

CHAPTER 74. ZONING

ARTICLE IX. Supplemental Regulations.

DIVISION 5. Traffic Analysis

Section 74-575. Purpose and Intent.

- (a) Purpose and Intent. Streets and thoroughfares are an essential component of the City's street network and are necessary to accommodate the community's health, safety and welfare and ability to grow and develop in a logical and financially responsible manner. The purpose and intent of this Division is to ensure that:
- (1) Traffic volumes and traffic operations generated by platting, re-platting, rezoning, a change in use, or new development will not prevent the City from implementing its then planned street system improvements.
 - (2) Traffic volumes and traffic operations generated by platting, re-platting, rezoning, a change in use, or new development will not negatively impact a community's existing street system and traffic operations or create safety hazards.
 - (3) New plats, land that is rezoned, or re-platted, a change in use, and new development will be served and supported by an adequate network of streets and thoroughfares. Necessary and desirable public rights-of-way for off-site, abutting and internal thoroughfares will be provided to support new development at the time of platting, rezoning, re-platting or development of the land.
 - (4) Driveway accessibility ~~nor~~ on-site circulation plans for a change in use or new development will not significantly impact or create safety of traffic operations on adjacent public streets, or prevent the safe and convenient circulation of on-site traffic operations.
 - (5) Parking demand generated by platting, rezoning, re-platting, a change in use, or new development will be adequately addressed on-site or in off-street, satellite parking facilities.
 - (6) Opportunities to reduce travel demand and/or efficiently manage travel demand will be investigated and implemented.

Section 74-576. Definitions.

Change in Use. A change of use is a use which may create traffic patterns that substantially differ from traffic patterns of the existing approved use of a building or land, based upon a consideration of the following:

- (a) Modifications to existing improvements or construction of new improvements.
- (b) The hours, days or seasons during which a use operates.
- (c) The number of employees or staff, occupants, visitors or other persons using the land, building or structures.

- (d) The number of employees or staff, occupants, visitors or other persons using the land, building, or structures.
- (e) The amount and/or nature of traffic, parking, shipping or deliveries associated with the use on the premises.

Daily trip or trips per day. The number of trips a particular land use will generate within a 24 hour period.

Intersection Level of Service (LOS). A measure of delay vehicles will experience at intersections.

Peak Hour trips. The number of trips typically between 7 a.m. and 9 a.m. (AM peak) and between 4 p.m. and 6 p.m. (PM peak) Monday through Friday, or as may be specifically attributable to the building or land based upon its particular use.

Roadway LOS. A measure of the volume of traffic a roadway carries in relation to its capacity to carry traffic.

Traffic Impact Assessment (TIA). A study that looks at current and forecast future conditions after a development is implemented. TIA's focus on trip generation at the site, trip distributions to/from the site, traffic assignments to/from driveways serving the site, the street adjacent to the site, driveways (number and locations) serving the site, traffic control mechanisms at the site driveways, driveway and adjacent intersection levels of service (LOS), on-site circulation, and parking generation, supply and configuration.

Traffic Impact Study (TIS). A more rigorous study that takes into account everything in the TIA and additional conditions that are distant from the site and that occur under specific development scenarios: Existing Conditions, Forecast No-Build Conditions, and Forecast Build Conditions.

Section 74-577. Items to address in Traffic Analysis. Based upon a review of the TIA or TIS and other applicant supplied data, the Planning Commission and City Council will determine if the proposed rezoning, platting, re-platting, change of use, or new development plans meets the following:

- (a) The plans are consistent with the City's then existing planned improvements and will not prevent the City from moving forward with its plans.
- (b) The plans will not create safety hazards.
- (c) The plans provide for adequate accessibility between the development and the street system and an adequate on-site circulation system.
- (d) The plans provide for adequate on-site parking (or satellite parking) as determined by applicable City Ordinance.
- (e) The plans include reasonable approaches to reduce and/or manage travel demand.

Section 74-578. Traffic Impact Assessment (TIA). A Traffic Impact Assessment is required if a rezoning, re-platting, or change of use generates between 50 and 99 peak hour trips per peak direction (entering or leaving), above the trip generation for the use as it existed prior to the rezoning, re-platting, change of use, determined by the greater of the ten existing actual trip generation or the latest edition of the Institute of Transportation Engineers (ITE) trip generation for the existing use, or another method approved by the City; or upon the platting, re-platting or new development of vacant land if the proposed use is expected to generate between 500 and 749 daily trips.

