CHAPTER 18

TRADITIONAL NEIGHBORHOOD DESIGN

A Introduction

Florida is a national leader in planning, design and construction of Traditional Neighborhood Development (TND) projects and in the renovation of downtown neighborhoods and business districts. The treatment of land use, development patterns, and transportation network necessary for successful TND projects is a major departure from those same elements currently utilized in the current Green Book which generally apply to Conventional Suburban Development (CSD) projects.

The design of TND projects requires a greater focus on supporting pedestrian, bicycle and transit activity, thereby putting motor vehicle movement in a less dominant position. A well designed TND is created using tools that many professionals are not accustomed to using, and therefore this chapter is intended to provide best practices to facilitate proper design of TND projects. Consequently, the emphasis varies from the rest of the Green Book where the focus is on establishing minimum standards. In order to provide a design that accomplishes the goals set out in this chapter, designers will be guided by providing design criteria based on the context of the built environment established for a portion of the community which has clearly defined characteristics necessary to achieve the goals for compact livable development patterns, also called “Smart Growth.”

This chapter is intended to provide guidance for planning and designing Greenfield (new), infill TND and urban renewal projects. It is also intended to clearly differentiate the differences between CSD and TND projects to maximize the possibility of proper design. This is important since the street geometry, adjacent land use, and other elements will either support transit, pedestrian and bicycle activity or create an environment that is not very supportive to those modes.

Subsequent sections in this chapter will help the professional understand why and how to apply design features.

Differences between Conventional and Traditional Neighborhood Development:

The characteristics of CSD typically include separated land uses, where housing, retail, office and industrial uses are isolated from one another. Housing is usually further

separated into neighborhoods such that apartments, condominiums and other higher density housing are separate from single family housing. Single family housing is often further separated into various price levels. Public services such as parks, schools, post offices, and health facilities are at such a large scale and separated from other uses that they can only be reached by motor vehicle.

In CSD, big box retail, office parks and other commerce can only be sustained in an auto dominant environment since they must have a regional market to succeed.

Finally, the roadway system is hierarchal and very much like a plumbing system where “local” streets with lower traffic volumes feed into “collector” streets with higher levels of traffic, then finally onto the “arterial”, where speeds and volumes are typically much higher. Block sizes are large to minimize the number of intersections. This type of roadway network puts essentially all trips onto the arterial with little to no alternate routes for travelers.

Design speeds are rarely less than 35 mph and may be as high as 50 mph. Thus longer distance through traffic is mixed with shorter trip traffic accessing local services. Higher volume, high speed streets fronted by the walls of subdivisions or surface parking lots of commercial developments result in a built environment that is hostile to pedestrian, transit and bicycle modes of transportation. See Figure 1 below for an illustration of conventional suburban development.

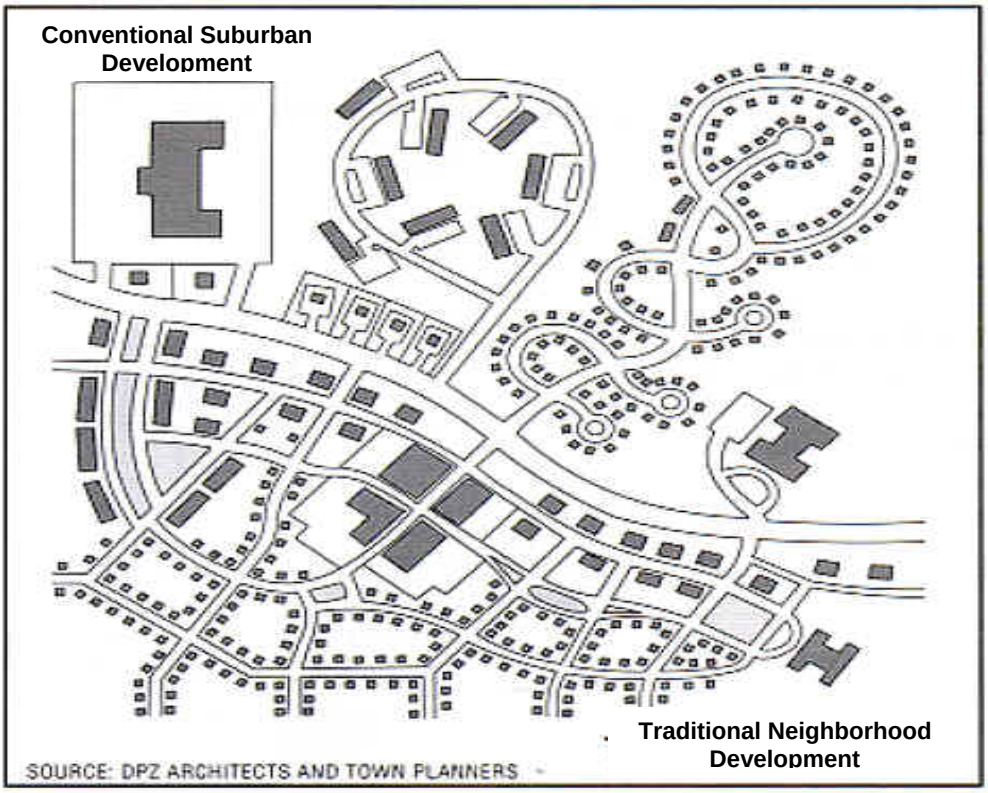


Figure 1

Traditional Neighborhood Development in contrast is very supportive to pedestrian, bicycle and transit modes. Land uses are mixed, with retail, office, civic buildings and residential interwoven throughout the community, and many times located in the same buildings. Block sizes are a smaller scale to improve walkability and to create a fine network of streets, providing a variety of routes for all users.

Multi-family and single family housing are located in close proximity or adjacent to each other, and homes of various size and price are mixed into neighborhoods. On street parking is favored over surface parking and one way streets are rarely used. Travel speeds for motor vehicles are ideally kept in the range of 20-35 mph. This creates and environment that is safer and more comfortable for pedestrians and bicyclists.

B CONTEXT

Context is the environment the roadway is built in which includes buildings, adjacent land use, historic, cultural, and other characteristics that form the built and natural environment of a given place. The ITE Proposed Recommended Practice for Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities refers to as the Transect Zones used in this document as “Context Zones.” They are in fact the same.

In order to more clearly define the various contexts or transects used throughout the remaining portions of the document, the transects and their related characteristics are listed in Table 1 below and illustrated in Figure 2 below.

