

4. TWLTLs can lead to conflicting left-turn paths if driveways are poorly spaced and located. This situation may require raised medians in these areas to define left turn pockets and/or right-in right-out restrictions.

Part 7-4(J) Local Streets

This section provides guidance regarding the classification and design of local streets, private streets, stub streets, cul-de-sac, and single access to subdivisions. Local streets shall be designed to discourage high-speed driving and to support walking.

Section 7-4(J)(1) Local Street Classifications

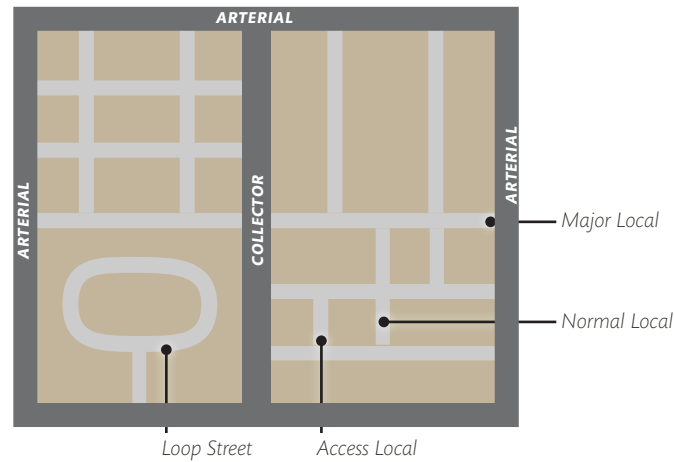
There are 3 types of local streets, described below. The anticipated ADT for each type is provided in [TABLE 7.4.71](#).

1. **Access Local:** Loop streets, cul-de-sacs, and short segments that provide connections to other streets. Access locals are not continuous for more than 1 or 2 blocks.
2. **Normal Local:** Streets that direct traffic to major local streets or may connect directly to collectors or arterials.
3. **Major Local:** A street that conveys traffic from other local streets to collector or arterial streets. The intent of major local streets is to provide sufficient space for 2 vehicles to travel unimpeded in opposite directions at the same time.

TABLE 7.4.71 ADT Parameters for Local Streets

Street Type	ADT
Access Local	<250
Normal Local	250 - 1,000
Major Local	>1,000

FIGURE 7.4.109 Local Street Classification



7-4(J)(1)(i) Trip Generation for Local Street Classification

A trip generation and distribution exhibit is required to classify new local streets. The traffic volumes shall be determined based on trip generation characteristics and the anticipated distribution of trips. The assumed ADT generated by different development types on local streets is provided in [TABLE 7.4.72](#). Additional information regarding trip generation and traffic studies is provided in [Article 7-5 Traffic Studies](#).

Type of Development	ADT per Unit
Single-family	10
Apartment/Townhouse	6
Non-residential or Mixed-use	Consult current ITE Trip Generation Manual

Section 7-4(J)(2) Local Street Design

7-4(J)(2)(i) Local Street Layout

1. Local street connectivity shall be consistent with standards in [Article 7-4 Design Standards](#) and the [LRTS Guide](#).
2. Block lengths shall be designed per [Part 7-4\(A\) Network Connectivity](#).
3. Block lengths of local streets in residential areas shall be no longer than 600 feet.

7-4(J)(2)(ii) Local Street Design Characteristics

1. Street design requirements for local streets are provided in [TABLE 7.4.73](#).
2. Pavement widths for streets adjacent to schools, within 150 feet of arterial or collector streets, and adjacent to large neighborhood parks should be designed to the larger end of the range of the "All Other Areas" categories.

3. Three (3) vehicle lanes may be provided as needed within 150 feet of intersections with collector or arterial streets, with 2 lanes for vehicles exiting and 1 lane for vehicles entering the Major Local street.
4. Right-of-way width requirements for extensions of existing roadways may be adjusted by the City Engineer if necessary to match existing right-of-way on the same street or to conform to drainage and/or landscaping requirements.
5. Bicycles may share the roadway on local streets. For additional information about bicycle lanes and bicycle routes, see [Part 7-4\(F\) Bikeways and Trails](#).
6. On-street parking is generally permitted on local streets, though on-street parking areas do not have to be designated (i.e. pavement markings, and signage), and additional right-of-way and pavement width are not required.
7. Bicycle lanes and designated on-street parking are discouraged on Access Local and Normal Local streets.
8. Additional road elements that may be added to the cross section for Major Local streets, depending on the context and location, include additional turning lanes, medians, bicycle lanes, designated on-street parking, and additional planting areas to accommodate large trees.
9. Intersections involving two local streets are generally served by stop or yield-sign controls or neighborhood traffic circles.
10. The following sections provide additional guidance on street element design:
 - a. [Part 7-4\(E\) Pedestrian Facilities](#) for guidance related to pedestrian facilities.
 - b. [Part 7-4\(F\) Bikeways and Trails](#) for bicycle facilities.
 - c. [Part 7-4\(H\) On-street Parking](#) for on-street parking.
 - d. [Section 7-4\(I\)\(6\)](#) for intersection design.
 - e. [Section 7-4\(I\)\(7\)](#) for medians and turn lane design.

