

Transit Oriented Development Design Guidelines

Introduction

Transit Oriented Development (TOD) Design Guidelines are being developed by the Florida Department of Transportation (FDOT) to provide general parameters and strategies to local governments and agencies to promote and implement development that is supportive of transit investment. The guidelines provide the following variables that should be considered when planning for and implementing development around transit station areas:

- Population and employment density,
- Intensity and diversity of land uses,
- Parking availability, and the
- Physical design of the street network to provide connectivity and accessibility.

Minimum standards and ranges for these variables are provided to guide local governments in refining their Comprehensive Plans and Land Development Codes to support various transit technologies within different place types ranging from urban to rural. Density and intensity ranges, as well as for other characteristics of transit supportive development, are provided for the use of local governments in establishing development standards for areas located within an approximate ½ mile radius of a planned or existing transit station.

The guidelines are voluntary, and the TOD principles are intended to be used in partnership with the FDOT to assist in managing congestion on state roadways, especially on the Strategic Intermodal System (SIS). Implementation of the principles contained with these guidelines can assist local governments to comply with Florida's Growth Management Act of 2005 regarding the mitigation of impacts to the SIS.

Path Forward

This document provides an initial framework for planning for and implementing TOD in Florida. The guidelines will be vetted with local governments, agencies, and the public through work sessions conducted throughout the state. Based on the input gained at these work sessions, the draft TOD framework will be refined, and the context, purpose, and use of the guidelines will be more thoroughly defined within a Guidance Document for distribution and use by local governments and agencies.



Transit Modes by Urban Transect



Urban Transects	T6, T5	T4	T3	T2
	Urban Core	Urban General	Suburban	Rural
Transit Modes				
Special Automated Fixed Guideway Water-Bourne Ferry Streetcar/Trolley	○	○		
Light Rail Transit	●	●	○	
Bus Rapid Transit	●	●	○	
Heavy Rail Transit High Speed Rail Commuter Rail	●	●		
Local Bus Fixed Route Bus Demand Response Bus/Shuttle	●	●	●	○
Express Bus Express Route Bus	●	●	●	●

Legend

○ Feasible under certain conditions

● Feasible

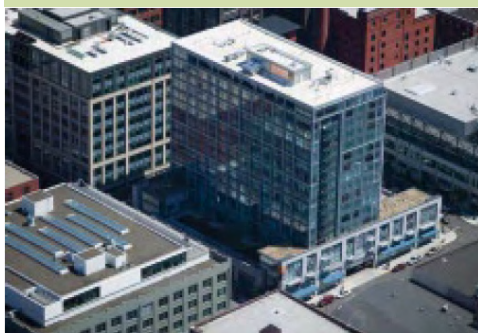
Design Guidelines Matrix Column No.

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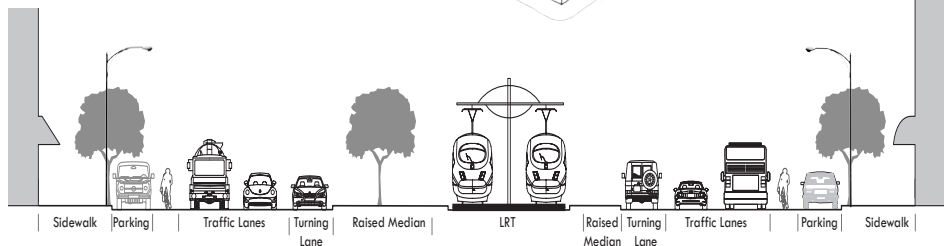
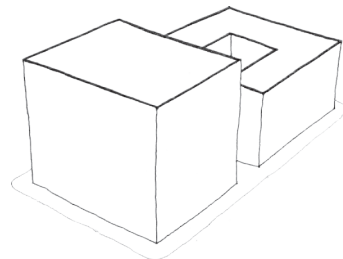
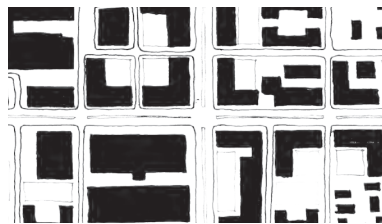
T5/T6 Urban Core

