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## ARTICLE 14. TRANSPORTATION

### Sec. 21.14.1. Streets.

- A. *Street Layout.* The arrangement, extent, character, width, grade and location of all streets shall conform to the Master Thoroughfare Plan, the Public Works Specification Manual, and the City's adopted Comprehensive Land Plan. Collector streets shall provide adequate circulation within the neighborhood and yet discourage through traffic. The street layout shall be arranged to achieve the most desirable development of the entire neighborhood unit with appropriate consideration of creeks, drainage channels, wooded areas and other topographical features, which lend themselves to special treatment. Permits must be obtained from TxDOT for driveways and streets accessing any state highway/roadway. The proposed location of driveways must comply with all applicable City and State safety requirements.
- B. *Relation to Adjoining Streets.* Adjoining areas shall be continued and tied into the street layout.
- C. *Projection of Streets.* When adjoining properties are not yet subdivided, the arrangement of streets shall provide for the proper projection of streets into the adjoining unsubdivided areas, and shall generally will be required to comply with the neighborhood pattern or conform to the Comprehensive Land Plan and the Master Thoroughfare Plan.
- D. *Private Streets.*
1. Private streets within the City may be authorized providing all of the following conditions are met:
    - a. A homeowners association is established to maintain and upkeep all streets in a subdivision in accordance with the City's public street standards, to include the mowing of shoulders and rights-of-way, removal of weeds and unclogging of culverts.
    - b. Private streets are constructed in accordance with the City's standards for public streets.
    - c. The following "maintenance agreement" note will appear on the subdivision plat:

"Streets within this subdivision shall be constructed in accordance with the City of Schertz public streets standards. The upkeep and maintenance to include the mowing of shoulders and rights-of-way, removal of weeds and unclogging of culverts shall be the responsibility of the homeowners association. The City of Schertz is released from any liability for these streets. Periodic inspection by a public official who is authorized to enforce complaints about poor maintenance is permitted."
    - d. Provide access for fire protection, ambulance, police, school bus, garbage service and other utility agencies.
  2. *One Residence.* A private street or road serving only one (1) residence is exempt from construction and maintenance standards for public streets.
  3. *Ingress/Egress.* Private streets shall connect directly to a public street or road.
- E. *Dead-End Streets and Cul-De-Sacs.*
1. Dead-end streets greater than 500 feet in length as measured from the center of the intersection to the end of the pavement or center of the cul-de-sac, shall be prohibited, except as ~~Short stubs projected to be continued in future subdivisions in conformance with Paragraph C of this section and not having any lots fronting the short stub are not required to have a cul-de-sac or temporary turn around at the end. when designed as cul-de-sacs. Temporary turnarounds shall be provided on~~