Section 74-579. Traffic Impact Statement. A Traffic Impact Statement (TIS) is required to be submitted, rather than a TIA, if the criteria of Section 74-258 is met and the peak hour trips per peak direction exceed 100 or the daily trips exceed 749.

Section 74-580. Elements of Traffic Analysis. Table 74-1 lists the major elements to include in each of the two types of traffic analysis.

TABLE 74- 1

ELEMENTS TO INCLUDE IN TRAFFIC ANALYSIS

Element Included in Traffic Analysis	Traffic Impact Assessment	Traffic Impact Study
Impact Analysis		
Describe Characteristics and Features of Adjacent Street (street and intersection geometrics; traffic control devices; turn, general traffic, parking, and bike lanes; sight distance; pedestrian accommodations and facilities, etc.)	✓	✓
Pre-Development Existing Conditions along Adjacent Street and at Adjacent Intersections (LOS)	✓	✓
Opposing Driveway Locations and Conditions (LOS)	✓	✓
Study Area and Future Road Summary		✓
Understanding of the Development Program and Operations for the Proposed Development	✓	✓
Trip Generation for On-Site Uses	✓	✓
Trip Distribution Analysis	✓	✓
Background Traffic Growth		✓
Traffic Assignments to Driveways and Adjacent Intersections	✓	✓
Site Driveway Intersection Capacity (LOS)	✓	✓
Future Conditions at Nearby Intersections (LOS)		✓
Mitigation Identifications and Analysis	✓	✓
Site Analysis		
Number and Location of Driveways Serving the Site	✓	✓
Access Design and Queuing	✓	✓
On-Site Circulation	✓	✓
Other Analysis		
Planned and Programmed Roadway Improvements		✓
Planned and Approved Developments in Vicinity of Site		✓
Traffic Impacts of Planned/Approved Developments		✓

Traffic Analysis (LOS and Queue Analysis) at Distant Intersections and Roadway Segments for:		
Future No-Build Condition		✓
Future Build Condition		✓
Travel Demand Management and Transportation System Management Techniques (as appropriate)		✓

Section 74-581. Required information. The following information must be included in Traffic Impact Assessment.

- (a) Background.
 - (1) Name of development and developer.
 - (2) Development location and zoning classification.
 - (3) Description of study area – setting and features of the area where the development is proposed to be implemented.
 - (4) Description of proposed development program and operations (design year and opening of development, peak days of week and peak times of day, typical vehicle occupancy, describe patrons as appropriate).
 - (5) Identify other factors that will bear on traffic (planned/programmed roadway improvements, other developments proposed/approved for the area, etc.
- (b) Site Plan.
 - (1) Identify use (residential, commercial, office, institutional, industrial, etc.).
 - (2) A detailed description of the proposed use.
 - (3) A detailed description of the site.
 - (4) A description of the building footprint and how it sits on the proposed site.
 - (5) The number and location of access driveways, clearly labeled, and assessed relative to City Code.
 - (6) Parking supply, assessed relative to City Code.
- (c) Traffic Assessment Results. The traffic study must include:
 - (1) Assessment of Existing Conditions:
 - Identify and describe adjacent intersections serving the site.
 - Quantify peak hour turning movements.
 - LOS at adjacent intersections.
 - (2) Assessment of Post Development Conditions:
 - Trip generation, trip distribution, traffic assignment to driveways and adjacent intersections.
 - LOS at driveways and at adjacent intersections.
- (d) Summary of Findings.
 - (1) Observations.
 - (2) Conclusions.
 - (3) Recommendations.

Section 74-582. The following items include information to be included for specific elements of the Traffic Impact Study.

- (a) Background.
 - (1) Name of development and developer.
 - (2) Development location and zoning classification.
 - (3) Description of study area – setting and features of the area where the development is proposed to be implemented.