Table 1

Transect Zone	Distinguishing Characteristics	General Character	Building Placement	Frontage Types	Typical Building Height	Type of Public Open Space
T-1 Natural	Natural Landscape	Natural Features	N/A	N/A	N/A	Natural open space
T-2 Rural	Agricultural with scattered development	Agricultural activity and natural features	Large setbacks	N/A	N/A	Agricultural and natural
T-3 Suburban	Primarily single family residential with walkable development pattern and pedestrian facilities, dominant landscape pattern	Detached buildings and landscaped yards	Varying front and side yard setbacks	Lawns, porches, fences, naturalistic tree planting	1 to 2 story with some 3 story	Parks, greenbelts
T-4 General Urban	Mix of housing types including attached units, with a range of commercial and civic activity at the neighborhood and community scale	Predominantly detached buildings, balance between landscape and buildings, presence of pedestrians	Shallow to medium front and side yard setbacks	Porches, fences	2 to 3 story with some variation and few taller workplace buildings	Parks, greenbelts
T-5 Urban Center	Attached housing types such as townhouses, and apartments mixed with retail, workplace, and civic activities at the community or sub-regional scale	Predominately attached buildings, landscaping within the public right of way, substantial pedestrian activity	Small or no setbacks, buildings oriented to the street with placement and character defining a street wall	Stoops, dooryards, storefronts, arcaded walkways	3 to 5 story with some variation	Parks, plazas, and squares, boulevard median landscaping
T-6 Urban Core	Highest intensity areas in sub-region or region, with high density residential and workplace uses, entertainment, civic and cultural uses	Attached buildings providing a sense of enclosure and continuous street wall, landscaping within the public right of way, highest pedestrian and transit activity	Small or no setbacks, buildings oriented to the street, placed at the front property line	Stoops, dooryards, forecourts, storefronts, arcaded walkways	4+ story buildings with a few shorter buildings	Parks, plazas, and squares, boulevard median landscaping
Districts	To be designated and described locally, districts are areas that are single use or multi-use with low density development patterns. These may be large facilities such as airports, business parks, and industrial areas					

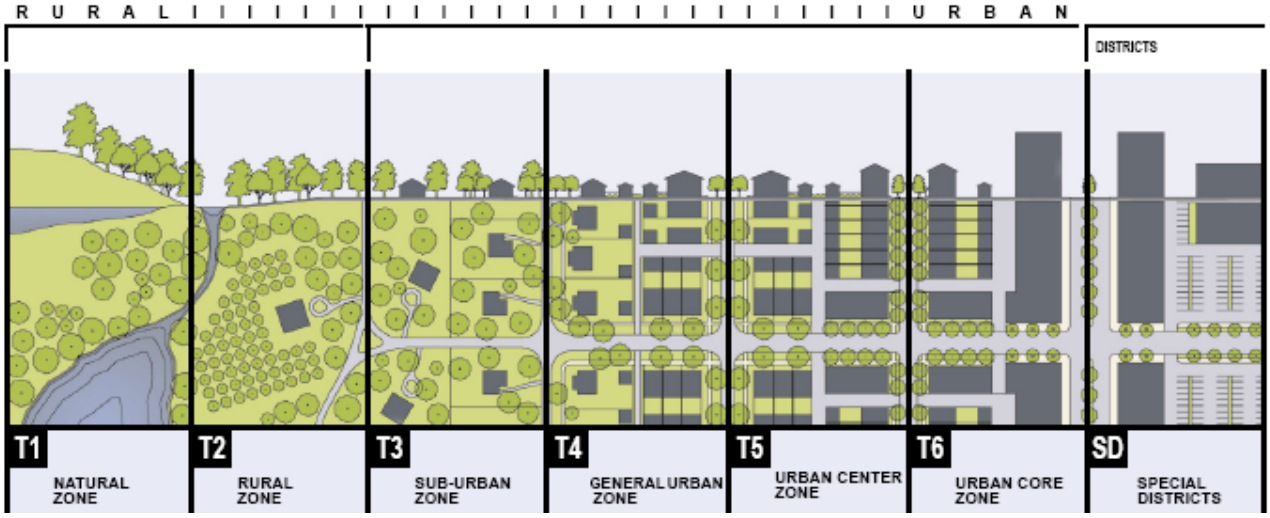


Figure 2

C PLANNING CRITERIA

Planning for Traditional Neighborhood Development occurs at several levels, the region, the city/town, the community, the block and finally the building. Planning should be holistic, looking carefully at the relationship between land use, buildings and transportation in an integrated fashion. This approach and the use of form based codes can create development patterns that support more traditional development patterns that balance pedestrian, transit and bicycling with motor vehicle modes of transportation. The following sections help to define considerations for developing communities at different scales in order to increase the potential for creating traditional neighborhood development patterns.

The principles for defining or creating the context should be considered based on the scale of community that is being evaluated, developed or redeveloped.

The City/Town – Guiding Principles

- The city should retain its natural infrastructure and visual character derived from its location and climate, including topography, landscape and coastline
- Growth strategies should encourage infill and redevelopment
- New development should be structured to reinforce a pattern of neighborhoods and urban centers, focused growth at transit nodes rather than along corridors.
- Transportation corridors should be planned and reserved in coordination with land use.
- Green corridors should be encouraged to enhance and connect the urbanized areas.
- The city should include a framework of transit, pedestrian, and bicycle systems that provide alternatives to automobile use.

- A diversity of land use should be distributed throughout the city to enable a variety of economic activity, workplace, residence, recreation and civic activity.
- Affordable and workforce housing should be distributed throughout the city to match job opportunities and to avoid concentrations of poverty.

The Community - Guiding Principles

- Neighborhoods and urban centers should be the preferred pattern of development and Transect Zones emphasizing single-use should be the exception.
- Neighborhoods and urban centers should be compact, pedestrian-oriented and mixed-use. Density and intensity of use should relate to degree of transit service.
- The ordinary activities of daily living should occur within walking distance of most dwellings, allowing independence to those who do not drive.
- Interconnected networks of thoroughfares should be designed to disperse and reduce the length of automobile trips and to encourage walking and bicycling. A range of open space, including parks, squares and playgrounds, should be distributed within neighborhoods and urban centers.
- Appropriate building densities and land uses should occur within walking distance of transit stops.
- Civic, institutional and commercial activity should be embedded in mixed-use urban centers, not isolated in remote single-use complexes.
- Schools should be located to enable children to walk or bicycle to them.
- Within neighborhoods, a range of housing types and price levels should accommodate diverse ages and incomes.