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- ~~projected streets until such time as they are extended. Short stub dead end streets are defined as roadways with no lots fronting the street. Short stub dead end streets do not require temporary or permanent turnarounds. All other dead-end streets shall end in a cul-de-sac or temporary turnaround meeting the requirements of paragraph E.2 below.~~
2. Cul-de-sac streets shall ~~not exceed 500 feet in length and shall have a turnaround of not less than 150~~ **140 feet in diameter of ROW and 120 feet in diameter of pavement** in single-family residential areas, **150-160 feet in diameter of ROW and not less than 130 feet in diameter of pavement** in multi-family areas ~~and not less than 200 feet in diameter of ROW in commercial, and industrial areas.~~ This provision may be modified upon approval of the Fire Chief and City Engineer.
- F. **Alignment.** The alignment of all arterial and collector streets shall generally conform to the **Comprehensive Land Plan Master Thoroughfare Plan** and the requirements of the Public Works Specifications Manual. ~~Collector street alignment shall meet the requirements of the Public Works Specifications Manual and in no case shall street jogs be offset less than 150 feet on centerline.~~
- G. **Intersections.** The curb radius at street intersections shall conform to the specifications in the Public Works Specifications Manual.
- H. **Street Names and Street Numbers.** ~~Names of new streets shall not duplicate the names of existing streets within the City and its ETJ unless the new street is a continuation of or part of a future continuation of such existing street. Street names shall be chosen to avoid similarity or confusion with existing street names. A new street name shall not differ from an existing street name solely by the addition of a different auxiliary designation such as "avenue", "way", "boulevard", etc. Names of all new streets shall be subject to approval by the Planning and Zoning Commission and be coordinated on an area wide basis regionally. Street names shall have prior approval of the United States Postal Service, Bexar Metro 911, and the applicable County Clerk's Office regional E911 authority and meet all County and City guidelines relevant to location. Street addresses should also be coordinated with present existing addresses. The City will determine street numbers and advise the subdivider as to the street numbers. Upon request, The City will coordinate new street numbers with existing addresses and provide the subdivider with an approved addressing document. Names of all new streets shall be subject to the approval by the Planning and Zoning Commission and be coordinated regionally. Street names shall have prior approval of the regional E911 authority and meet all City and County guidelines relevant to location. Upon request, the City will coordinate new street numbers with existing addresses and provide subdivider with an approved addressing document.~~
- I. **Construction Standards.** All streets shall be constructed with reference to base, surfacing, curbs, grades, horizontal curves and intersection curve radius in accordance with the standards prescribed in the Public Works Specifications Manual and any other applicable specifications of the City.
- J. **Reserve Areas are Prohibited.** There shall be no reserve areas controlling access to land dedicated or intended to be dedicated to public use.
- K. **Half Streets or Adjacent Streets.**
1. No new half streets shall be platted that do not conform to the Master Thoroughfare Plan and the Comprehensive Land Plan. Where the proposed subdivision abuts upon an existing street or half street not conforming to the Comprehensive Land Plan requirements or the requirements of this UDC, the subdivider shall be required to dedicate any additional right-of-way to meet the street width required to the extent permitted by State Law.
  2. If new development of property ~~that~~ abuts City maintained roads ~~that do -does-~~ not meet the **design-or** width standards in this UDC, the Developer shall be required to make the necessary dedication and improvements in conformance with this UDC or any other applicable code of the City to the extent permitted by State Law.

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3. The minimum dedication and construction costs shall be equal to one-half (½) of the minimum right-of-way (ROW) and construction costs associated with the proposed street.
  4. Improvements shall include right-of-way dedication, paving, curb and guttering, shoulder improvements, ~~and~~ sidewalk, multi-use paths and/or hike/bike trails as determined by the City.
  5. Should any pavement be laid to widen existing pavement, the existing pavement shall be saw-cut back a minimum of two feet (2') to assure an adequate sub-base and pavement joint.
- L. *Public Accesses.* All residential subdivisions shall have a minimum of two (2) locations accessing existing public streets. Access may be provided through the construction of a public street. The extent and location of all accesses is subject to review and approval by the City. The Planning and Zoning Commission shall not permit "island" subdivisions, lots or streets that would be surrounded by the flood water of a one hundred (100) year flood unless the area is accessible to high ground by at least one dedicated street elevated above the one hundred (100) year flood level.
- M. *Safety Lanes (Fire Lanes).*
1. Manufactured home parks, recreational vehicle parks, apartments, multi-family residences, malls, commercial and business areas shall have driving surfaces within the site designated and clearly identified as safety lanes or fire lanes for fire protection, EMS, etc. These areas must be paved with concrete or asphalt and be maintained by the owners. Exits from these sites shall be a minimum of thirty feet (30') in width and must exit into a dedicated street. The pavement width for interior safety lanes will be a minimum of twenty-four feet (24'). Additional width will be required when adequate off-street parking is not provided.
  2. Exits from single family residential areas shall be a minimum pavement width of twenty four feet (24').
  23. ~~All roadways that serve emergency vehicles are required to have a minimum clearance of fourteen~~ fifteen feet ~~(14'15')~~ to any overhead obstructions including, but not limited to, bridges, trees, canopies, awnings and signs.
- N. *Access to ~~Principal and Secondary Arterial Streets~~ and Freeways.* Access to ~~principal and secondary~~ arterial streets and freeways should be limited to protect the flow of traffic from the lots ~~. A one foot (1') non-access easement shall be provided along~~ Along principal and secondary arterial streets and freeways, when lots lots that have access to another public right-of-way shall not take access from the arterial street or freeway.
- O. *Street and Traffic Control Signs.*
1. All street signs in a new subdivision within the City limits, including street name, speed limit, stop and yield signs, etc. shall be paid for by the developer, and shall be provided by and installed by the City's Public Works Department in accordance with the Public Works Specifications Manual. Traffic control devices required within the subdivision shall be installed in accordance with the latest revision of the Texas Manual on Uniform Traffic Control Devices for Streets and Highways.
  2. Any installation of speed control devices, such as speed bumps or humps, must also be approved by the fire department to determine potential impact to emergency response vehicles.
  3. A required traffic control device must be fitted with traffic preemption compatible devices for activation by emergency vehicles.
- P. *Street Improvements.*
1. All street improvements shall meet the current requirements of the Comprehensive Land Plan, the Master Thoroughfare Plan, and this Article, but in no case shall be less than the following to the extent allowed by State Law:

