

Appendix C

Functional Classifications

How It Should Be Used

The Thoroughfare Plan should be used by City Staff, the Planning and Zoning Commission and City Commission in securing needed rights-of-way as development occurs in the community. Requirements for rights-of-way dedication and construction of street improvements should apply to all subdivision of land within the City and extra-territorial jurisdiction (ETJ). Displayed in **Map 3.1, Thoroughfare Plan**, are 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 construction. 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 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 and their future 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 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 lowest design classification – local streets – to the highest functional classification – highway or expressway. Connectivity is a key to providing an efficient, safe, and convenient roadway network for vehicular traffic.

Characteristics of the City's functional classification system as shown on the Thoroughfare Plan map are shown in **Table C-1, Functional Classification Criteria**. A functional roadway system facilitates a progressive transition in the flow of traffic 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 the facilities should consider those elements that support the intended functions.

Requirements and Standards

This section outlines criteria for certain characteristics of street and land development. These criteria supplement information found in **Chapter 3, Mobility**, or expand upon the design standards of the City's subdivision regulations, providing further policy support for such provisions.¹ These policies should be regulated through improved code 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, which should be clearly expressed in Section §154.35, *Streets*, of the City's subdivision regulations. 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.

¹ Cuero Code of Ordinances, Sec. §154.35, Streets.

Criterion	Parkway	Principal Arterial	Minor Arterial	Collector	Local Street
Functional Role	Mobility is primary; access is secondary. Connects Freeways and other Arterials	Mobility is primary; access is secondary. Connects other Arterials.	Connects Principal Arterials and lower classification roadways. Access is secondary.	Collects traffic destined for the Arterial network. Connects Arterials to Local Streets. Also land access.	Allow direct access to properties. Intended to carry traffic to collector streets. Designed for slower speeds.
Roadway Continuity	Connects Freeways to lower classification roadways. Connects major activity centers.	Connects to lower classification roadways. Connects major activity centers.	Connects Principal Arterials to lower classification roadways.	Continuous between Arterials. May extend across Arterials.	Discontinuous. Connects to Collectors.
Number of Lanes	4 lanes with a landscaped median	3 to 5 lanes; may include a center turning lane with or without landscaped islands	3 or 4 lanes	2 lanes, maybe 3 around intersections to accommodate turning lanes	2 lanes
Roadway Length	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
ROW	150 – 100 ft.	120 – 100 ft.	80 – 60 ft.	80-60 ft.	60 – 50 ft.
Traffic Volumes (VPD = vehicles per day)	20,000 to 60,000 VPD	20,000 to 60,000 VPD	5,000 to 30,000 VPD	1,000 to 15,000 VPD	100 to 5,000 VPD
Desirable Spacing	2 miles or more	Generally 2 mile or more	Generally one-half to 2 miles	Generally, one-quarter to one-half mile	Varies with block length (at least 125 feet between)
Posted Speed	40 to 55 mph	40 to 55 mph	30 to 45 mph	30 to 35 mph	20 to 30 mph
Access	Intersects with Freeways, Arterials, Collectors, and Local Streets. Restricted driveway access primarily at intersections	Intersects with Freeways, Arterials, Collectors, and Local Streets. Restricted driveway access primarily at intersections	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.
On-Street Parking	Prohibited	Restricted	Restricted	Normally permitted	Permitted
Community Relationship	Defines neighborhood boundaries	Defines neighborhood boundaries	Defines and traverses neighborhood boundaries	Internal and traverses neighborhood boundaries	Internal
Truck Routes	Yes	Yes	Permitted	No	No
Bikeways	Limited	Limited	Permitted	Yes	Yes
Sidewalks	Limited	Yes	Yes	Yes	Yes
Recommended Right-of-Way*	-	100-130	80-100	60-70	50-60

*Actual right-of-way requirements are determined in the subdivision regulations.

nations 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 serve 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 is not shown on the 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 regulations 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 subdivisions 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 streets will be necessary for future public requirements 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.
- **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 off-set 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 limits through access, restricts pedestrian circulation, increases emergency response times, and confuses 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 50 feet with a right-of-way diameter of 60 feet and should include a landscaped island. Pavement and right-of-way diameters in non-residential areas could be larger but should not exceed 80 feet of pavement and 100 feet of right-of-way.
- **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 access to minor collector streets, particularly within 180 feet of an intersection.
- **Geometric design standards and guidelines.** Other requirements and guidelines for the geometric design of thoroughfares and public streets should be provided in the subdivision regulations and standard specifications. This includes special provisions for lot width and building setbacks on corner lots to preserve sight distances at adjacent intersections.