The Block and the Building - Guiding Principles

- Buildings and landscaping should contribute to the physical definition of thoroughfares as civic places.
- Development should adequately accommodate automobiles while respecting the pedestrian and the spatial form of public space.
- The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility.
- Architecture and landscape design should grow from local climate, topography, history, and building practice.
- Buildings should allow their inhabitants to experience the geography and climate through energy efficient design.
- Civic buildings and public gathering places should be located to reinforce community identity and support self-government.

The following principles are intended to offer guidance on the most appropriate setting for the design principles of this chapter. The principles are not intended to be criteria, but it is recommended that at least seven of the principles or their intent be reflected in a project or community setting for it to be considered a TND.

NOTE TO TEAM: Discussion needs to occur on the following principles since some of these should not be optional. Possibly establish those that are "non-negotiable" and allow flexibility with others.

- Has a compact, pedestrian-oriented scale that can be traversed in a five to ten-minute walk from core to edge

- Is designed with low speed, low volume, interconnected streets with short block lengths that are between 150 to 400 feet and cul-de-sacs only where no alternative exists

- Orients buildings close to the street with off-street parking located to the side or back of buildings as not to interfere with pedestrian activity

- Has building designs that emphasize higher intensities, street frontages, connectivity of sidewalks and paths, and transit stops to promote pedestrian activity and accessibility

- Incorporates a continuous pedestrian network with wider sidewalks in commercial and core areas, but at a minimum has sidewalks of at least five feet that are on both sides of a street Accommodates pedestrians with short street crossings, which may include mid-block crossings, bulb-outs, raised crosswalks, specialty pavers, or pavement markings

- Uses on-street parking to buffer the sidewalk, calm traffic, and offer diverse parking options

- Is composed of a community core with moderate to high residential densities, at least ten percent of developed area for nonresidential uses, and civic uses and open spaces integrated into neighborhoods

- Varies residential densities, lot sizes, and housing types, while maintaining an average gross density of at least eight dwellings per acre and higher density in the core

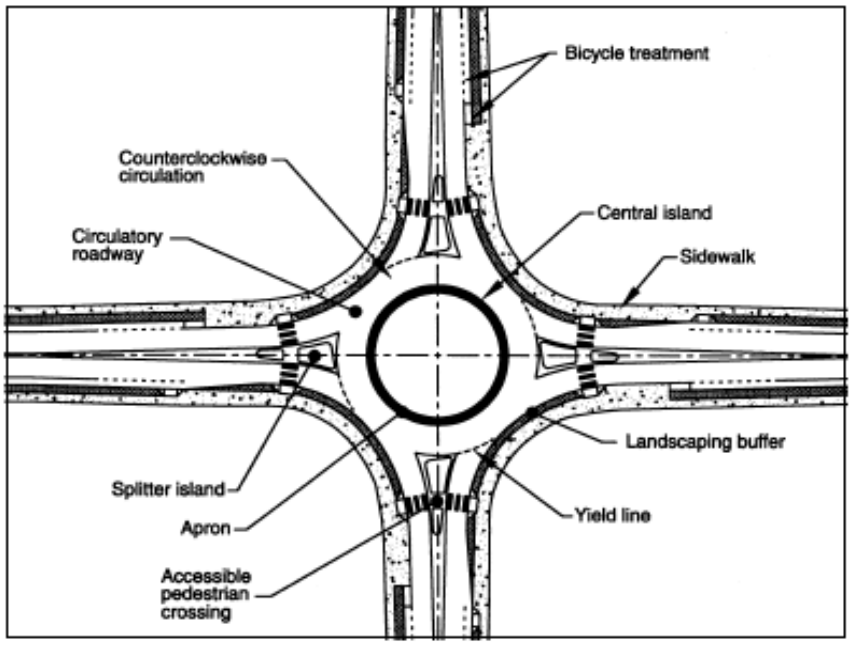
- Has only the minimum rights-of-way necessary for the street, median, planting strips, sidewalks, utilities, and maintenance and which are appropriate to adjacent land uses and building types

- Locates arterial highways, major collector roads, and other high-volume corridors at the edge of the TND, not through the TND

C.1 Definitions

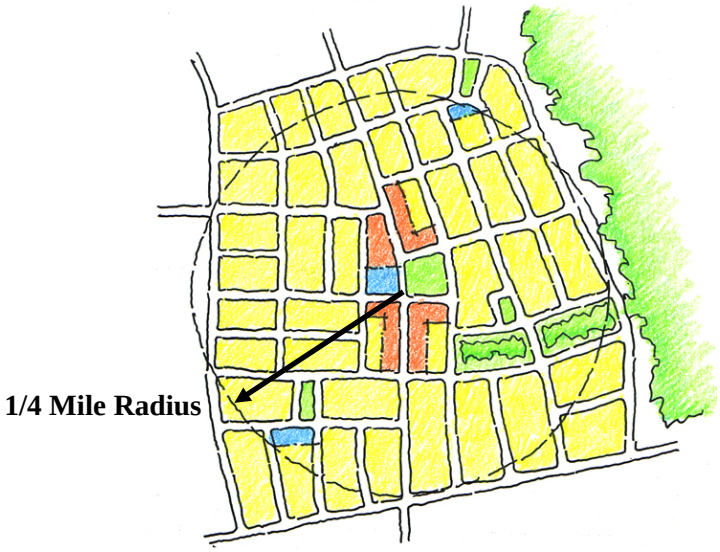
NOTE TO TEAM: Should definitions be placed at beginning of section where text is first located or some other location?