Special, Light Rail, Bus Rapid, Commuter Rail

	T6/T5 Urban Core
Gross Density Indicators	
Residential Density - Dwelling Units per Acre	> 35 Dwelling Units/Acre
Population Density - Persons per Acre	> 135 Persons/Acre
Employment Density - Employees per Acre	> 1000 Jobs/Acre
Intensity/Density of Use	
Minimum Floor Area Ratio (FAR)	> 10.0
Minimum Net Residential Density	> 55 Dwelling Units/Acre
Minimum Building Height	12 or more Stories
Minimum Lot Coverage	80%
Minimum Street Frontage	100% primary, 80% secondary
Parking	
Maximum Residential Parking (Spaces per Unit)	1 space/unit
Maximum Office/Retail Parking (Spaces per 1,000 square feet)	1 spaces/1,000 sq.ft.
Maximum Surface Parking (% of Total Spaces)	10%
Shared vs. Single-Use Parking Facility	Shared
Park & Ride and other considerations	No
Mixed Use & Diversity	
Minimum Hours of 'Significant' Activity	18 Hours
Average Jobs/Housing Ratio	10 Jobs : 1 Dwelling Unit
Mix of Uses (% Residential, % Non-Residential)	20% Residential and 80% Non-Residential
Street Network	
Grid Density (Polygons per Square Mile.) - Bicycle, Pedestrian and Street Network	Min. 150
Average Block Size (in Feet)	200' x 400'



Source: Visualizing Density. Julie Campoli, Alex S. MacLean



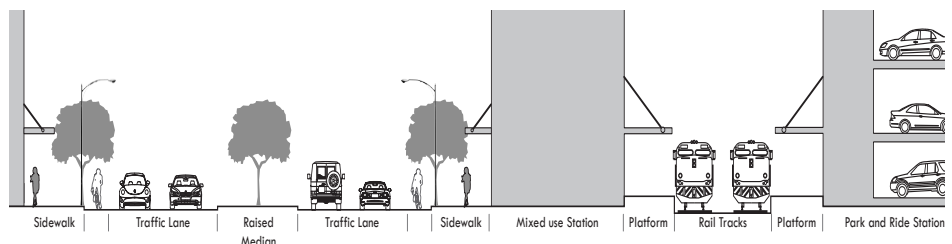
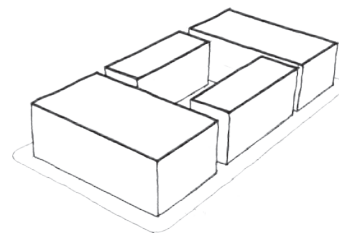
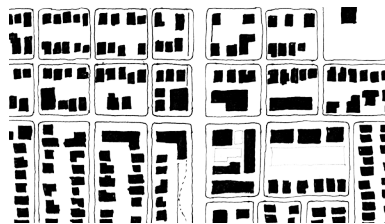
T4 Urban General

Special, Light Rail, Bus Rapid, Commuter Rail

	T4 Urban General
Gross Density Indicators	
Residential Density - Dwelling Units per Acre	15 to 35 Dwelling Units/Acre
Population Density - Persons per Acre	100 to 145 Persons/Acre
Employment Density - Employees per Acre	190 to 250 Jobs/Acre
Intensity/Density of Use	
Minimum Floor Area Ratio (FAR)	3.0 - 4.0
Minimum Net Residential Density	45 to 60 Dwelling Units/Acre
Minimum Building Height	4 or more Stories
Minimum Lot Coverage	70%
Minimum Street Frontage	70%
Parking	
Maximum Residential Parking (Spaces per Unit)	1.5 Spaces/Unit
Maximum Office/Retail Parking (Spaces per 1,000 square feet)	2 spaces/1,000 sq.ft.
Maximum Surface Parking (% of Total Spaces)	15%
Shared vs. Single-Use Parking Facility	Shared
Park & Ride and other considerations	No
Mixed Use & Diversity	
Minimum Hours of 'Significant' Activity	16 Hours
Average Jobs/Housing Ratio	5 Jobs : 1 Dwelling Unit
Mix of Uses (% Residential, % Non-Residential)	50% Residential and 50% Non-Residential
Street Network	
Grid Density (Polygons per Square Mile.) - Bicycle, Pedestrian and Street Network	Min. 75
Average Block Size (in Feet)	200' x 600'