- (4) Description of proposed program and operations (design year and opening of development, peak days of week and peak times of day, typical vehicle occupancy, describe patrons as appropriate).
 - (5) Identify other factors that will bear on traffic (planned/programmed roadway improvements, other developments proposed/approved for the area, etc.).
- (b) Site Plan.
- (1) Identify use (residential, commercial, office, institutional, industrial, etc.).
 - (2) A detailed description of the proposed use.
 - (3) A detailed description of the site.
 - (4) A description of the building footprint and how it sits on the proposed site.
 - (5) The number and location of access driveways, clearly labeled, and assessed relative to City Code.
 - (6) Parking supply, assessed relative to City Code.
 - (7) Describe bicycle parking supply, assess relative to City Code.
- (c) Existing Traffic Conditions.
- (1) Define the existing condition.
 - (2) Show existing two-way daily traffic and comment on roadway LOS.
 - (3) Identify existing driveways adjacent to or opposing proposed driveways, describe any traffic operations issues, recommend and test mitigations to address issues.
 - (4) Show existing peak hour turning movements at intersections that will be affected by the proposed development.
 - (5) Conduct existing intersection capacity analysis and report existing LOS and storage issues.
 - (6) Recommend and test mitigation measures to ensure either minimum LOS D under existing conditions and adequate storage, or a LOS no worse than the lowest LOS for the affected intersection at any time.
- (d) Future No-Build Conditions.
- (1) Define the No-Build condition including any significant changes in land use in the vicinity of the proposed development and any changes in the roadway network that will have taken place since the existing condition.
 - (2) Conduct analysis to forecast No-Build, two-way daily traffic and comment on roadway LOS.
 - (3) Re-visit existing driveways adjacent to or opposing proposed driveways, describe traffic operations issues relative to forecast two-way daily traffic, recommend and test mitigations to address issues.
 - (4) Conduct analysis to forecast No-Build peak hour intersection turning movements.
 - (5) Conduct forecast No-Build intersection capacity analysis and report LOS and storage issues.
 - (6) Recommend and test mitigation measures to ensure either minimum LOS D or a LOS no worse than the lowest LOS for the affected intersection at any time under forecast No-Build conditions and adequate storage.
- (e) Future Build Conditions.
- (1) Define the Build condition.
 - (2) Conduct analysis to quantify the effects of the Build condition:
 - a. Trip generation analysis using the latest edition of *Trip Generation*, Institute of Transportation Engineers. Account for pass-by and multi-purpose trips. Provide credit for transit trips.

- b. Trip distribution analysis using an approved approach (population within Traffic Analysis Zones, households within Traffic Analysis Zones, two-way daily traffic on roadways serving the site, etc.).
 - c. Assign traffic to driveways and roadways serving the site in accordance with outcomes from the trip distribution analysis.
- (3) Re-visit existing driveways adjacent to or opposing proposed driveways, describe traffic operations issues relative to forecast two-way daily traffic, recommend and test mitigations to address issues.
 - (4) Add assigned traffic to No-Build condition intersection turning movements to derive Build condition intersection turning movements.
 - (5) Conduct forecast Build intersection capacity analysis and report LOS and storage issues.
 - (6) Recommend and test mitigation measures to ensure either minimum LOS D or a LOS no worse than the lowest LOS for the affected intersection at any time under forecast No-Build conditions and adequate storage.
 - (7) Quantify forecast Build condition, two-way daily traffic and comment on LOS.
- (f) On-site circulation.
 - (1) Describe location of access routes, relative to driveways and front and rear doors of building(s).
 - (2) Describe locations of dumpsters and delivery/loading docks and how service vehicles will circulate and maneuver.
- (g) On-site parking.
 - (1) Describe proposed parking supply.
 - (2) Assessed proposed supply against required parking supply in City Code.
 - (3) Describe rationalization if there is a discrepancy between proposed and required supplies. Quantify parking generation (demand) per the latest edition of the ITE, ULI, or other recognized source.
 - (4) Recommend an approach to resolve discrepancy.
 - (5) Describe proposed bicycle parking supply relative to City Code and how bicycles will circulate to bike parking racks.
- (h) Travel Demand Management. Identify, as appropriate, approaches to reduce travel demand and how they might be applied.
 - (1) Transit.
 - (2) Carpool.
 - (3) Employer sponsored vanpool.
 - (4) Employer incentives.
 - (5) Bike and bike facilities.
 - (6) Pedestrian and pedestrian facilities.
- (i) Summary of Findings.
 - (1) Observations.
 - (2) Conclusions.
 - (3) Recommendations.

Section 74-583. Exception to the regulations within this Division.

- (a) The City recognizes that there is very little that can be done to expand capacity and improve traffic operations beyond incremental operational changes (adjusting signals, adding operational control devices, i.e., stop signs) in the downtown. As such, a change of use for existing properties in the downtown area where parking is not required does not require a traffic analysis. Staff may perform a traffic trip generation analysis to monitor the need for improvements in the street system. New development in this area, however, must meet the standards of this Division to the extent applicable.

Section 74-584 – 74-600. Reserved.