TABLE 7.4.73 Local Street Design Standards

Corridor Type	Location	Design Speed (MPH)	Required Elements					Optional Elements	
			ROW Width (ft.)	Frontage Zone (ft.)	Sidewalk Width (ft.)	Landscape/ Buffer Zone (ft.)	Roadway Width (ft.) <small>(From curb face to curb face)</small>	Min. On-street Parking (ft.)	Min. Median (ft.)
Access Local	Citywide	15-25	44 - 46	0	5	4	26 - 28	N/A	N/A
Normal Local*	Single-family Residential Areas	18-25	48 - 52	0	5	5	28 - 32	N/A	N/A
	All Other Areas	18-25	48 - 61	1-2.5	5	5	26 - 36	N/A	N/A
Major Local*	Single-family Residential Areas	18-25	48 - 58	0	5	5	28 - 38	8	4 - 14
	All Other Areas	18-30	50 - 73	1-2.5	5	5-6	28 - 46	8	4 - 14

* When three utilities (storm sewer, sanitary sewer, and water lines) are proposed, shall have a minimum of 50 feet Right-of-Way width and a minimum Roadway Width of 32 feet (from face of curb to face of curb).

FIGURE 7.4.110 Typical Access Local and Normal Local Street Cross Section

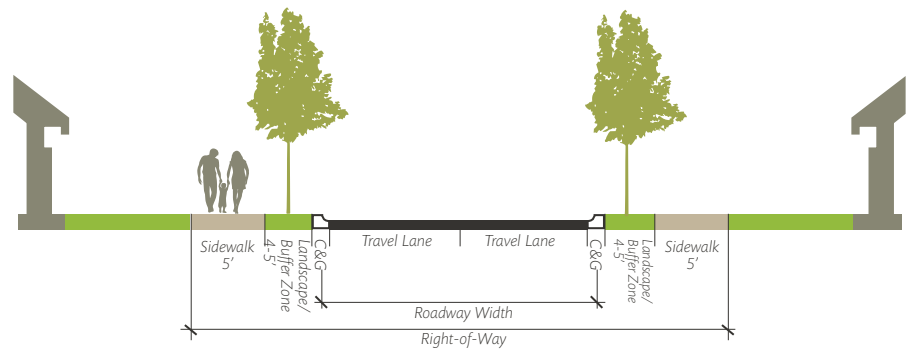


FIGURE 7.4.111 Major Local Street Cross Section with Designated Parking

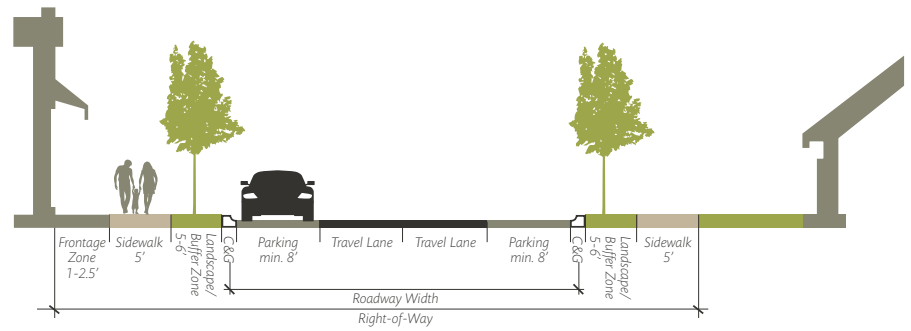
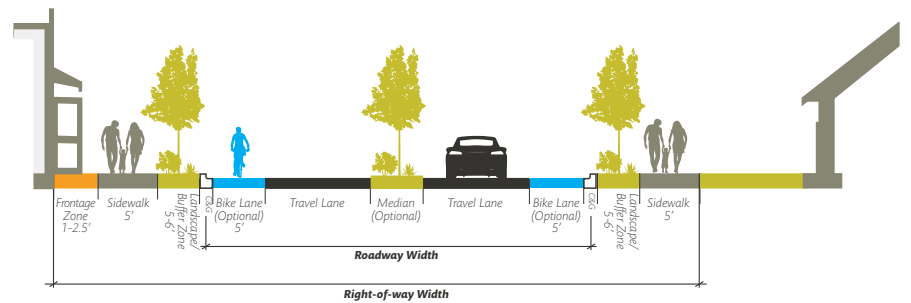


FIGURE 7.4.112 Major Local Street Cross Section with bicycle lanes



Section 7-4(J)(3) Stub, Cul-de-sac, and Loop Street Criteria

7-4(J)(3)(i) Stub Streets

1. Stub streets are the extension of a street past an intersection where a turnaround is not required. The length of a stub street is measured from the centerline of the intersecting street to the end of the stub street.
2. See additional requirements in [IDO Section 5-3\(E\)\(1\)\(d\) Stub Streets and Cul-de-sacs](#).
3. Stub streets shall follow design guidance for access local streets in [Section 7-4\(J\)\(2\) Local Street Design](#).