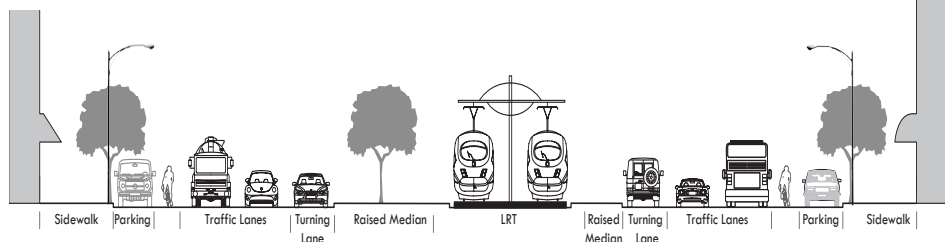
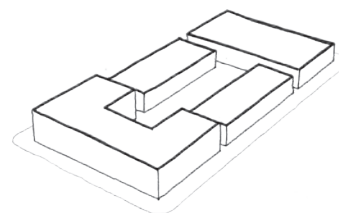
Source: *Visualizing Density*. Julie Campoli, Alex S. MacLean



T3 Suburban

Light Rail, Bus Rapid, Commuter Rail

	T3 Suburban
Gross Density Indicators	
Residential Density - Dwelling Units per Acre	5 to 30 Dwelling Units/Acre
Population Density - Persons per Acre	80 to 135 Persons/Acre
Employment Density - Employees per Acre	35 to 80 Jobs/Acre
Intensity/Density of Use	
Minimum Floor Area Ratio (FAR)	2.0 - 3.0
Minimum Net Residential Density	35 to 60 Dwelling Units/Acre
Minimum Building Height	3 or more Stories
Minimum Lot Coverage	80%
Minimum Street Frontage	80%
Parking	
Maximum Residential Parking (Spaces per Unit)	2 Spaces/Unit
Maximum Office/Retail Parking (Spaces per 1,000 square feet)	3 spaces/1,000 sq.ft.
Maximum Surface Parking (% of Total Spaces)	20%
Shared vs. Single-Use Parking Facility	Shared
Park & Ride and other considerations	Yes
Mixed Use & Diversity	
Minimum Hours of 'Significant' Activity	14 Hours
Average Jobs/Housing Ratio	1 Jobs : 1 Dwelling Unit
Mix of Uses (% Residential, % Non-Residential)	70% Residential and 30% Non-Residential
Street Network	
Grid Density (Polygons per Square Mile.) - Bicycle, Pedestrian and Street Network	Min. 50
Average Block Size (in Feet)	200' x 800'

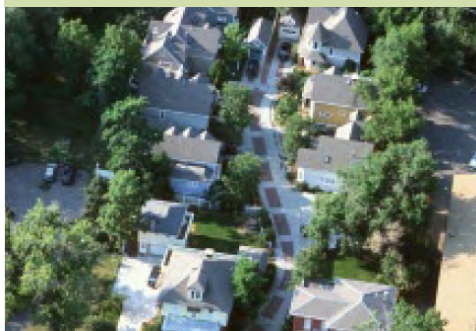


Source: Visualizing Density. Julie Campoli, Alex S. MacLean

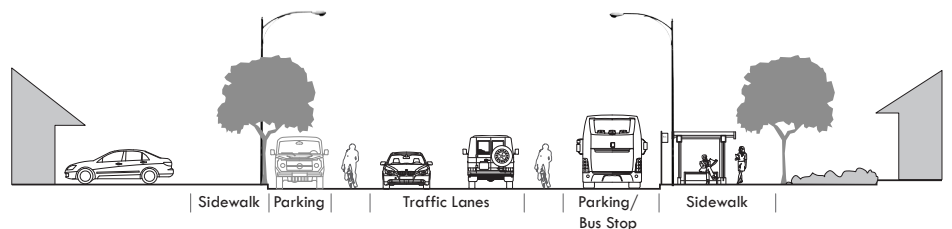
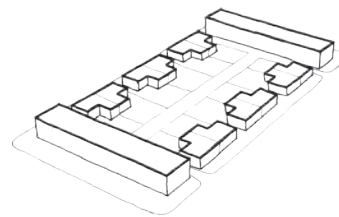
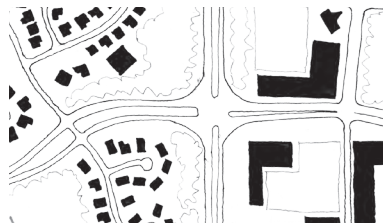
T2 Rural

Express Bus

	T2 Rural
Gross Density Indicators	
Residential Density - Dwelling Units per Acre	5 to 10 Dwelling Units/Acre
Population Density - Persons per Acre	25 to 50 Persons/Acre
Employment Density - Employees per Acre	5 to 10 Jobs/Acre
Intensity/Density of Use	
Minimum Floor Area Ratio (FAR)	.5 - 1.0
Minimum Net Residential Density	10 to 20 Dwelling Units/Acre
Minimum Building Height	2 Stories
Minimum Lot Coverage	50%
Minimum Street Frontage	70%
Parking	
Maximum Residential Parking (Spaces per Unit)	2 Spaces/Unit
Maximum Office/Retail Parking (Spaces per 1,000 square feet)	4 spaces/1,000 sq.ft.
Maximum Surface Parking (% of Total Spaces)	40%
Shared vs. Single-Use Parking Facility	N/A
Park & Ride and other considerations	Yes
Mixed Use & Diversity	
Minimum Hours of 'Significant' Activity	N/A
Average Jobs/Housing Ratio	1 Job : 2 Dwelling Units
Mix of Uses (% Residential, % Non-Residential)	90% Residential & 10% Non-Residential
Street Network	
Grid Density (Polygons per Square Mile.) - Bicycle, Pedestrian and Street Network	N/A
Average Block Size (in Feet)	N/A



Source: *Visualizing Density*. Julie Campoli, Alex S. MacLean



Design Guidelines Matrix

	1	2	3	4	5	6	7	8	9	Remarks
	T6/T5 Urban Core	T6/T5 Urban Core	T4 Urban General	T4 Urban General	T3 Suburban	T3 Suburban	T3 Suburban	T3 Suburban	T2/T1 Rural	
	Commuter Rail/LRT/BRT	Local Bus Hub	Commuter Rail/LRT/BRT	Local Bus Hub	LRT/BRT	Commuter Rail	Local Bus Hub	Express Bus	Express Bus	See Note B
Gross Density										
Residential Density - Dwelling Units per Acre	> 35 Dwelling Units/Acre	15 to 20 Dwelling Units/Acre	25 to 35 Dwelling Units/Acre	15 to 25 Dwelling Units/Acre	20 to 25 Dwelling Units/Acre	20 to 30 Dwelling Units/Acre	10 to 20 Dwelling Units/Acre	5 to 10 Dwelling Units/Acre	5 to 10 Dwelling Units/Acre	See Notes A, C, F
Population Density - Persons per Acre	> 85 Persons/Acre	40 to 50 Persons/Acre	65 to 85 Persons/Acre	45 to 65 Persons/Acre	45 to 70 Persons/Acre	50 to 80 Persons/Acre	25 to 50 Persons/Acre	15 to 30 Persons/Acre	10 to 25 Persons/Acre	See Notes A, C, F
Employment Density - Employees per Acre	> 500 Jobs/Acre	150 to 200 Jobs/Acre	100 to 150 Jobs/Acre	75 to 100 Jobs/Acre	30 to 40 Jobs/Acre	20 to 30 Jobs/Acre	10 to 25 Jobs/Acre	2 to 5 Jobs/Acre	2 to 5 Jobs/Acre	See Notes A, C, F
Intensity/Density of Use										
Minimum Floor Area Ratio (FAR)	> 10.0	3.0 - 4.0	3.0 - 4.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	1.0 - 2.0	.5 - 1.0	.5 - 1.0	See Notes A, C
Minimum Residential Density (Net)	> 55 Dwelling Units/Acre	25 to 35 Dwelling Units/Acre	45 to 60 Dwelling Units/Acre	30 to 45 Dwelling Units/Acre	35 to 50 Dwelling Units/Acre	40 to 60 Dwelling Units/Acre	20 to 40 Dwelling Units/Acre	10 to 25 Dwelling Units/Acre	10 to 20 Dwelling Units/Acre	See Note E, F
Minimum Building Height	12 or more Stories	4 or more Stories	4 or more Stories	3 or more Stories	3 or more Stories	3 or more Stories	2 or more Stories	2 or more Stories	1 or more Stories	
Minimum Lot Coverage	80%	70%	70%	70%	80%	70%	70%	70%	50%	
Minimum Street Frontage	100% primary, 80% secondary	80%	70%	70%	80%	70%	70%	70%	70%	See Notes C, E
Parking										
Maximum Residential Parking (Spaces per Unit)	1 space/unit	1.5 Spaces/Unit	1.5 Spaces/Unit	1.5 Spaces/Unit	2 Spaces/Unit	2 Spaces/Unit	2 Spaces/Unit	2 Spaces/Unit	2 Spaces/Unit	
Maximum Office/Retail Parking (Spaces per 1,000 square feet)	1 spaces/1,000 sq.ft.	2 spaces/1,000 sq.ft.	2 spaces/1,000 sq.ft.	2 spaces/1,000 sq.ft.	3 spaces/1,000 sq.ft.	3 spaces/1,000 sq.ft.	3 spaces/1,000 sq.ft.	3 spaces/1,000 sq.ft.	4 spaces/1,000 sq.ft.	
Maximum Surface Parking (% of Total Spaces)	10%	15%	15%	15%	20%	25%	30%	30%	40%	
Shared vs. Single-Use Parking Facility	Shared	Shared	Shared	Shared	Shared	Shared	Shared	Shared	N/A	
Park & Ride and other considerations	No	No	No	No	Yes	Yes	Yes	Yes	Yes	
Mixed Use & Diversity										
Minimum Hours of 'Significant' Activity	18 Hours	16 Hours	16 Hours	14 Hours	14 Hours	14 Hours	12 Hours	N/A	N/A	
Average Jobs/Housing Ratio	15 Jobs : 1 Dwelling Unit	10 Jobs : 1 Dwelling Unit	5 Jobs : 1 Dwelling Unit	4 Jobs : 1 Dwelling Unit	1.5 Jobs : 1 Dwelling Unit	1 Jobs : 1 Dwelling Unit	1 Jobs : 1 Dwelling Unit	1 Job : 2 Dwelling Units	1 Job : 2 Dwelling Units	
Mix of Uses (% Residential, % Non-Residential)	20% Residential and 80% Non-Residential	30% Residential and 70% Non-Residential	50% Residential and 50% Non-Residential	50% Residential and 50% Non-Residential	70% Residential and 30% Non-Residential	80% Residential and 20% Non-Residential	80% Residential and 20% Non-Residential	90% Residential and 10% Non-Residential	90% Residential and 10% Non-Residential	See Notes C, D
Street Network										
Grid Density (Polygons per Square Mile.) - Bicycle, Pedestrian and Street Network	Min. 150	Min. 150	Min. 75	Min. 75	Min. 50	Min. 50	Min. 50	Min. 50	N/A	
Average Block Size (in Feet)	200' x 400'	200' x 400'	200' x 600'	200' x 600'	200' x 800'	200' x 800'	200' x 800'	200' x 800'	N/A	