- Alley - A narrow street, especially one through the middle of a block giving access to the rear of lots or buildings.
- Avenue (AV) - a thoroughfare of high vehicular capacity and low speed. Avenues are short distance connectors between urban centers. Avenues may be equipped with a landscaped median. Avenues become collectors upon exiting urban areas.
- Boulevard - a boulevard is usually a thoroughfare, divided with a median down the center.
- Context – the financial, environmental, historical, cultural, land use types, activities and built environment which help to establish the configuration of roadways.
- Context sensitive solutions (CSS) - is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.
- Design Speed - is the velocity at which a thoroughfare tends to be driven without the constraints of signage or enforcement.
- Human scale - describes buildings, block structure and other aspects of the built environment which are designed in consideration for pedestrians and bicyclists, their rate of travel and other physical needs
- Lane –
- Liner Building - a building specifically designed to mask a parking lot or a parking garage from the frontage.
- Live-Work - a dwelling unit that contains a commercial component in the unit.
- Mixed Use Development - the practice of allowing more than one type of use in a building or set of buildings. This can mean some combination of residential, commercial, industrial, office, institutional, or other land uses.
- Modern Roundabout - a circular intersection with specific design and traffic control features. These features include yield control of all entering traffic, channelized approaches, and appropriate geometric curvature to ensure that travel speeds on the circulatory roadway are typically less than 30 mph.



Modern Roundabout

- Neighborhood - an urbanized area at least 40 acres that is primarily residential. A Neighborhood shall be based upon a partial or entire Standard Pedestrian Shed.
- New Urbanism - a development philosophy based on the principles of traditional neighborhood development designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.
- Passage - a pedestrian connector passing between buildings, providing shortcuts through long blocks and connecting rear parking areas to frontages.
- Path - a pedestrian way traversing a park or rural area, with landscape matching the contiguous open space.
- Pedestrian Shed - An area, approximately circular, that is centered on a common destination. A Pedestrian Shed is applied to determine the approximate size of a Neighborhood. A Standard Pedestrian Shed is 1/4 mile radius or 1320 feet, about the distance of a five-minute walk at a leisurely pace.



Pedestrian Shed

- Private Frontage - the privately held area between the r/w line and the building facade.
- Public Frontage - the area between the curb of the thoroughfare and the r/w line. Elements of the public frontage include the type of curb, walk, planter, street tree and streetlight.
- Rear Alley/Lane - a vehicular driveway located to the rear of lots providing access to service areas and parking, and containing utility easements.
- Retail - premises available for the sale of merchandise and food service.
- Smart Growth - an urban planning and transportation theory that concentrates growth in the center of a city to avoid urban sprawl; and advocates compact, transit-oriented, walkable, bicycle friendly land use, including mixed used development with a range of housing choices.
- Road - a local, rural and suburban thoroughfare of low vehicular speed and capacity. Its public frontage consists of swales drained by percolation and a walking path or bicycle trail along one or both sides. This type is allocated to the more rural Transect Zones (T1-T3).
- Setback - the area of a lot measured from the r/w line to a building facade or elevation.
- Street - a local urban thoroughfare of low speed and capacity. This type is permitted within the more urban Transect Zones (T4-T6).
- Terminated Vista - a building or feature located at the end of a thoroughfare in a position of prominence.

Terminated Vista

- Thoroughfare: a corridor incorporating sidewalks, moving lanes and parking lanes within a right-of-way.
- TND or Traditional Neighborhood Development: a Community Type based upon a Standard Pedestrian Shed oriented toward a Common Destination consisting of a mixed-use center or corridor, and having a minimum developable area of 80 acres.
- Transit-Oriented Development - a regional center development with transit available or proposed. *NEEDS WORK*
- Town Center - the mixed-use center or main Commercial corridor of a community. A Town Center in a hamlet or small TND may consist of little more than a meeting hall, corner store, and main civic space.
- Transect - a system of ordering human habitats in a range from the most natural to the most urban. The SmartCode is based upon six Transect Zones which describe the physical character of place at any scale, according to the density and intensity of land use and urbanism.
- Transect Zone (T-Zone): Transect Zones are administratively similar to the land use zones in conventional codes, except that in addition to the usual building use, density, height, and setback requirements, other elements of the intended habitat are integrated, including those of the private lot and building and the adjacent public streetscape. The elements are determined by their location on the Transect scale. The T-Zones are: T1 Natural, T2 Rural, T3 Sub-Urban, T4 General Urban, T5 Urban Center, and T6 Urban Core

C.2 Land Use

In addition to its importance in calculating trip generation, ITE recognizes land use as fundamental to establishing context, design criteria, cross-section elements, and right-of-way allocation. The pedestrian travel generated by the land uses also is important to the design process for various facilities.

Land use considerations for TNDs are outlined in the Planning Criteria section and are applied at a variety of scales. A well-integrated or “fine grained” land use mix within buildings and blocks is essential. These buildings and blocks

aggregate into neighborhoods, which should be designed with a mix of uses to form a comprehensive planning unit that aggregates into larger villages, towns, and regions. Except at the regional scale, each of these scales requires land uses to be designed at a pedestrian scale and to be served by “complete streets” that safely and attractively accommodate many modes of travel.

The proposed land uses, residential densities, building size and placement, proposed parking (on-street and off-street) and circulation, the location and use of open space, and the development phasing are all considerations in facility design for TNDs. ITE recommends a high level of connectivity, short blocks that provide many choices of routes to destinations, and a fine-grained urban land use and lot pattern. Higher residential density and nonresidential intensity, as measured by floor area ratios of building area to site area, are required for well-designed TNDs.

C.3 Networks

Urban network types are frequently characterized as either traditional (a highly interconnected grid) or conventional (characterized by hierarchal, disconnected system). Traditional networks are typically characterized by a relatively non-hierarchical pattern of short blocks and straight streets with a high density of intersections which supports all modes of travel in a balance fashion. The typical conventional street network by contrast often includes a framework of widely-spaced arterial roads with limited connectivity provided by a system of large blocks, curving streets and a branching hierarchical pattern often terminating in cul-de-sacs and is characteristic of automobile dominant systems.

Traditional Network

Conventional Network

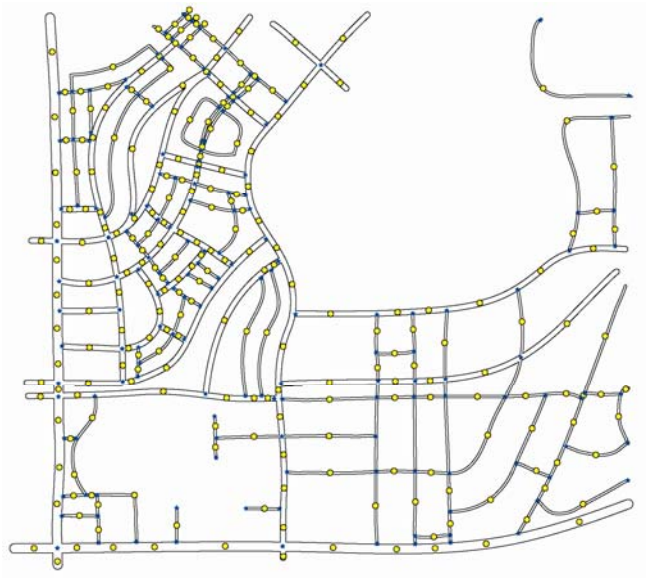
Traditional and conventional networks differ in three easily measurable respects: (1) block size, (2) degree of connectivity and (3) degree of curvature. While the last does not significantly impact network performance, block size and connectivity create very different characteristics.