7-4(J)(3)(ii) Cul-de-sac and Hammerhead Streets

1. Cul-de-sac and hammerhead streets are short streets intersecting another street at one end and terminating at the other end with a vehicular turnaround. [FIGURE 7.4.113](#) and [FIGURE 7.4.114](#) show typical dimensions.
2. See [IDO Subsection 5-3\(E\)\(1\)\(d\) Stub Streets and Cul-de-sacs](#) and [Article 7-4 Design Standards](#) for appropriate locations and restrictions.
3. Cul-de-sacs and hammerhead streets shall follow design guidance for access local streets in [Section 7-4\(J\)\(2\) Local Street Design](#).
4. The maximum length permitted in a hammerhead or cul-de-sac street is as shown in [TABLE 7.4.74](#) and is measured from the centerline of the intersecting street to the center of the turnaround.

Min. F-F Street Width*	Max. Cul-de-sac Length
20 ft.	≤500 ft.
26 ft.	≤600 ft.

* Roadway width is measured from face of curb to face of curb.

FIGURE 7.4.113 Cul-de-sac Dimensions

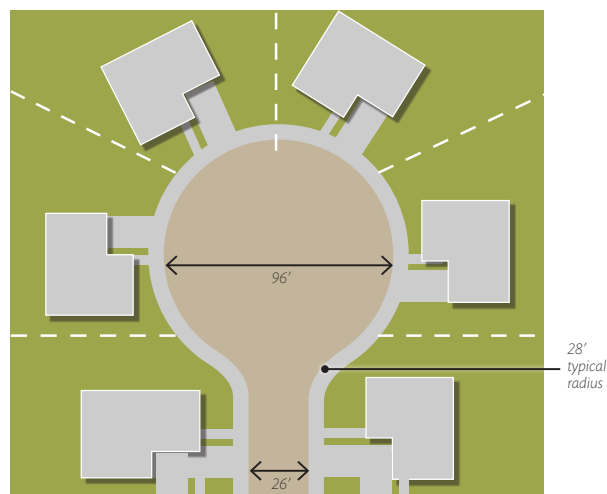
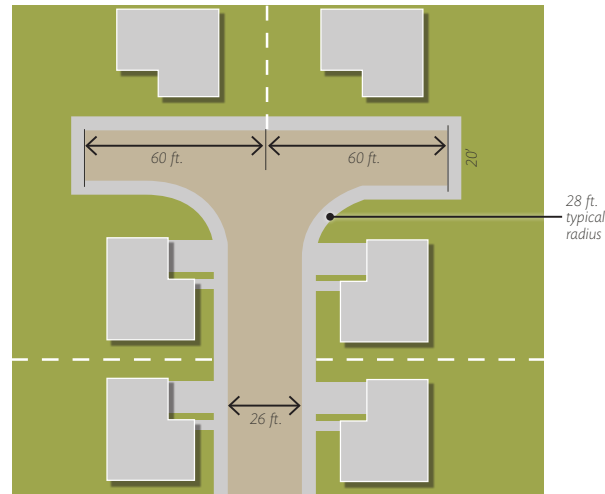


FIGURE 7.4.114 Hammerhead Dimensions



7-4(J)(3)(iii) Loop Streets

1. Loop streets shall have a maximum length of 1,320 feet, measured along a centerline, and shall be designated an access local street as described in [TABLE 7.4.73](#).
2. Loop streets shall be designed to prevent excessive speeds and have straight sections no longer than 600 feet.

Section 7-4(J)(4) Emergency Service Access to Local Streets

1. Fire access roads shall be designed per [Article 14-2 Fire Code \(ROA 1994\)](#).
2. A maximum of 30 dwelling units in a single- or two-family (i.e. duplex) residential subdivision may be served by a single point of access
3. A maximum of 100 dwelling units in a single- or two-family (i.e. duplex) residential subdivision may be served by a single point of access combined with a strategically located emergency access.
4. Single- or two-family residential subdivisions that contain over 100 units must provide 2 or more non-emergency access points.
5. An emergency access shall have all of the following:
 - a. Minimum 20 feet width with 28 foot radii at intersections with streets.
 - b. Improved low-maintenance surface (i.e. asphalt, concrete, or other approved driving surface capable of supporting 75,000 pounds).
 - c. Breakaway gate for closure during non-emergency times.

