

Legislation Text

File #: 18-650, Version: 1

Presenter/Contact
Garry Ford, City Engineer
(830) 221-4020 - gford@nbtexas.org

SUBJECT:

Presentation and possible direction to staff regarding proposed amendments to Sections 114-98 and 118-46 of the Code of Ordinances regarding traffic impact analysis trip generation, turn lane requirements, access on collector or major thoroughfare streets, and removal of references to the sub-collector street section.

BACKGROUND / RATIONALE:

City staff is proposing amendments to *Chapter 114 - Streets Sidewalks and Other Public Places, Article IV - Right-of-way Access and Management, Section 114-98 - General specifications for all roadways*, and *Chapter 118 - Platting, Article IV - Design Standards, Section 118-46 - Streets* of the Code of Ordinances. The proposed amendments will specify that traffic impact analysis (TIA) trip generation shall consider potential land use based on future land use and/or zoning when specific land use is unknown; add deceleration lane requirements; add provisions for residential lot access on collector and major thoroughfare streets; and remove references to the sub-collector street section.

Traffic Impact Analysis Trip Generation

The Code of Ordinances specifies that no master plan, plat, building permit or driveway access shall be approved unless a traffic impact analysis (TIA) is completed by the developer and approved by the city engineer. Furthermore, a TIA may also be required by the planning director, planning commission or the city council as part of a zoning change application. A TIA is intended to determine the development's traffic impact and need for any improvements to the internal and adjacent transportation system to maintain satisfactory level of service, acceptable level of safety and appropriate access provisions. A TIA should be submitted at several stages in the development process including:

- Zoning and rezoning;
- Master plan;
- Preliminary and final plat;
- Site plan review;
- Access permits; and
- Building permits.

Separate studies are not needed at each development stage; however, studies need to be updated to include more detail as site plans and development become more specific. It is critical that a TIA is submitted during the master plan and plat process to determine right-of-way needs, address community concerns, and legally specify mitigation requirements as part of city approval.

City staff received recent requests to not require a TIA at master plan or plat due the specific land use being unknown or receive TIA worksheets that are not compatible with the site and just under the peak hour threshold that requires a TIA report. The city also receives requests to conduct the TIA at building permit which often results in piecemeal TIA worksheets that do not address the impact of the overall development. Staff responds requiring that the TIA be based on the future land use and/or zoning with consideration to existing topography, comparable properties and updated as development progresses. Furthermore, an experienced transportation professional who has specific training and experience in preparing TIA can forecast and analyze proposed developments early in the development process. The amendment will codify the specific language to address future requests.

Turn Lane Requirements

Turn lanes are exclusive deceleration and storage lanes that allow for vehicles to turn left and right at intersections and driveways outside the through lane. Turn movements at intersections, especially movements that are made from lanes that are shared with through traffic, cause delays and adversely impact safety. Turn lanes are one strategy to improve operations and safety on the city's transportation system. The Code of Ordinances Section 114-98 (f) provides limited guidance on turn lanes and engineers use various guidelines or only one factor to warrant and recommend them through the TIA process. The proposed amendment will provide standard criteria with the consideration of other factors.

The guiding document for street design is the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. AASHTO states that warrants for turn lanes cannot be definitely stated and many factors should be considered, including speeds, traffic volumes, frequency of intersections and site conditions. Guidance for left turn lanes is provided based on opposing and advancing traffic volumes, with additional considerations for local conditions, functional classification and character of traffic.

The Texas Department of Transportation (TxDOT) guidance for right turn lanes is provided in the *Access Management Manual*. It specifies that right turn lanes should be considered when speeds are greater than 45 miles per hour and turn volume is greater than 50 vehicles per hour, and when speeds are equal to or less than 45 miles per hour and turn volume is greater than 60 vehicles per hour. The manual also specifies other conditions that may warrant the need for a right turn lane when volumes are less than provided including high crash experience, heavy peak hour flow, truck traffic and limited sight distance.

TxDOT guidance for left turn lanes is provided in the *Roadway Design Manual*. Like AASHTO, guidance for left turn lanes is provided based on opposing and advancing traffic volumes, with additional considerations for local conditions and character of traffic. In some cases, engineers use TxDOT right turn volume guidance to warrant left turn lanes.

The most recent left turn lane design guidance is provided by the National Cooperative Highway Research Program (NCHRP) sponsored by AASHTO and the Federal Highway Administration. The design guidance is based on benefit-cost approach considering delay savings, crash costs, crash reduction and construction costs. The guidelines are based on the peak hour volumes and intersection configuration. The left turn peak hour volume for a left turn lane for various scenarios, including urban/suburban streets, is 50 vehicles per hour. Additionally, the City of San Antonio's

threshold for left and right turn lanes is 50 vehicles per hour, and 500 vehicles per day.

Staff recommends establishing turn lane requirements at 50 vehicles per hour following the NCHRP and City of San Antonio guidelines including review of other factors. Additional amendments are proposed to the requirements including design and construction requirements.

Access on Collector or Major Thoroughfare Streets

The existing Code of Ordinances does not permit driveway access on arterial roads that require backing maneuvers in a public street right-of-way. The proposed amendment will add other thoroughfare streets (expressway, parkway and collector streets) to the list of roadway classifications where backing maneuvers from driveways is not permitted. These types of streets are designed to provide a higher level of mobility with limited access.

This amendment also addresses the operational and safety issues on collector streets in residential subdivisions. Collector streets can carry up to 5,000 vehicles per day, and it is common and best practice to restrict standard one and two-family lots fronting and driveway access on collector streets. Homes fronting collectors is a common neighborhood issue and city staff and the Transportation and Traffic Advisory Board have reviewed many traffic concerns on collector streets in New Braunfels including Sungate Drive, Dove Crossing Drive, Divine Way, Pahmeyer Road, Oak Run Parkway and Stone Gate Drive. Engineering and Police Department staff received complaints from residents when daily traffic volumes are as little as 500 vehicles per day. Furthermore, the city continues to receive new subdivision plans with residential lots fronting collectors and with planned driveway access that requires backing onto the street.

Good examples of design collectors without homes fronting and having driveway access include Southbank Boulevard, Avery Parkway, Pahmeyer Road within the Voss Farms subdivision, and the collector network in Veramendi.

The proposed amendment will revise Chapters 114 and 118 to not allow residential lot access to collector or major thoroughfare streets that require backing onto street. Residential lots having direct access on collector roadway may be platted only if: (1) all lots are greater than one acre, have a minimum lot frontage of 100 feet and provide a permanent vehicular turnaround on the lot preventing backing onto the street; or (2) permit access to lots less than one acre if a marginal access street or easement is constructed and access is spaced a minimum of 200 feet apart and from an existing driveway or street. The marginal access street shall be designed for emergency access, on-street parking, sidewalk connection and solid waste operations that do not require backing within the marginal access street or easement.

Remove References to the Sub-Collector Street Section

The proposed amendment removes the sub-collector classification as it is not used in practice and was removed from the platting ordinance in a recent update.

ADDRESSES A NEED/ISSUE IN A CITY PLAN OR COUNCIL PRIORITY:

2006 Comprehensive Plan: Transportation Goal 21: Provide a system of convenient and safe transportation facilities through comprehensive, cooperative and continuing transportation system planning and development.

FISCAL IMPACT:

N/A

COMMITTEE RECOMMENDATION:

The Transportation and Traffic Advisory Board unanimously voted to recommend the proposed amendments to Section 114-98 of the City of New Braunfels Code of Ordinances regarding driveway access and deceleration lane requirements at their meeting on October 18, 2018.

STAFF RECOMMENDATION:

Staff will be preparing revised ordinance language based on input from Planning Commission and City Council for action at a future meeting. Staff recommends approval of the proposed amendments to Sections 114-98 and 118-46 traffic impact analysis trip generation, turn lane requirements, access on collector or major thoroughfare streets, and remove references to the sub-collector street section.