Advantages of traditional networks include:

- Distribution of traffic over a network of streets, reducing the need to widen roads;
- A highly interconnected network providing a choice of multiple routes for travel for all modes, including emergency services;
- More direct routes between origin and destination points, which generate fewer vehicle miles of travel (VMT) than conventional suburban networks;
- Smaller block sizes in a network that is highly supportive to pedestrian, bicycle and transit modes of travel;
- A block structure that provides greater flexibility for land use to evolve over time.

It is important in TND networks to have a highly interconnected network of streets with smaller block sizes than in conventional networks. Two ways to ensure that these goals are achieved are have a Connectivity Index of at least 1.4, and creating block size with a perimeter of approximately 1,320 feet and block sides no longer than 500 feet. If a block side exceeds 600 feet, a mid-block pedestrian path should be provided.

The Connectivity Index is calculated by dividing the number of links by the number of nodes. All street intersections and cul-de-sacs count as nodes.



242 Links/146 Nodes = Connectivity Index of 1.66

C.4 Thoroughfare Types

Section C Highway Function and Classification in Planning Chapter 1 contains the conventional classification system that is commonly accepted to define the function and operational requirements for roadways. These classifications are also used as the primary basis for geometric design criteria.

All of the factors, traffic volume, trip characteristics, speed and level of service, in the functional classification system are related to the mobility of motor vehicles; these factors do not provide for or address bicyclists or pedestrians; and do not consider the context or land use of the surrounding environment. This approach, while appropriate for high speed rural and suburban roadways, does not provide designers with guidance on how to design for a pedestrian supportive environment or in a context sensitive manner.

The thoroughfare types described here provide mobility for all modes of transportation with a greater focus on the pedestrian. The functional classification system can be generally applied to the thoroughfare types in this chapter. What designers should recognize is the need for greater flexibility in applying design criteria based more heavily on context and the need to create a safe environment for pedestrians, rather than strictly following the conventional application of functional classification in determining geometric criteria.

General Principles

a. The Thoroughfares are intended for use by vehicular, transit, bicycle, and pedestrian traffic and to provide access to Lots and Open Spaces.
b. The Thoroughfares consist of vehicular lanes and Public Frontages. The lanes provide the traffic and parking capacity. Thoroughfares consist of vehicular lanes in a variety of widths for parked and for moving vehicles. The Public Frontages contribute to the character of the Transect Zone. They may include swales, sidewalks, curbing, planters, bicycle paths and street trees.
c. Thoroughfares should be designed in context with the urban form and desired design speed of the Transect Zones through which they pass. The Public Frontages that pass from one Transect Zone to another should be adjusted accordingly.

The terms for thoroughfare types that are used fin Traditional Neighborhood Design include:

HW-Highway

A Highway is a long-distance, high-capacity and high-speed thoroughfare that connect cities and towns. A Highway should have infrequent intersections and driveway entrances, and should have sidewalks and abutting buildings buffered by landscape where possible; otherwise it becomes strip development which interferes with traffic flow and pedestrian comfort.

Highway frontages may have curbs or open swales drained by percolation. They have no parking. Buildings may front a wide sidewalk or be set back. Highways can be rural linear parks, with a median and naturalistic landscaping and bicycle and pedestrian paths traversing the landscape independently.

RD-Road
A Road is a local, slow-movement thoroughfare suitable for less urban transect zones. Roads provide frontage for low-density buildings with a substantial setback. Roads have narrow pavement and open swales drained by percolation, with or without sidewalks. The landscaping may be informal with multiple species arrayed in naturalistic clusters.

ST-Street
A Street is a local, multi-movement thoroughfare suitable for all urbanized transect Zones and all frontages and uses. A Street is urban in character, with raised curbs, drainage inlets, wide sidewalks, parallel parking, and trees in individual or continuous planters aligned in an allee. Character may vary somewhat, however, responding to the commercial or residential uses lining the Street.

DR-Drive
A Drive is a local movement thoroughfare along the edge of a wide right-of-way or an open space. One side of a Drive may have the urban character of a Street or Boulevard with sidewalk and buildings; the other side may have the qualities of a parkway such as along a railroad track with naturalistic planting. Alternatively, a Drive may have an urban character with landscape and formal planting, such as along the bayfront or riverfront.

AV-Avenue
An Avenue is a limited distance, slow or free-movement thoroughfare connecting proximate locations within an urbanized area. Unlike a Boulevard, in its truest form, an avenue’s length is finite and its axis is terminated. It always has a substantial planted median. An Avenue may be conceived as an elongated square.

The Avenue is appropriate for the approach to a civic building. At urban centers, the median may be wide enough to hold monuments and even buildings. In residential areas, the median may be planted naturalistically to become a parkway or green.

Avenue Frontages have raised curbs drained by inlets and wide sidewalks separated from the vehicular lanes by narrow continuous planters, preferably with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced allee in individual or continuous planters.

BV-Boulevard

A Boulevard is a long-distance, high capacity multi-movement Thoroughfare, outside of neighborhoods and at neighborhood edges. A Boulevard may be lined by parallel parking, with wide sidewalks, and trees in continuous or individual planters.

Boulevards may have central or side medians with slip roads. Side medians segregate slower traffic and parking activity at the edges from through traffic at the center.

Boulevards have sidewalks with raised curbs along both sides, drainage by inlets, parallel parking, sidewalks, and trees aligned in a regularly spaced allee in individual or continuous planters.

PP-Pedestrian Passage
A Pedestrian Passage is a narrow connector restricted to pedestrian use and limited vehicular use that passes between buildings or between a building and a public open space. Passages provide shortcuts through long blocks and connect rear parking areas with frontages. In T3, Pedestrian Passages may be unpaved and informally landscaped. In T4, T5 and T6, they should be paved and landscaped and may provide limited vehicular access. When in civic zones, passages should correspond with their context and abutting transect zones.