Section 7-4(J)(5) Private Streets

1. All private streets providing access to 8 or more dwelling units shall be built per [City Standard Specifications](#) and DPM requirements for local streets. Any deviation must be approved by the City Engineer.
2. The use of private streets in the design of exclusive access to lots is limited by the following requirements:
 - a. *The length, width, and permanent character of the private street must be suitably and legally defined by the plat establishing the lots being served. The lots served must abut or front the proposed private street.*
 - b. *The City Engineer shall determine that the proposed private street will always function as a street classified as a local street and designed per [Section 7-4\(J\)\(1\)](#) and that a City right-of-way would not better serve public purposes.*
 - c. *Easements for public utilities may be required.*
 - d. *Private streets shall be created by legal instrument that ensures future maintenance and operation as a private street.*

Section 7-4(J)(6) Private Ways

1. Private ways may be built for small subdivisions with 8 or fewer dwelling units.
2. Private ways shall be created by legal instrument that ensures future maintenance and operation as a private way. This may be done on a subdivision plat.
3. Private ways may be built per the DPM and [City Standard Specifications](#).
4. Private ways may be constructed of gravel or pavement.
5. The initial 25 feet behind the sidewalk on the intersecting street shall be paved, at a minimum, with 2 inches of asphalt on compacted subgrade as shown in the [City Standard Specifications](#).
6. The minimum design standards for private ways are provided in [TABLE 7.4.75](#).
7. The required access easement radii for a right angle turn in the easement as well as the connection to the public street is provided in [TABLE 7.4.76](#).

TABLE 7.4.75 Private Way Design Standards

Number of Dwelling Units with Direct Access	Min. Access Easement Width	Min. Road Improvements	Min. Pedestrian Improvements
1	15 ft.	15 ft.	N/A
2 - 3	22 ft.	22 ft.	N/A
4 - 8 (One Side Frontage)	29 ft.	24 ft.	1 5 ft. sidewalk
4 - 8 (Two Side Frontage)	34 ft.	24 ft.	2 5 ft sidewalks

TABLE 7.4.76 Easement Radii for Private Access Easements

Easement Width	Right Angle Turn within Easement	Connection to Public Street	Design Speed
15 ft. - 22 ft.	28 ft. Inside Edge Easement Radius	None	15 MPH
29 ft. - 34 ft.	50 ft. Centerline Radius	20 ft.	20 MPH

Section 7-4(J)(7) Entrance and Gate Requirements for Private Ways and Streets

1. All gated communities must include a turnaround for visitors at the gate so that the vehicle does not stand in or back into the City right-of-way.
2. Where a single gate is provided, the minimum width shall be 20 feet. For divided streets, the minimum width shall be 12 feet.
3. Additional entrance and gate requirements may be required by the Fire Marshal.

Part 7-4(K) Off-street Parking and Site Design

This section provides guidance on site design and off-street parking layout. The overall site design shall accommodate all modes of transportation including automobiles, pedestrians, bicyclists, and motorcyclists. To facilitate efficient parking operations, the designer shall also consider the interface of the site with adjacent development areas.

Section 7-4(K)(1) General Provisions

1. All sites and off-street parking areas shall be designed to comply with ADA/PROWAG standards.
2. The number of off-street, vehicle, bicycle and motorcycle parking spaces shall be provided as established in the [IDO Section 14-16-5-5 Parking and Loading](#).
3. Site design shall comply with design requirements and landscape buffers established by the [IDO Part 14-16-5 Dimensional Standards](#).
4. Parking and site layout shall be designed such that vehicles do not back into the City right-of-way, except single-family dwellings may back into local streets.

Section 7-4(K)(2) Bicycle Parking

Off-street bicycle parking location, layout and rack options vary widely. The following guidelines shall be considered when placing and designing bicycle parking areas and choosing rack options. Alternative rack design, placement, or installation methods not meeting the guidelines below may be considered and are reviewed on a case-by-case basis by the City Engineer.

1. All bicycle racks shall be designed according to the following guidelines:
 - a. The rack shall be a minimum of 30 inches tall and 18 inches wide.
 - b. The bicycle frame shall be supported horizontally at two or more places. Comb/toaster racks are not allowed.
 - c. The rack shall be designed to support the bicycle in an upright position. See the [IDO Section 14-16-5-5\(E\)](#) for additional information.
 - d. The rack allows varying bicycle frame sizes and styles to be attached.
 - e. The user is not required to lift the bicycle onto the bicycle rack.
 - f. Each bicycle parking space is accessible without moving another bicycle.
2. Bicycle parking spaces shall be located in a well-lit area, visible from and, where feasible, located within 50 feet of the primary pedestrian entrance it serves. Bicycle rack placement shall meet the following placement requirements. (See [FIGURE 7.4.115](#) for direction on bicycle stall layout.)