

# Choices

## Appendix 5A: THOROUGHFARE PLANNING

### What is a Thoroughfare Plan?

The Thoroughfare Plan is a long-range plan that identifies the location and type of roadway facilities that are needed to meet projected long-term growth within the area. The Thoroughfare Plan is not a list of construction projects but rather serves as a tool to **enable the City to preserve future corridors for transportation system development** as the need arises. Many of the proposed arterial and collector streets identified on the Thoroughfare Plan, especially in the ETJ, will likely not be needed or constructed within the next 20 or 30 years. However, one of the purposes of the Thoroughfare Plan is to preserve needed transportation corridors so that as development occurs in the future the City will have the ability to develop appropriately sized transportation facilities to serve the needs of the community at that time.

#### **Legal Authority**

Under the provisions of Article XI, Section 5 of the Texas Constitution and Title 7, Chapter 212 of the Texas Local Government Code, the City of Temple can require that development plans and subdivision plats conform to "... the general plan of the municipality and its current and future streets ..." and "... the general plan for extension of the municipality and its roads, streets, and public highways within the municipality and its extra-territorial jurisdiction."

Requirements for right-of-way dedication and construction of street improvements apply to all subdivision of land within the City's incorporated area and its extra-territorial jurisdiction. In accordance with the Texas Local Government Code, the City has adopted rules governing plats and subdivision of land within the municipality's jurisdiction, and, by ordinance, those rules have also been extended to the City's ETJ.

#### **Plan Considerations**

A Thoroughfare Plan displays the proposed general alignments for the extensions of existing collector and arterial roadways and planned new roadways. It is important to note that the actual alignments of these roadways will likely vary somewhat from this plan and will be determined through the subdivision development process and the preliminary engineering phase of design. Slight modifications to facility locations, such as a shift of an alignment several hundred feet one way or another or changes in roadway curvature are

warranted and accepted as long as the intent of the Thoroughfare Plan to provide system connectivity and appropriate types of facilities is not compromised. As development occurs alignment studies will probably be needed to determine the exact location of some roadways, keeping in mind the overall purpose and intent of the Thoroughfare Plan and the alignments shown on it.

The plan does not show future local streets because they function principally to provide access to individual sites and parcels, so their ultimate alignments will, therefore, vary depending upon individual land development plans. Local street alignment should be determined by the City in conjunction with land owners as part of the subdivision development process. Likewise, collectors are required with new development but are not shown in all places on the Thoroughfare Plan – particularly in the far outlying areas of the ETJ – since their alignments will depend on the surrounding street system and the layout and density of development. They are, nevertheless, vital to an efficient and viable transportation network and must, therefore, not be overlooked during the subdivision development and review process. Collectors should be situated to connect arterial streets with other collectors and local streets.

### **Functional Classification**

An effective transportation system is comprised of a network of roadways, each with its own designation, function and capacity within the overall system. Each street segment contributes to the interconnectivity of the network. Therefore, for a network to operate efficiently, it is essential for there to be a complete network of roadways designed in a hierarchy from highways to arterial and collector streets, to the local street network. Each link is intended to function according to its design capacity, in effect distributing traffic from the highest functional classification – highway or expressway – to the lowest design classification. Connectivity is key to providing an efficient, safe, and convenient roadway network for vehicular traffic.

Typical characteristics of a functionally classified local road network are compiled in [Table 5A.1](#). A functional roadway system facilitates a progressive transition in roadway purpose from the provision of access to the provision of movement. Freeway and arterial facilities are at one end of the spectrum, primarily providing the function of moving vehicles. Collector and local streets are at the opposite end of the spectrum, providing access to property. To enable streets and highways to accomplish their intended function, the planning and design of each facility should consider those elements that support its intended function.