Table 21.14.1 Street Improvement Standards				
Classification	ROW	Pavement **	Drainage Width	Sidewalk and Multi-Use Path Width
Six Lane Principal Arterial	130 feet*	74 feet with 16 foot median*	Curb and Gutter	10 feet both sides
Four Lane Principal Arterial	120 feet	48-54 feet with 12-10 foot median	<del>Curb or</del> Curb and Gutter	5 feet one side, 10 feet one side
Secondary Arterial	86-90 feet	48-54 feet with 10 foot median	<del>Curb or</del> Curb and Gutter	5 feet one side, 10 feet one side
Commercial Collector	60-70 feet	42-42 feet	<del>Curb or</del> Curb and Gutter	5 feet one side, 10 feet one side both sides
Local Street - Residential	50 feet	30 feet	<del>Curb or</del> Curb and Gutter	5 feet both sides
Local Street - Commercial/Industrial	60 feet	42-42 feet	Curb and Gutter	5 feet both sides
Paved Alley	20-24 feet	20-24 feet	Curb or Curb and Gutter	None

\* Schwab Road north of IH-35 has a ROW width of 200 feet and wider pavement section as determined by the City Manager or his/her designee Engineer.

\*\* Pavement width is measured from face of curb to face of curb on curb and gutter roadways.

2. Typical sections identified in the Master Thoroughfare Plan may be modified by the City Manager or his/her designee based on drainage needs, traffic needs, site specific conditions, and other factors as part of the development review and approval process.

23. Islands in Roadways. Islands in road rights-of-way will be considered on a case-by-case basis. The street right-of-way will be engineered to accommodate all emergency and utility vehicles and two-way, 7 traffic, after coordination by City Staff, to include a review and recommendation from the City of Schertz Transportation Safety Advisory Commission. At a minimum, all islands shall provide at least twenty-four feet (24') of pavement on each side of the island. All islands provided within street ROW shall be designated on the plat and shall be dedicated by the developer or its successors and/or assigns. A plat note shall be provided which identifies maintenance of islands as the responsibility of the developer or its successors and/or assigns. Any islands that are not maintained in accordance with this section may be removed by the City and shall be removed at the expense of the developer or its successors and/or assigns, after due notice and the written recommendation by the City ~~Engineer and Fire Department~~ Manager or his/her designee.

4. Medians. Medians are typically located at the approximate center of a city street or state right-of-way that is used to separate the directional flow of traffic.

Q. Drainage. The storm drainage for all streets shall be designed on a twenty five (25) year flood frequency. Runoff rates shall be computed in all cases on the basis of ultimate development of the entire watershed

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~~contributing runoff water to the proposed subdivision, on the basis of concrete lined channels and streets carrying storm water in the contributing area. All necessary storm drainage improvements shall be in accordance with the Public Works Specifications Manual per the most current edition of the Public Works Specification Manual and shall comply with the City's Stormwater Pollution Prevention and Drainage Plan requirements.~~

R. *Curb and Gutter.* Curbs and gutters shall be installed by the subdivider on both sides of all streets within or forming part of the boundary of the subdivision. Curb and gutter shall be constructed in accordance with the Public Works Specifications Manual. The City Engineer may waive the requirements for construction of curb and gutter or may approve an alternative curb and gutter construction where developments result in an overall density of less than one (1) unit per one-half (½) acre.

