¼) mile radius from the boundary of the site
Level 2 TIA	The city traffic engineer may require the area of the study to be extended up to a maximum area of one (1) mile radius
Level 3 TIA	The site, and the area within a two mile radius from the boundary of the site, this distance may be reduced to one mile as determined by the City Manager

Section 5: Mitigation

The applicant may propose mitigation measures as described in Section 7.b as an alternative to deferral denial of approval of the activities.

Mitigation measures may be permitted which would allow the LOS to be achieved by permitting the transportation network to function more efficiently, or which advance the construction of necessary transportation facilities so that they are available concurrent with the impacts of the development.

Roadways and intersections, within the study area, that are expected to operate at level of service D, E, or F, under traffic conditions including projected traffic plus site-generated traffic must be identified and viable recommendations made for raising the traffic conditions to level of service C or better.

As depicted in Table 4, roadways and intersections within the project site and along its boundary streets which are projected to operate at level of service D, E, or F, without site-generated traffic, need not be brought up to level of service C by the proposed development. Such roadways and intersections, under conditions which include such site

generated traffic, must be brought up to the projected level of service that would exist without the site-generated traffic, i.e. reducing the amount of traffic from the development so that the LOS is maintained at an acceptable level or by altering mitigation improvements within the project site and along its boundary streets so that the LOS is maintained.

Table 4 Minimum Acceptable Level of Service

Projected Level of Service	Level of Service Without development						
	A	B	C	D	E	F	
A	NA	-	-	-	-	-	
B	B	NA	-	-	-	-	
C	C	C	NA	-	-	-	
D	C	C	C	NA	-	-	
E	C	C	C	D	NA	-	
F	C	C	C	D	E	NA	

Section 6: Implementation

For phased construction projects, implementation of these traffic improvements must be accomplished no later than the completion of the project phase for which the capacity analyses show that they are required. Plats for project phases subsequent to a phase for which a traffic improvement is required may be approved only if the traffic improvements are completed or bonded.

Section 7: Limitations on Traffic Impact Mitigation

- A. Voluntary efforts. Beyond those herein required, to mitigate traffic impacts are encouraged as a means of providing enhanced traffic handling capabilities to users of the land development site as well as others.
- B. Traffic mitigation tools include, but are not limited to, pavement widening, turn lanes, median islands, access controls, curbs, sidewalks, traffic signalization, traffic signing, pavement markings, etc.

Section 8: Exemptions

- A. The city hereby finds that traffic patterns and infrastructure within the area identified on the attached map are established. Further, if the city finds that there is little opportunity to expand transportation capacity in this area, without destroying the city's historic built environment, the development may be exempt from certain provisions of this Ordinance.
- B. In addition, the City Manager may waive the requirement to submit a TIA. The City Manager must include the reason for the waiver in the City Managers decision on the PHT Generation Form, and the applicant must mitigate adverse effects of the traffic generated from the proposed development to qualify for the TIA waiver.

Section 9: Variances

- A. Following the decision to deny a development by the appropriate authority, and the decision was solely based on the anticipated increase in traffic that cannot be mitigated the owner or agent may make application to the City Council for a variance. The application shall be filed with the City Manager, accompanied by the appropriate fee established by City Council.

B. Conditions of Variances. The Variance application shall describe the rational why the variance should be granted and should be supported by empirical data. The City Council may grant a variance to this ordinance and direct that the development be approved by the appropriate authority if the Council determines the development is in the best interest of the community. The City Council may impose such conditions or requirements in a variance that in the City Council's judgment are necessary to protect the general health, safety and welfare of the public and the variance will not negatively impact efficient development of the land and surrounding areas based on sound planning principles.

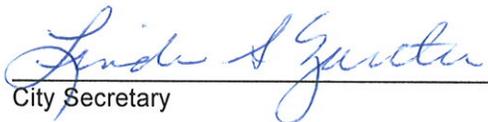
PASSED and APPROVED on first reading this the 13th day of November, 2007.

PASSED, APPROVED and ADOPTED on second reading this the 18th day of December, 2007.

APPROVED:


Mayor Pro Tem

ATTEST:


City Secretary

APPROVED AS TO FORM:


City Attorney

Appendix A - Traffic Impact Analysis

The TIA shall be signed and sealed by a professional engineer, registered to practice in Texas. The applicant shall be responsible for contacting the City Manager or his duly authorized representative person to determine the scope of the TIA and to discuss all requirements before any studies are conducted. If a proposed development consists of several phases, a scope must be determined for each phase. The following information shall be provided in the following format:

(a) Level 2 and 3 TIA Format.

A Level 2 TIA and a Level 3 TIA, when required, shall consist of:

(1) Traffic Analysis Map.

- A. Land use, site and study area boundaries, as defined (provide map).
- B. Existing and proposed site uses
- C. For TIAs that use land use as a basis for estimating projected traffic volumes, existing and proposed land uses on both sides of boundary streets for all parcels within the study area (provide map).
- D. Existing and proposed roadways and intersections of boundary streets within the study area of the subject property, including traffic conditions (provide map).
- E. All major driveways and intersecting streets adjacent to the property will be illustrated in detail sufficient to serve the purposes of illustrating traffic function; this may include showing lane widths, traffic islands, medians, sidewalks, curbs, traffic control devices (traffic signs, signals, and pavement markings), and a general description of the existing pavement condition.
- F. Photographs of adjacent streets of the development

(2) Trip Generation and Design Hour Volumes (provide table).

- A. A trip generation summary table listing each type of land use, the building size assumed, the average trip generation rates used (total daily traffic and a.m./p.m. peaks), and the resultant total trips generated shall be provided. The number of trips generated shall be based on the appropriate land uses and methodology contained in the Institute of Transportation Engineer's (ITE) "Trip Generation", latest edition.
- B. Generated vehicular trip estimates may be discounted in recognition of other reasonable and applicable modes, e.g., transit, pedestrian, bicycles. Furthermore, trip generation estimates may also be discounted through the recognition of pass by trips and internal site trip satisfaction, as justified by ITE or other sources deemed acceptable by City staff.

- C. Proposed trip generation calculations for single-story commercial properties shall be based on the following: (A) the floor area ratio (FAR) requested in the application, or (B) if no FAR is requested in the application, the maximum FAR permissible in the zoning district, if any, or (C) if no FAR is requested in the application, a floor-to-area (building size to parcel size) ratio 0.25 shall be used.

(3) Trip Distribution (provide figure by site entry/exit).

The estimates of percentage distribution of trips by turning movements from the proposed development.

(4) Trip Assignment (provide figure by site entrance and boundary street).

The direction of approach of site-attracted traffic via the area's street system.

(5) Existing and Projected Traffic Volumes (provide figure for each item).

Existing traffic volumes are simply the numbers of vehicles on the streets within the impact area during the time periods listed below, immediately prior to the beginning of construction of the land development project. Projected traffic volumes are the numbers of vehicles, excluding the site-generated traffic, on the streets of interest during the time periods listed below, in the build-out year.

- A. A.M. Peak hour site-generated traffic (including turning movements).
- B. P.M. Peak hour site-generated traffic (including turning movements).
- C. A.M. Peak hour total traffic including site-generated traffic and projected traffic (including turning movements).
- D. P.M. Peak hour total traffic including site-generated traffic and projected traffic (including turning movements).
- E. For special situations where peak traffic typically occurs at non-traditional times, e.g., major sporting venues, large specialty Christmas stores, etc., any other peak hour necessary for complete analysis (including turning movements), as required by City staff.
- F. Daily existing traffic for street system in study area.
- G. Daily future background traffic for the street system in study area. Total daily existing traffic for street system in study area and projected traffic from background traffic growth and build-out of other study area land uses, as provided by City staff. Other study area traffic includes any reasonable portion of traffic from a project within or adjacent to the project study area of the TIA, which has been filed, approved, or extended and is expected to be completed in the same timeframe as the applicant's development.

H. Daily total future traffic for the street system in study area. Total daily existing traffic for street system in study area plus new site traffic and projected traffic from background traffic growth and build-out of other study area land uses, as provided by City staff. Other study area traffic includes any reasonable portion of traffic from a project within or adjacent to the project study area of the TIA, which has been filed, approved, or extended and is expected to be completed in the same timeframe as the applicant's development.

(6) Capacity Analysis (provide figure for each item and the applicant shall provide analysis sheets in appendices).

A. A capacity analysis shall be conducted for all roadway segments within the TIA study area and for all public street intersections and junctions of major driveways with public streets which are significantly impacted (within the study area boundary as defined in this chapter (as agreed to by the developer's engineer and the designated City staff person). A capacity analysis is required as shown below:

TABLE INSET:

	Boundary Street	Non-Boundary Street Within Study Area
Existing Conditions	Required	Required
Phase 1	Required	Not Required
Intermediate Construction Phases	Required	Not Required
Final Phase/Build-Out Year (Existing Construction)	Required	Required
Final Phase/Build-Out Year (Proposed Infrastructure)	Required	Required

B. Capacity analysis will follow the principles established in the latest edition of the Transportation Research Board's Highway Capacity Manual (HCM), unless otherwise directed by the director of planning (City Manager). Capacity will be reported in quantitative terms as expressed in the HCM and in terms of traffic level of service.

C. Capacity analysis will include traffic queuing estimates for all critical applications where the length of queues is a design parameter, e.g., auxiliary turn lanes, and at traffic gates.

D. A roadway capacity analysis following the principles established in the latest edition of the HCM may be used to justify a local street cross-section. The applicant's cross-section justification analysis should

document trip generation and traffic assignment to streets, to justify a proposed cross-section.

(7) Conclusions and Requirements.

Conclusions and requirements shall be included.

(8) Administrative Requirements.

The applicant is responsible for submitting up to five (5) copies of the TIA report at the time the development application is submitted, including a Technical Addendum containing all analysis output and support materials.

(b) Level 1 TIA Format.

A Level 1 TIA, when required, shall consist of:

(1) Traffic Analysis Map.

- A. Site and study area boundaries, as defined (provide map).
- B. Existing and proposed site uses.
- C. All major driveways and intersecting streets adjacent to the property will be illustrated in detail sufficient to serve the purposes of illustrating traffic function; this may include showing lane widths, traffic islands, medians, sidewalks, curbs, traffic control devices (traffic signs, signals, and pavement markings), and a general description of the existing pavement condition.

(2) Peak Hour Trip Generation.

- A. The estimates of peak hour trips generated by the development; and
- B. The percentage distribution of such trips from each site exit and to each site entrance.
- C. The estimate of distribution of trips by turning movements from each site exit and to each site entrance.