Assumptions and Notes:

- A.** The guidelines provides policy guidance (gross densities, development/design standards) for transit oriented development sites located within an approximately 1/2 mile radius around a transit station or 1/4 mile around a local bus hub . The target density and intensity of specific developments could vary based on the size and location of the developments within the station area. This variation in density/intensity as well as design standards for streets and other public spaces should be addressed through a station area plan/overlay.
- B.** The development potential around Commuter Rail, Light Rail and Bus Rapid Transit stations are similar since the station spacing and service levels are within a comparable range. Commuter Rail and Commuter Bus have distinctly different transit service characteristics and development impact in station areas. Local or Fixed Route Bus is assumed to be supportive of transit oriented development at a transfer station or local bus hub consisting of a minimum of 3 routes and 30 minute headways, i.e. level of service D per the Transit Capacity and Quality of Service Manual. In suburban areas, the development around Commuter Rail is assumed to be rich in residential uses.
- C.** Intensity (FAR), net residential density, mix of uses (% residential / % non-residential) and lot coverage are variables used to calculate the gross density indicators (residential, employment, and population). The gross density indicators are adjusted for land development capacity (vacant, redevelopment, and not available for development or redevelopment) and public infrastructure/open space requirements. Gross population density assumes 2.49 persons per dwelling based on Florida Census data.
- D.** The residential/non-residential mix is managed by transects to reflect preferences about living and working, but the general assumption is that residential uses are higher in suburban and rural areas compared to the urban core and urban general transects, which are more employment centric. The mix of uses could vary by approximately 15% based on the location of the development relative to the transit station and/or hub.
- E.** In the urban core and urban general transects, each dwelling unit is assumed to be 1,500 sq.ft. and each job is assigned 350 sq.ft. (average of retail and office employment). In suburban transects, each dwelling unit is assumed to be 1,800 sq.ft. and each job is assigned 500 sq.ft. (average of retail and office employment). In rural transects, each dwelling unit is assumed to be 2,000 sq.ft. and each job is assigned 500 sq.ft. (average of retail and office employment).
- F.** The variables listed under Intensity/Density of Use are minimum net development/design standards that project the anticipated development potential of a transit oriented development site based on it's context. The net development standards will require calibration to existing intensity/density, land availability (vacant or redevelopment), public infrastructure/open spaces, location within station areas, etc. The target gross density indicators guide the degree and direction of calibration.