AL-Alley
An Alley is a narrow vehicular access-way at the rear or side of buildings providing service and parking access, and utility easements. Alleys have no sidewalks, landscaping, or building frontage requirements. They accommodate trucks and dumpsters, and may be paved from building face to building face, with drainage by inverted concrete crown. In older residential neighborhoods Alleys may be unpaved.

NOTE TO TEAM: Is more language needed in this section Planning, including a defined process for proper planning?

D DESIGN PRINCIPLES

[Discussion of the principles used in designing TND projects will be covered.]

D.1 Introduction/Definitions

D.2 Design Process

D.3 Design Speed

Add introduction text.

Movement types describe the expected driver experience on a given thoroughfare. The design speed for pedestrian safety and mobility established for each of these movement types.

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NOTE TO TEAM: Please provide feedback on terms and speed ranges

Movement Types

Yield: Drivers must proceed slowly and with extreme care and must yield in order to pass a parked car or approaching vehicle. Functional equivalent of traffic calming. Design speed of 20 mph or less; this type can accommodate bicycle routes.

Slow: Drivers can proceed carefully with an occasional stop to allow a pedestrian to cross or another car to park. Drivers should feel uncomfortable exceeding design speed due to presence of parked cars, enclosure, tight turn radii, and other design elements. Design speed of 20-25 mph; this type can accommodate bicycle routes.

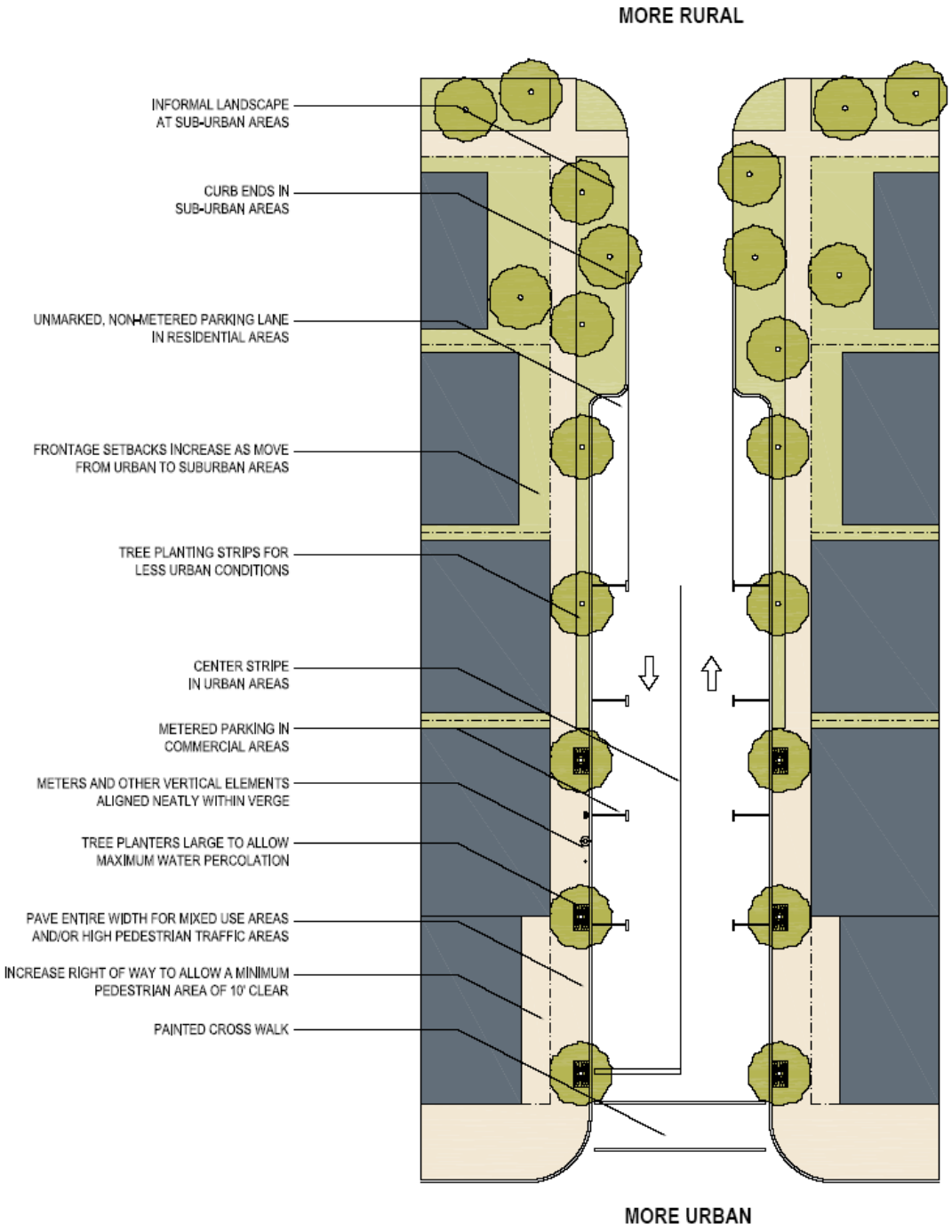
Free: Drivers can expect to travel generally without delay at the design speed; street design supports safe pedestrian movement at the higher design speed. This movement type is appropriate for Thoroughfares designed to traverse longer distances or that connect to higher intensity locations. Design speed of 25-30 mph; this type can accommodate bicycle routes.

Speed: Drivers can expect travel similar to conventional street design, but with continued emphasis on pedestrian safety and comfort. Design speed of 30-35 mph. Bicycle safety to be assessed by Thoroughfare.

High: Conventional street design in which drivers can expect a separation of modes--e.g. bike lanes, walking -- allowing automobile travel unimpeded by pedestrians or walkability concerns. This movement is rarely used in traditional town planning but may be needed when traveling outside of pedestrian areas. Bicycle safety to be assessed by Thoroughfare.

D.4 Context Zone

Application of standards/criteria by Context Zone



E URBAN ROADSIDE or PEDESTRIAN REALM

[Urban roadside is the space between the face of building or R/W line to the curb face, also known as “public frontage”.]