Table 5A.1, Functional Classification Criteria

| Criterion                                       | Regional  | Principal Arterial  | Minor Arterial  | Collector  | Local Street   |
|---|---|---|---|--|--|
| <b>Functional Role</b>                          | Entirely through traffic movement with no direct access to property.        | Mobility is primary, access is secondary. Connects Freeways and other Arterials.                | Connects Freeways, Principal Arterials, and lower classification roadways. Access is secondary. | Collects traffic destined for the Arterial network. Connects Arterials to Local Streets. Also land access. | Access is primary. Little through movement.                    |
| <b>Roadway Continuity</b>                       | Inter-city, regional, and interstate.                                       | Connects Freeways to lower classification roadways. Connects major activity centers.            | Connects Freeways and Principal Arterials to lower classification roadways.                     | Continuous between Arterials. May extend across Arterials.   | Discontinuous. Connects to Collectors.                         |
| <b>Roadway Length</b>                           | Usually more than 5 miles   | Usually more than 5 miles   | Usually more than 3 miles   | Varies from roughly one-half mile to 2 miles   | Generally less than 1 mile                                     |
| <b>Traffic Volumes (VPD = vehicles per day)</b> | 40,000+ VPD   | 20,000 to 60,000 VPD  | 5,000 to 30,000 VPD   | 1,000 to 15,000 VPD  | 100 to 5,000 VPD   |
| <b>Desirable Spacing</b>                        | 5 miles or more   | 2 miles or more   | Generally one-half to 2 miles   | Generally one-quarter to one-half mile   | Varies with block length (at least 125 feet between)           |
| <b>Posted Speed</b>                             | 55 to 70 mph  | 40 to 55 mph  | 30 to 45 mph  | 30 to 35 mph   | 20 to 30 mph   |
| <b>Access</b>                                   | Controlled access. Grade separated interchanges and frontage/service roads. | Intersects with Freeways, Arterials, Collectors, and Local Streets. Restricted driveway access. | Intersects with Freeways, Arterials, Collectors, and Local Streets. Restricted driveway access. | Intersects with Arterials and Local Streets. Driveways limited.  | Intersects with Collectors and Arterials. Driveways permitted. |
| <b>On-Street Parking</b>                        | Prohibited  | Restricted  | Restricted  | Normally permitted   | Permitted  |
| <b>Community Relationship</b>                   | Defines neighborhood boundaries   | Defines neighborhood boundaries   | Defines and traverses neighborhood boundaries   | Internal and traverses neighborhood boundaries   | Internal   |
| <b>Through Truck Routes</b>                     | Yes   | Yes   | Permitted   | No   | No   |
| <b>Bikeways</b>                                 | No  | Limited   | Permitted   | Yes  | Yes  |
| <b>Sidewalks</b>                                | No  | Yes   | Yes   | Yes  | Yes  |

## Requirements and Standards

This section outlines criteria for certain characteristics of street and land development. These criteria supplement or expand upon the design standards of the City's Subdivision Ordinance, providing further policy support for such provisions. These policies should be formalized through ordinance provisions to ensure proper implementation.

- **Location and alignment of thoroughfares.** The general location and alignment of thoroughfares must be in conformance with the Thoroughfare Plan, as currently expressed in the City's Subdivision Ordinance. Subdivision plats should provide for dedication of needed rights-of-way for thoroughfares within or bordering the subdivision. Any major changes in thoroughfare alignment that are inconsistent with the plan should require the approval of the City's Planning and Zoning Commission through a public hearing process. A major change would include any proposal that involves the addition or deletion of established thoroughfare designations or changes in the planned general alignment of thoroughfares that would affect parcels of land beyond the specific tract in question.
- **Location and alignment of collectors.** Generally, to adequately fulfill their role to collect traffic from local streets and distribute it to the arterial street system, collectors should be placed between arterial streets, with a spacing of approximately one-quarter to one-half mile for minor and major collectors, respectively. Collectors must be shown on all proposed subdivisions of land consistent with the Thoroughfare Plan. In cases where a collector alignment is not shown on the Thoroughfare Plan but is warranted due to development density and projected traffic volumes, it is also required and must be shown.
- **Roadway continuity.** To maximize mobility it is essential that collector streets traverse adjacent neighborhoods to provide access and circulation not only within, but also between neighborhoods. Collector streets should generally connect bounding arterials rather than allowing developments to design a street system with limited or no points of ingress/egress other than the primary entrance(s) to the development. Rather than allowing waivers of this requirement, the Subdivision Ordinance should identify warrants and criteria for exemption.
- **Right-of-way and pavement width.** The pavement and right-of-way width for thoroughfares must conform to minimum standards unless a waiver is granted using formalized criteria. Properties proposed for subdivision that include or are bordered by an existing thoroughfare with insufficient right-of-way width must be required to dedicate land to compensate for any right-of-way deficiency of that thoroughfare. When a new thoroughfare extension is proposed to connect with an existing thoroughfare that has a narrower right-of-way, a transitional area must be provided. An alternative to the current practice of requiring street widening at the time of subdivision development is a street escrow program whereby funds for street construction are held in escrow until such time as widening of the complete street section is warranted due to development.
- **Continuation and projection of streets.** In accordance with the policies and recommendations of this plan, existing streets in adjacent areas should be continued, and, when an adjacent area is undeveloped, the street layout must

provide for future projection and continuation of streets into the undeveloped area. In particular, the arrangement of streets in a new subdivision must make provision for continuation of right-of-way for the principal existing streets in adjoining areas – or where new public streets will be necessary in the future on adjacent properties that have not yet been subdivided. Where adjacent land is undeveloped, stub streets must include a temporary turnaround to accommodate fire apparatus and other large vehicles.

- **Location of street intersections.** New intersections of subdivision streets with existing thoroughfares within or bordering the subdivision should be planned to align with existing intersections to avoid creation of offset or "jogged" intersections and to provide for continuity of existing streets, especially collector and arterial streets.
- **Angle of intersection.** The angle of intersection for street intersections should be as nearly at a right angle as possible. Corner cutbacks or radii should be required at the acute corner of the right-of-way line to provide adequate sight distance at intersections.
- **Offset intersections.** The standard for offset or "jogged" street intersections should be 200 feet between the centerlines of the intersecting streets.
- **Cul-de-sacs.** Through streets and tee-intersections are preferable to cul-de-sacs. Care should be taken so as not to over-utilize cul-de-sacs, which limit through access, restrict pedestrian circulation, increase emergency response times, and confuse motorists. However, when cul-de-sacs are used, they should have a maximum length of not more than 600 feet measured from the connecting street centerline to the centerline of radius point. Pavement diameter in residential areas should be 100 feet with a right-of-way diameter of 120 feet. A cul-de-sac with an island should have a diameter of not less than 150 feet.
- **Residential lots fronting on arterials.** Subdivision layout must avoid the creation of residential lots fronting on arterials with direct driveway access to the arterial street. Lots should be accessed from local streets within or bordering the subdivision or an auxiliary street designed to accommodate driveway traffic.
- **Residential lots fronting on collectors.** Subdivision layout must avoid the arrangement of lots to access major collector streets and, to the maximum practicable extent, minimize direct access to minor collector streets, particularly within 180 feet of an intersection.
- **Non-residential lot access guidelines.** Other requirements and guidelines for the number of curb cuts allowed for commercial, industrial and multi-family sites should be provided in the subdivision regulations and associated design standards/criteria. Very wide curb cuts and lay-down curbs do not adequately control access or increase traffic safety and, therefore, should not be permitted.
- **Geometric design standards and guidelines.** Other requirements and guidelines for the geometric design of thoroughfares and public streets should be provided in the City's Subdivision Ordinance and standard specifications. This includes special provisions for lot width and building setbacks on corner lots to preserve sight distances at adjacent intersections.