S. *Street Lights.*

1. Developers shall furnish satisfactory easements for installation of services to street lights as required by the City and any applicable electric utility provider.
2. Street light number, type and size shall be determined by the City and any applicable electric utility provider and shall conform to the requirements of the Public Works Specification Manual. and Street lights shall be designed to maximize the light directed toward the ground.
3. The developer shall pay the cost of purchasing and installing all street lighting equipment and the cost of all street lighting services for a period of two (2) years or until such time as seventy percent (70%) of the buildings for which building permits have been issued are completed, whichever is sooner.
4. A ~~detailed~~ lighting plan shall be submitted with the Public Infrastructure Improvement Plans for review and approval by the City and any applicable electric utility provider. The detailed lighting plan shall include:

a. Streetlight locations:

a. A description of lighting fixtures, including lamps, poles or other supports and shielding devices, which may be provided as catalog illustrations from the manufacturer;

d. Additional information as may be required by the City Manager or his/her designee.

5. Streetlights shall be located every 300 feet (maximum) for local and collector roadways; every 250 feet (maximum) on arterial roadways; placed at every street intersection; in all cul-de-sacs greater than 200 feet in length, and at neighborhood mail-box unit locations.

~~T. *Street Markers (Signs).* Street name, stop and speed limit signs having the following specifications shall be erected at all street intersections in such subdivisions for street markers:~~

- ~~1. The material of the street name signs, the method of attaching the sign to the post, the details of lettering, painting, and method of installation, as well as the location of the sign at the intersection shall be in accordance with the specifications in the Public Works Specifications Manual.~~
- ~~2. The street name signs shall be of the crossarm type, and shall be reflectorized on extruded aluminum metal blanks.~~
- ~~3. Street markers are to be provided by the developer.~~

### **Sec. 21.14.2. Criteria and Design.**

The criteria and specific design standards for transportation related development as described in this Article are set by the City's Public Works Specification Manual.

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### Sec. 21.14.3. Additional Design Requirements.

A. *Purpose and Applicability.*

1. The purpose of this Section is to establish additional development standards applicable to certain streets within the City to ensure uniform and quality development resulting in an attractive environment compatible with businesses and residential dwellings which does the following:
  - a. provides an environment and living conditions favorable to the public;
  - b. provides a creative approach to land use and related physical development;
  - c. creates a pattern of development which preserves trees and outstanding natural topography and prevents soil erosion and pollution;
  - d. encourages mixed use development through innovative uses of modern development concepts; and
  - e. produces open space and recreation areas.
2. The requirements of this section shall be applicable to [IH-35, IH-10, and all roadways classified as Principal Arterials or Secondary Arterials in accordance with section 21.14.1 including, but not limited to, Schertz Parkway, FM 3009, Old Wiederstein Road, Country Club Blvd, FM 78, FM 1518, FM 482, and Wiederstein Road](#) [the Master Thoroughfare Plan](#).

B. *Permitted Uses.* Buildings, structures and land shall be used in accordance with the uses permitted in the applicable zoning district and shall comply with the dimensional requirements of that district in accordance with Article 5 of this UDC.

~~C. *Landscape Buffer.* In addition to the requirements of section 21.9.7 of this UDC for landscaping, a minimum twenty foot (20') wide landscape buffer shall be provided adjacent to any public right of way. Trees shall be planted at an average density of one (1) tree per twenty linear feet (20') of street frontage except for public schools. The landscape buffer shall require an irrigation system and shall be maintained by the property owner. The requirements of this section are not applicable to properties zoned Main Street Mixed Use - New Development (MSMU-ND).~~

~~D. *Off Street Parking.* Off street parking is permitted adjacent to the landscape buffer along the right of way. Parking and vehicular use areas adjacent to the right of way shall have land berm walls or a vegetative hedge barrier to reduce vehicular reflections to the right of way. A waiver may be granted by the Planning and Zoning Commission which would allow a reduction in the minimum required landscape buffer when off street parking is located entirely along the side or rear of the building or lot. The requirements of this section are not applicable to properties zoned Main Street Mixed Use - New Development (MSMU-ND).~~

~~E. *Building Setback Line.* A minimum fifty foot (50') building setback shall be required adjacent to all rights-of-way. A waiver may be granted by the Planning and Zoning Commission which would allow for a reduction in the minimum required setback when an alternative site layout and design provides for additional open space or landscaping and off-street parking will be located entirely at the rear of the building or lot. In no case shall the minimum building setback be reduced less than the minimum required setback for the applicable zoning district in. The requirements of this section are not applicable to properties zoned Main Street Mixed-Use - New Development (MSMU-ND).~~

~~F. *Driveways and Access (Connectivity).* Access shall be limited to provide for safe traffic flow and the design shall provide interior drives to limit the number of accesses to the public right-of-way. Access easement should be utilized to limit the number of driveway accesses. Accesses should be planned to match existing driveways or street intersections on the opposite side of the street. All driveways shall have a minimum sight distance of 240 feet.~~

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~~GE.~~ *Screening.* A masonry screening wall a minimum of eight foot (8') in height shall be provided where the rear yard of any residential or nonresidential lot abuts a Principal or Secondary Arterial. Any masonry screening wall constructed as part of a new residential subdivision shall be constructed of a like and similar material and color as screening walls in adjacent subdivisions to provide a consistent streetscape.

(Ord. No. 16-S-27 , § 9, 8-30-2016; Ord. No. 17-S-40 , § 1(Exh. A), 10-24-2017; Ord. No. 21-S-26 , § 1(Exh. A), 7-6-2021)

#### **Sec. 21.14.4. Alleys.**

- A. *Commercial and Industrial Districts.* ~~Where provided, paved alleys not less than twenty four feet (24') wide shall be provided in all commercial or industrial districts to assure adequate provision is made for service access, such as off street loading, unloading and parking consistent with an adequate plan for the uses proposed.~~ Alleys provided within commercial and industrial districts shall be privately owned and maintained and not less than twenty-four feet (24') paved width.
- B. *Garden Home (GH) Zoning Districts.* Where garden home districts are designated by the developer to require rear ingress/egress, a twenty-four feet (24') paved alley shall be provided.
- C. *Intersections and Turns.* Alley intersections and sharp changes in alignment shall be avoided, but where two (2) alleys intersect, or an alley turns at an angle sharper than one hundred degrees (100°), a cut off of not less than ten (10') feet from the normal intersection of the property lines shall be provided and shall be designed in accordance with the adopted Fire Code.
- D. *Dead End Alleys.* Dead end alleys are prohibited.
- E. *Construction Standards.* All alleys shall be constructed in accordance with the standards prescribed in the Public Works Design Guide and the Public Works Specifications Manual.
- F. *Limitations.* Construction of alleys is limited to commercial and industrial districts and prohibited in residential areas except in garden home zoning districts.
- ~~G. *Drainage.* Drainage design of alleys shall be designed on the basis of twenty five (25) year frequency to carry storm water from only the lots within the block abutting the alleys.~~

#### **Sec. 21.14.5. Driveways.**

The arrangement, placement, spacing, width and return radii of all driveways connecting to a street, roadway or alley shall be constructed, provided, altered or repaired in accordance with requirements of the Public Works Specifications Manual. For all driveways connecting to a state roadway facility, the arrangement, placement, spacing, width, etc. shall be in accordance with TxDOT requirements.

- A. *Commercial Property.*
  - 1. Curb cuts for commercial driveway aprons shall not exceed thirty-four feet (30'40') in width as measured at the ROW line, and the aggregate width of all curb cuts shall not exceed fifty percent (50%) of the parcel frontage.
  - 2. Where multiple driveway aprons are used for commercial property, the curb cuts shall be at least twenty-two hundred feet (200') apart on collector streets and four hundred feet (400') apart on arterial streets provided a minimum of fifty feet (50') of spacing as measured along the curb is available between all approaches, including curb cuts on adjacent properties.

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3. ~~For parcels of commercial property with less than one hundred feet (100') of frontage, a maximum of two (2) curb cuts will be permitted.~~
  4. For parcels of commercial property, no curb cut will be permitted for any parking facility which requires vehicles to enter a street in reverse.
- B. *Curb Cuts in Curb Returns.* No curb cut in curb returns will be permitted in the City.
- C. *Waivers.* Where the City Manager or his/her designee finds that extraordinary hardship may result from strict compliance with the regulations prescribed in this Article, the City Manager or his/her designee may vary the regulations so that substantial justice may be done and the public interest secured, provided that such waiver will not have the effect of nullifying the intent and purpose of this Article. In granting waivers and modifications, the City Manager or his/her designee may require such conditions as will, in his/her judgment, secure substantially the objective of the standards or requirements so varied or modified. In the event the City Manager or his/her designee should disapprove a request for a waiver, the applicant may request an appeal to the Planning and Zoning Commission.

(Ord. No. 17-S-40 , § 1(Exh. A), 10-24-2017)

### **Sec. 21.14.6. Sidewalks and Hike and Bike Trails.**

- A. *Requirement.* Sidewalks shall be required along both sides of all streets throughout the City as required in section 21.14.1. All lots must have access to sidewalks.
- B. *Curb Ramps.* Curb ramps shall be provided at all street intersections at the time of construction or reconstruction and shall comply with the provisions in the Federal Register 28, CFR part 36 (Americans with Disabilities Act or ADA) and Texas Accessibility Standards as amended from time to time.
- C. *Location and Width.* Where sidewalks are required, they shall be installed in accordance with the Public Works Specifications Manual and shall be a minimum of five feet (5') in width. ~~Sidewalks shall be placed parallel to the street for the entire frontage(s) of the lot and shall be located a minimum of two feet (2') behind the curb.~~ Sidewalks placed directly against curbs shall be six feet (6') minimum width.
- D. *Timing of Construction.* Sidewalks shall generally be installed concurrently with the construction of the primary structure on a lot except on primary or secondary arterials where they shall be installed concurrently with street construction.
- E. *Construction Concurrent with Street Construction.* If a street is constructed which shall have no residential lot access points, then sidewalks shall be installed concurrently with street construction.
- F. *Corner Lot.* Where sidewalks are installed on corner lots, sidewalks shall be installed along both street frontages and shall be extended to the curb with handicapped access ramps in accordance with current ADA and Texas Accessibility standards.
- G. *Waiver or Deferment of Sidewalk Installation.* The City Manager or the City Engineer may waive the requirements of this section where he/she finds that topographical conditions or other unique conditions exist which would preclude the construction of sidewalks. The Planning and Zoning Commission may defer the installation of sidewalks to a time deemed more appropriate. In the event that the installation of sidewalks is deferred, the developer shall provide a subdivision improvement agreement in accordance with section 21.4.15 guaranteeing the installation of sidewalks.
- H. *Hike and Bike Trails.* The City recognizes the need for connectivity and adequate access to and from public parkland areas and to provide for safe bicycling and pedestrian transportation. Hike and bike trails shall be installed in accordance with the Public Works Specification Manual. All streets subject to this Article with at least an eighty-six inch (86") ROW shall be required to construct a minimum eight foot (8') wide hike and bike

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~~path located within the ROW five foot (5') behind the curb. This hike and bike path is required in-lieu of construction of a sidewalk along one (1) side of the street.~~ Additionally, hike and bike trails shall conform to the requirements as set forth in the City's Parks Master Plan and the Master Thoroughfare Plan.

In-lieu of construction of sidewalks in accordance with this Article, the City may, at its option, require construction of a hike and bike path adjacent to the street right-of-way. Any required hike and bike path shall be constructed in-lieu of the minimum sidewalk along one (1) side of the street, unless under the requirements of subsection 21.14.3.D. above.

(Ord. No. 17-S-43 , § 1(Exh. A), 10-24-2017)

**Sec. 21.14.7. Traffic Impact Analysis.**

- A. *Application Requirements.* Every application for development within the City or its ETJ shall be accompanied by a Traffic Impact Analysis (TIA) Determination Form provided in the Development Manual. The TIA Determination Form shall be utilized to determine the level of TIA required or if the development is eligible for a TIA waiver if a TIA is required.
- B. *TIA Required.* The threshold requirement for a TIA and the level of TIA required shall be based on a land use or combination of land uses that results in peak hour trips in accordance with Table 21.14.7A. If the proposed land use does not exceed the peak hour trip threshold, a TIA waiver shall be noted on the TIA Determination Form. Peak hour trips shall be based on the most current edition of the Institute of Traffic Engineers (ITE) Trip Generation Manual.

Table 21.14.7A TIA Requirements	
Peak Hour Trips Generated	TIA Level Required
1,001 or more	Level 3 TIA
501—1,000	Level 2 TIA
101—500	Level 1 TIA
100 or less	None Required

- C. *TIA Scope.* If a TIA is required, the applicant shall meet with the City ~~Engineer-Manager or his/her designee~~ to determine the scope for the study prior to beginning work on the TIA. The applicant shall be prepared, prior to the meeting with the City ~~Engineer-Manager or his/her designee~~, to discuss potential intersections, streets, and driveways to be evaluated, data assumptions or any other information required by the City Engineer.
- D. *TIA Study Area.* The study area required for the TIA shall be based on the level of the TIA required in Paragraph B. above. The City ~~Engineer-Manager or his/her designee~~ may, at his/her discretion, require additional area to be included in the study area if deemed necessary to provide adequate review of the transportation network. The following Table 21.14.7B identifies the minimum acceptable study area:

Table 21.14.7B TIA Study Areas	
TIA Level	Study Area
Level 1 or 2 TIA	The site area and the area within a one quarter (¼) mile radius from the boundary of the site.
Level 2 TIA	At the discretion of <del>the City's engineer</del> <u>the City Engineer-Manager or his/her designee</u> , the study area

	may be extended up to a maximum of one (1) mile from boundary of the site.
Level 3 TIA	The site area and the area within a one (1) mile radius from the boundary of the site.

E. *TIA contents.* The TIA shall conform to accepted industry standards and shall include a detailed description of the area street network, a description of proposed land uses, the anticipated stages of construction, the anticipated completion date of the various phases of land development, and the trigger points requiring implementation of necessary improvements. The City Engineer may require any additional information necessary to ensure adequate review. Additional information required may include, but not be limited to, analysis of weekend trip generation and traffic, traffic signal warrant analysis, gap analysis, queue length analysis, stopping sight distances, and pedestrian counts. The TIA shall contain, at a minimum, the following information:

1. trip generation rates for both the A.M. and P.M. peak periods using the Institute of Transportation Engineers (ITE), Trip Generation Manual linear trip generation rates, except where the ITE Trip Generation Manual clearly indicates the use of regression equations better captures the trip generation estimates, for all of the land uses specified;
2. trip distribution;
3. adequacy determination for existing and proposed street cross-sections by phase of development based on the Transportation Research Board's Highway Capacity Manual (HCM);
4. intersection Level of Service (LOS) level-of-service analysis for each phase of development, driveway sizes, locations, and adequacy based on the HCM;
5. layout showing lane usage (pavement marking layout) for all boundary streets including driveway locations and roadway geometry within the site;
6. driveways and intersecting streets connecting to boundary streets including all lane widths, traffic islands, medians, sidewalks, curbs, and traffic control devices; ~~and existing pavement conditions;~~
7. existing and proposed turning movement counts for the site;
8. identification of and timing for transportation improvements both on-site and off-site within the study area, if any, needed to mitigate the effects of the additional traffic generated by the development. The development is responsible for the full costs of implementation of the improvements -maintain the same or higher level of service than exists prior to development during each phase of land development and the costs of those improvements, including costs of right-of-way acquisition, utility relocation, design and construction;
9. ~~The TIA shall~~ Traffic Impact Analysis Elements
  - a. ~~establish~~ Establish the baseline traffic conditions and peak hour operations prior to development of the subdivision or site, ~~This which~~ baseline shall be used to establish the existing level of service Level of Service (LOS) ~~that is to be maintained or bettered as the owners develop the subdivision or site over time;~~ and of the key intersections, and street segments where appropriate.
  - b. ~~address streets and street intersections, and driveways on commercial sites;~~ LOS analysis for the future opening date of the development. This analysis shall be based on the baseline traffic

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conditions described above, plus the estimated traffic growth from the baseline to the future opening date.

c. LOS analysis at the future opening date including the development traffic. This analysis shall be based on the traffic conditions described in Section 21.14.E.9.b above plus the development traffic distributed onto the roadway network. Special analysis may be required to determine signal warrants, gap analysis, minimum safe sight distances, drive approach locations, turning lane length, or similar requirements.

d. Mitigation improvements shall be identified to either maintain a minimum LOS of C, or when the projected traffic delay values measured in seconds per vehicle is already below a LOS C to maintain the delay value to within ten (10) percent of the traffic delay identified in Section 21.14.6.E.9.b above for unsignalized intersections and to within twenty (20) percent of the traffic delay identified in Part B above for signalized intersections.

e. For intersections functioning below a LOS of C as described in paragraph b above (Sec. 21.14.6.E.9(b)), the City may participate in the costs of improvements in order to achieve proportionality between the traffic impacts created by the proposed developments and the City's obligation to provide adequate streets and intersections. The percentage of development traffic added to the intersection to the intersection traffic as described in Section 21.14.6.E.9.b above will be used as the basis for determining the development's proportionate cost of improvements. Such agreement and timing of collection of those costs shall be determined by the execution of an Escrow Agreement for the development's proportionate share of the improvements.

f. Comply with the Public Works Specification Manual requirements.

10. for projects adjacent to a TxDOT ROW, the TIA shall be accompanied by a letter from TxDOT which outlines any agreements between the developer and TxDOT for planned improvements; and

11. the TIA shall be certified by a Texas Licensed Engineer ~~registered engineer~~ with experience in the field of traffic engineering.

F. *TIA Submittal.* Upon completion of the TIA, the applicant shall submit a ~~minimum of three (3) copies~~ digital copy of the report to the City Engineer. ~~The applicant shall be responsible for submitting copies of the report to TxDOT, or any other entities, as required. -who will distribute the report to the appropriate review authorities including TxDOT.~~

G. *TIA Review.* The TIA shall be reviewed by the City Engineer and any other necessary review authorities. Review comments shall be provided to the applicant for response. Response by the applicant shall be in ~~the form of a letter, technical memorandum, or other appropriate document~~ electronic format. The applicant shall submit a final copy of the TIA to the City Engineer containing all modifications prior to final approval of the application for which the TIA was conducted.

H. *City Assistance in Development.* During the course of providing for improvements, the City may cooperate with the developer in the use of its governmental powers to assist in the timely and cost effective implementation of improvements. Assistance shall not mean financial aid in actual easement acquisition, construction or engineering costs. Specifically, the City agrees to:

1. assist in the acquisition of necessary right-of-way and easements;
2. assist in the relocation of utilities;
3. assist in obtaining approvals from applicable county entities;
4. assist in obtaining approvals from TxDOT; and

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5. assist in securing financial participation for major street improvements from applicable county entities, TxDOT or the Metropolitan Planning Organization.
  - I. *TIA Revisions.* It is recognized that the scope of the developer's plans may change from time to time. The monitoring reports may also demonstrate changes in the area street conditions and travel patterns within and around the City. Periodic updates to the TIA may be required to address these issues and identify changes to the level of service at study intersections and streets. When a development change occurs that deviates from the activity on which the previous TIA was submitted and accepted, and the new activity places the project in a different TIA level as defined by Table 21.14.7A from that of the previous TIA or generates an increase of at least 100 peak hour trips relative to the previous TIA, the property owner or its agent shall perform and submit to the City an updated TIA. These updates shall address modifications to the magnitude and timing of improvements recommended by the original TIA. Any TIA amendments must be acceptable to the City.

(Ord. No. 18-S-04 , § 1(Exh. A), 1-23-2018)

### **Section 21.14.8 Conflicts.**

- A. If any provisions of this section are in conflict or inconsistent with provisions in any other City regulations, the order of precedence shall be
  - a. Master Thoroughfare Plan
  - b. Public Works Specification Manual