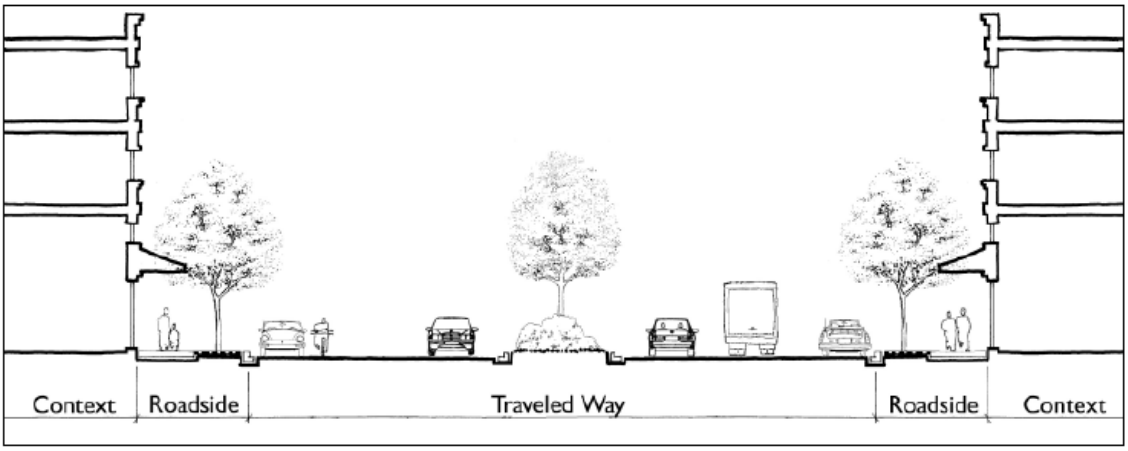


Figure 5.1 Components of an urban thoroughfare. Source: Community, Design + Architecture.

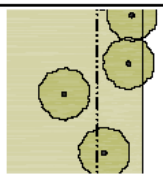
E.1 Introduction/Definitions

PLAN

LOT R.O.W.

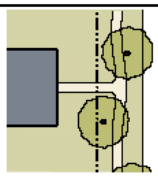
PRIVATE FRONTAGE ► ◄ PUBLIC FRONTAGE

a. (HW) For Highways: This Frontage has open swales drained by percolation, bicycle trails and no parking. The landscaping consists of the natural condition or multiple species arrayed in naturalistic clusters. Buildings are buffered by distance or berms.



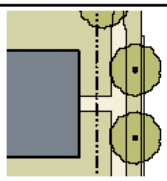
T1 T2 T3

b. (RD) For Roads: This Frontage has open swales drained by percolation and a walking path or bicycle trail along one or both sides and yield parking. The landscaping consists of multiple species arrayed in naturalistic clusters.



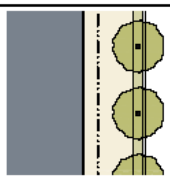
T1 T2 T3

c. (ST) For Street: This Frontage has raised curbs drained by inlets and sidewalks separated from the vehicular lanes by individual or continuous planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced allee.



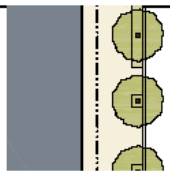
T3 T4 T5 T6

d. (DR) For Drive: This Frontage has raised curbs drained by inlets and a wide sidewalk or paved path along one side, related to a greenway or waterfront. It is separated from the vehicular lanes by individual or continuous planters. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced allee.



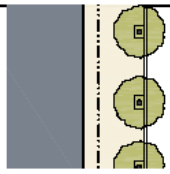
T3 T4 T5 T6

e. (AV) For Avenues: This Frontage has raised curbs drained by inlets and wide sidewalks separated from the vehicular lanes by a narrow continuous planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced allee.



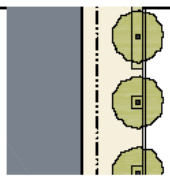
T3 T4 T5 T6 D

f. (ST) (AV) For Mixed Use Streets or Avenues: This Frontage has raised curbs drained by inlets and very wide sidewalks along both sides separated from the vehicular lanes by separate tree wells with grates and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible.



T3 T4 T5 T6 D

g. (BV) For Boulevards: This Frontage has slip roads on both sides. It consists of raised curbs drained by inlets and sidewalks along both sides, separated from the vehicular lanes by planters. The landscaping consists of rows of a single tree species aligned in a regularly spaced allee.



T3 T4 T5 T6 D

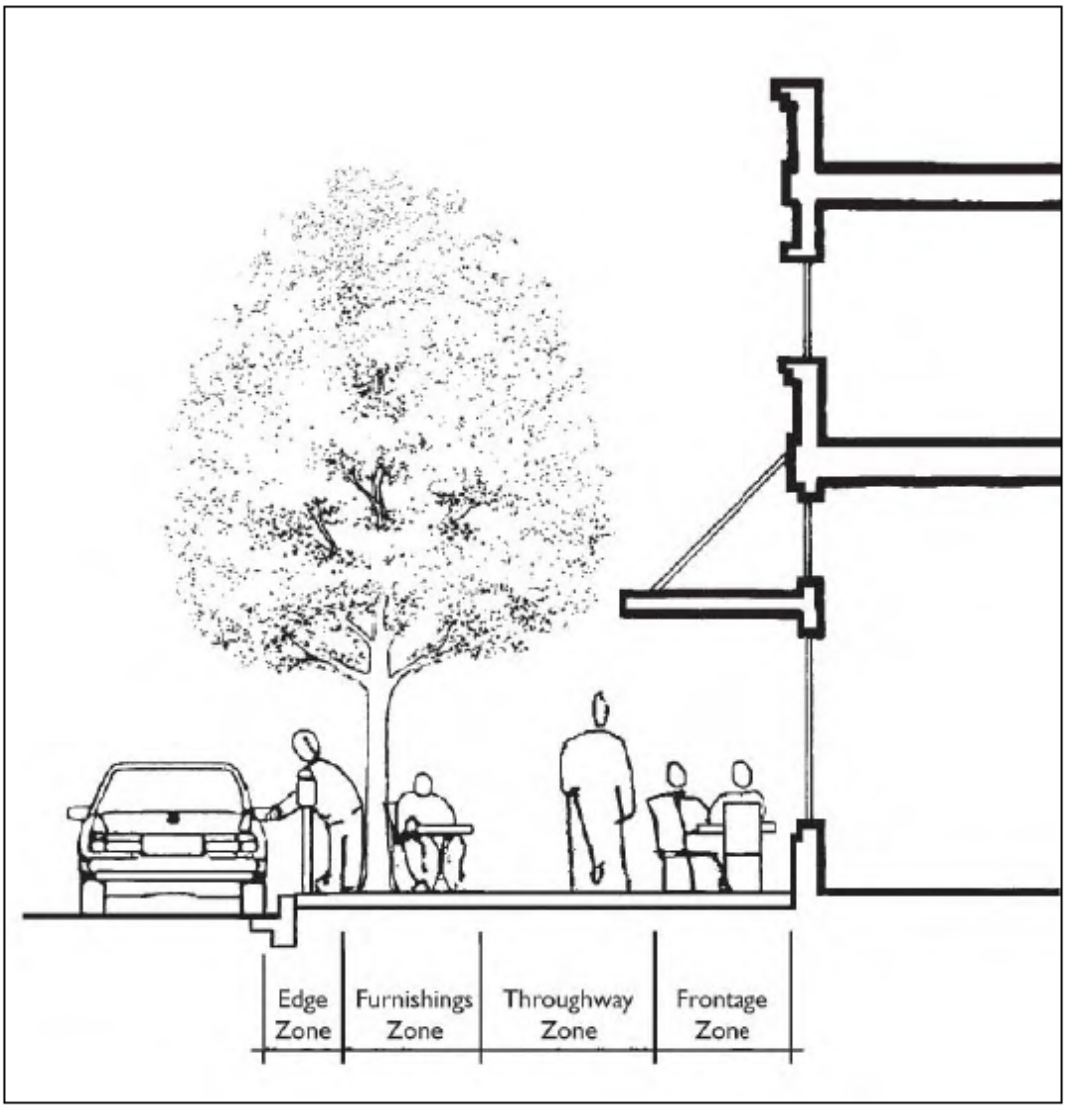


Figure 8.1 ~~Roadside~~ zones. Source: Community, Design + Architecture.

E.2 Edge Zone

E.3 Furnishing Zone

E.4 Walking/Pedestrian Zone

Reference CHAPTER 8 – PEDESTRIAN FACILITIES

Pedestrian comfort should be a primary consideration of Thoroughfare design and dimensions. Design conflict between vehicular, bicycle and pedestrian movement should be decided in favor of the pedestrian.

E.5 Frontage Zone

CHAPTER 3 – GEOMETRIC DESIGN

F TRAVELED WAY

[The traveled way is the central part of the thoroughfare between the curb faces where vehicle movement and on street parking occurs.]

F.1 Introduction/ Definitions

F.2 Travel Lanes

Adequate design to accommodate emergency services, waste collection, delivery trucks

Emergency response activities noted in D.3.d Emergency Response—CHAPTER 1 – PLANNING

Alleys and narrow roadways that act as shared spaces can have design speeds as low as 10 mph, as noted in CHAPTER 16 – RESIDENTIAL STREET DESIGN

Movement Type	Design Speed	TRAVEL LANE WIDTH	T1	T2	T3	T4	T5	T6	D1	D2	CI	CS
YIELD	20 mph or less	8 feet										
SLOW	20-25 mph	9 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
FREE	25-30 mph	10 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
SPEED	30-35 mph	11-12 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
HIGH SPEED	Above 35 mph	12 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪

F.3 Medians

(Pedestrian Refuge Islands)

F.4 On Street Parking

Ensure that on street parking does not conflict with the placement of any neighborhood traffic control devices, as addressed in CHAPTER 15 – TRAFFIC CONTROL DEVICES.

Movement Type	Design Speed	PARKING LANE WIDTH										
YIELD	20 mph or less	(Parallel) 7 feet							▪	▪	▪	▪
YIELD, SLOW	20-25 mph	(Parallel) 7 feet			▪	▪	▪	▪	▪	▪	▪	▪
SLOW, FREE	20-30 mph	(Parallel) 7 - 8 feet			▪	▪	▪	▪	▪	▪	▪	▪
SLOW, FREE	20-30 mph	(Angle) 18 feet				▪	▪	▪	▪	▪	▪	▪
FREE, SPEED	25-35 mph	(Parallel) 8 feet			▪	▪	▪	▪	▪	▪	▪	▪

F.5 Mid-Block Crossings

F.6 Access Management

F.7 Design Vehicles

F.8 Bike Lanes

Reference: CHAPTER 9 – BICYCLE FACILITIES

Bicycle use of thoroughfares should be as follows: Bicycles and vehicles may share use of lanes on Thoroughfares with design speed of twenty five (25) mph or less and should not share use of lanes on Thoroughfares with design speeds of more than 25 mph. Thoroughfares may include dedicated Bicycle Lanes. Greenways, waterfront walks and other Civic Spaces should include Bicycle Lanes.

Bicycle Lanes may be made part of Thoroughfares that have sufficient paving width to accommodate bicyclists' safety. A City-wide bicycle plan may designate an interconnected network serving bicyclists with a series of routes that include Bicycle Lanes as well as Bicycle Routes that give bicycles priority, such as those Thoroughfares which parallel major corridors and which can be reconfigured to limit conflicts between automobiles and bicycles.

G INTERSECTIONS

G.1 Introduction/Definitions

G.2 Sight Distance

Reference CHAPTER 3 – GEOMETRIC DESIGN, Look at additional language from AASHTO 2004 Flexibility in Highway Design

G.3 Curb Return Radii

Movement Type	Design Speed	CURB RADIUS WITH PARKING*										
YIELD	20 mph or less	5-10 feet										
SLOW	20-25 mph	10-15 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
FREE	25-30mph	15-20 feet	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪
SPEED	30-35 mph	20-30 feet	▪	▪			▪	▪				

* Dimensions with parking on each leg of intersection. Both tangent sections adjacent to the curb return must be parked, or else curb radii must be evaluated using "design vehicle" and AutoTurn or turning templates.

G.4 Turn Lanes

G.5 Cross Walks

Reference CHAPTER 8 – PEDESTRIAN FACILITIES

G.6 Curb Extensions

H GENERAL

Additional issues for further discussion and consideration, with examples of treatments, identify existing projects for review, pictures, graphics, and reference documents

I OTHER SOURCES

REFERENCES

The following is a list of the publications used in the preparation of this chapter: