

STATION AREA PLANNING

How To Make Great
Transit-Oriented
Places



Reconnecting America and
the Center for Transit-Oriented Development

Reconnecting America

is the only national nonprofit organization devoted to promoting best practices in transit-oriented development (TOD) and development-oriented transit. Our Center for Transit-Oriented Development, a collaboration with the Center for Neighborhood Technology and Strategic Economics, has been funded by the federal government to serve as a national TOD best practices clearinghouse. We also do fee-for-service work in regions across the U.S., which helps inform our nonprofit work.

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On The Cover Fruitvale Transit Village, Oakland

Photo by McLarand, Vasquez Emsiek Fruitvale Transit Village architects

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How To Use This Manual

THIS IS THE FIRST in our TOD 202 series of guidebooks to promote best practices in transit-oriented development. Following publication of “Why Transit-Oriented Development and Why Now?” our TOD 101 guidebook, we realized there is a need for more in-depth analysis and discussion for TOD practitioners. This 202 manual is intended to help with simplifying the complex decisions that surround planning for TOD projects and station areas by providing details about the scales of development likely to occur in different places, as well as station area planning principles and TOD plan checklists.

The manual begins with a discussion of seven “TOD place types,” followed by a self-diagnostic questionnaire to help identify a particular station area place type in a TOD typology we have applied and refined in several regions around the U.S. There are also typologies of buildings and of the kinds of open spaces sometimes included in transit-oriented neighborhoods. All of these typologies can help inform decisions by enabling the planning partners to visualize and talk about the possibilities for station areas. They are intended to be suggestive only and not a complete list of options.

The second section is a discussion of station area planning principles, and includes TOD plan checklists for each principle to help guide station area planning efforts. Again, the goal is to help all the planning partners better understand the potential outcomes at the beginning of the planning process. The ultimate goal is to facilitate the creation of high-performing TOD projects and great neighborhoods.

This manual is based on a station area planning manual that Reconnecting America’s Center for TOD created for the Metropolitan Transportation Commission (MTC) in the San Francisco Bay Area with the help of Nelson\Nygaard Consulting Associates. MTC has a TOD policy that requires new transit projects to meet certain thresholds in terms of the number of housing units planned or built within walking distance of stations. The TOD policy is intended to make regional transit investments as efficient and cost-effective as possible by requiring and encouraging transit-supportive development to promote ridership. To support implementation of the TOD policy MTC has also made funding available for station area plans to help communities think about and plan for changes in land use, access, circulation, pedestrian-friendly design and parking policies.

Transit-Oriented Places

T Y P O L O G I E S

Denver is building 119 miles of light rail and 70 new stations in a decade, creating huge development opportunities to make the region more livable and sustainable.



What Is A Place Type?

SOME TRANSIT STATIONS are located in bustling downtowns at the heart of the regional economy; others are in residential neighborhoods where transit provides a convenient means for commuters to travel to and from work and other destinations. Some stations are located in areas that are experiencing rapid growth and change, while others are in more established, built-out neighborhoods where any change will be incremental. Every station area, whether existing or proposed, faces unique challenges and will require specially tailored strategies to create

high-performing transit-oriented development (TOD) projects. However, many different types of station areas share similar characteristics. These similarities can help planners, citizens, and elected officials quickly and easily understand key planning considerations and what to expect in terms of the character, role and function of the places that will be created. Places are not defined solely by their density or the intensity of activity, but also by the types of uses, how streets are arranged, how transit is accommodated, and their roles within the region.

Regional Center

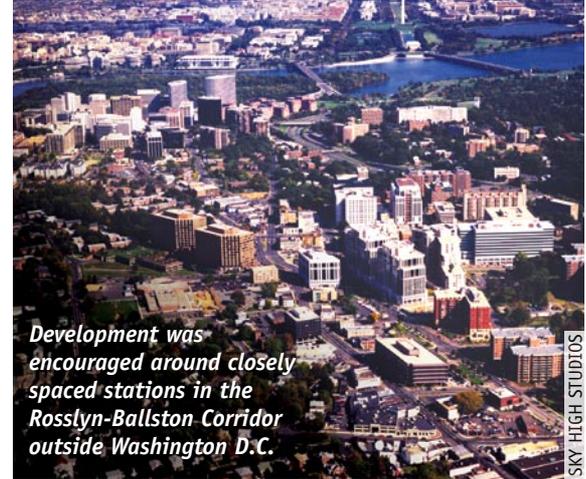
REGIONAL CENTERS ARE the primary centers of economic and cultural activity in any region. These are the regional downtowns, and are characterized by a dense mix of housing and employment types, retail and entertainment that cater to the regional market. They are served by a rich mix of transit modes that support all this activity, including high-capacity regional rail and bus, and local-serving bus. Until recently many regional centers lacked residential development but the



U.S. real estate market has changed as a result of changing demographics and housing preferences, and there has been an increase in high-rise residential development in downtowns across the U.S. Densities are typically higher within a quarter-mile radius of stations than within the half-mile radius. Examples of regional centers include downtown San Francisco and Boston, Chicago's Loop, Midtown Manhattan, and downtown Denver.

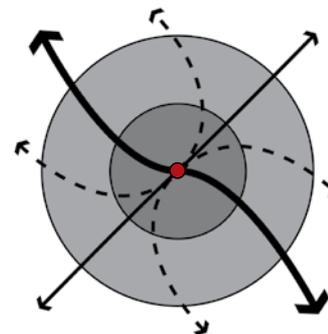
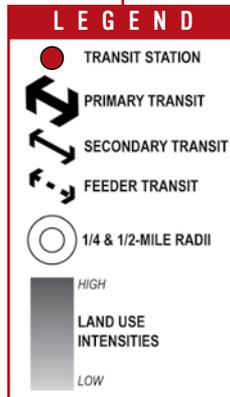
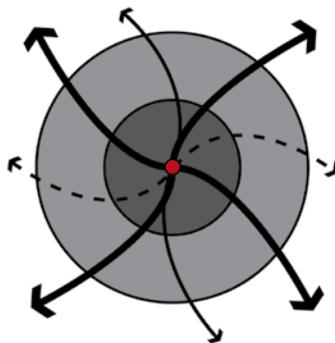
Urban Center

URBAN CENTERS CONTAIN a mix of residential, employment, retail and entertainment uses, usually at slightly lower densities and intensities than in regional centers. Destinations draw residents from surrounding neighborhoods. These centers serve as commuter hubs for the larger region and are served by multiple transit options, often including rail and high-frequency regional bus or bus rapid transit (BRT), as well as local-serving bus. Many urban centers retain their historic character, having preserved both historic buildings and street networks.



Densities are typically higher within a quarter-mile radius of stations than the half-mile radius. Examples of urban centers include the Rosslyn-Ballston Corridor outside Washington D.C., downtown Baltimore, Hoboken, Houston's Medical Center, and Pasadena in Southern California.

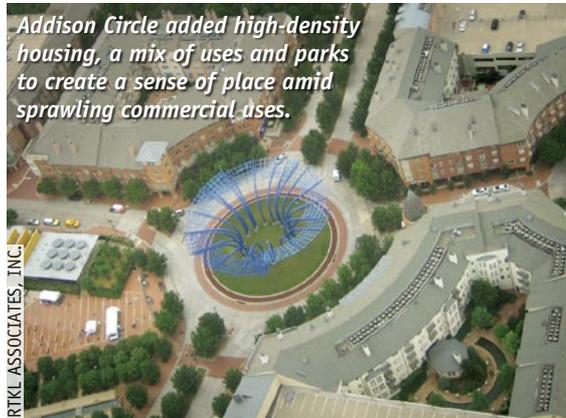
Regional centers are served by a rich mix of transit modes. San Francisco is served by heavy rail, light rail, streetcar, cable car, and high-quality bus. The entire half-mile radius around stations is dense, the intensity increasing slightly in the quarter-mile radius.



Urban centers contain a mix of uses at slightly lower intensities than regional centers. They are commuter hubs to the larger region, and are served by multiple transit options. Densities and intensities are usually greater in the quarter-mile radius of stations than in the half-mile radius.

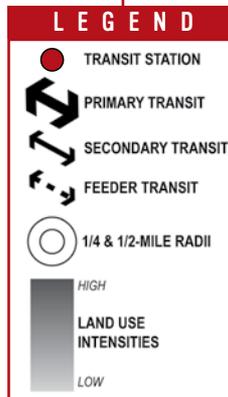
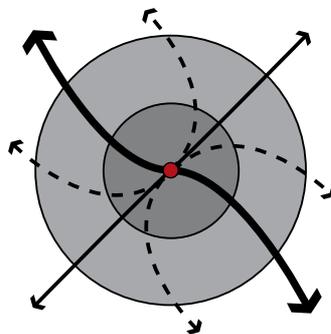
Suburban Center

SUBURBAN CENTERS CONTAIN a mix of residential, employment, retail and entertainment uses, usually at intensities similar to that found in urban centers but lower than that in regional centers. Suburban centers can serve as both origins and destinations for commuters. They are typically connected to the regional transit network and include a mix of transit types — regional rail and bus, BRT, and local bus — with high-frequency service. Development here may be more recent than that



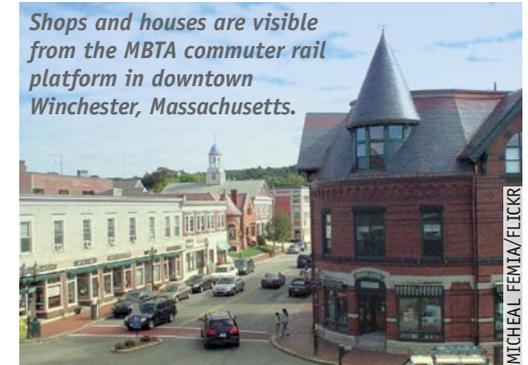
found in urban centers, and there are more single-use employment areas and residential neighborhoods. The intensity of uses is often noticeably greater within a quarter-mile radius of stations than in the half-mile radius. Examples include Lindbergh City Center in Atlanta; Evanston, Illinois; Addison Circle, just outside Dallas; Stamford, Connecticut; Denver's Tech Center and Englewood; and Silver Spring, Maryland.

Suburban centers act as both origin and destination for commuters, with a mix of transit options connecting to the regional network. Development is more recent than in urban centers, with more single-use areas and notably greater intensities in the quarter-mile radius of stations.

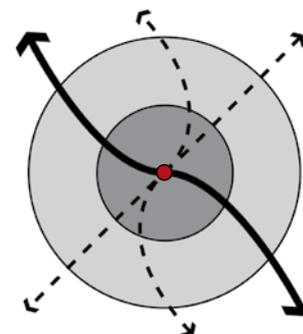


Transit Town Center

TRANSIT TOWN CENTERS function more as local-serving centers of economic and community activity than either urban or suburban centers, and they attract fewer residents from the rest of the region. A variety of transit modes serve transit town centers, and there is a mix of origin and destination trips — primarily commuter service to jobs in the region. There is less secondary transit service than the previous place types. Secondary transit lines feed primary lines, often at intervals timed to facilitate transfers at the primary transit stations. Residential densities are usually lower than in the previous place types, but there is still a good mix of both multi-family and single-family residential, as well as a mix of retail, smaller-scale employment, and civic uses. Densities are usually noticeably greater within a quarter-mile of transit stations than the half-mile radius. Examples include Prairie Crossing in Grayslake outside Chicago; Suisun City in the San Francisco Bay Area; Roslindale Village, Winchester and other commuter neighborhoods outside Boston; and Hillsboro outside Portland, Oregon.

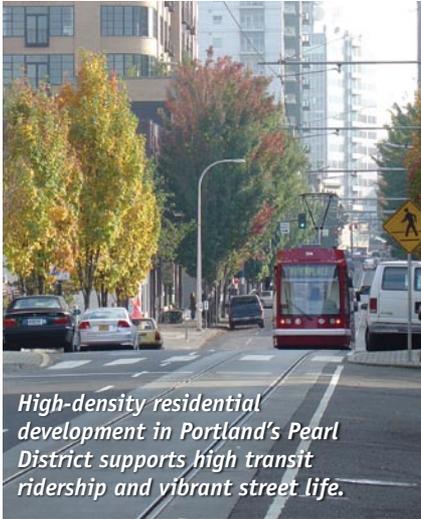


Transit town centers are local-serving centers of economic and community activity served by a variety of transit modes, primarily providing commuter service to jobs in the region. Densities are usually noticeably greater in the quarter-mile radius of stations.



Urban Neighborhood

URBAN NEIGHBORHOODS are primarily residential areas that are well-connected to regional centers and urban centers. Densities are moderate to high, and housing is usually mixed with local-serving retail.



High-density residential development in Portland's Pearl District supports high transit ridership and vibrant street life.

Commercial uses are limited to small businesses or some industry. Development is usually oriented along a well-connected street grid that is served by a secondary transit network. Transit is often less a focal point for activity than in the "center" place types, and stations may be located at the edge of two distinct neighborhoods. Many urban neighborhoods were developed before World War II as "streetcar suburbs" that grew up transit-oriented. Densities are usually higher immediately adjacent to the primary transit

stations but spread more evenly throughout the half-mile radius. Examples include Fruitvale in Oakland, Greenwich Village in New York City, the Pearl District in Portland, and University City in Philadelphia.

Transit Neighborhood

TRANSIT NEIGHBORHOODS are primarily residential areas that are served by rail service or high frequency bus lines that connect at one location. Densities are low to moderate and economic activity is not concentrated around stations, which may be located at the edge of two distinct neighborhoods.

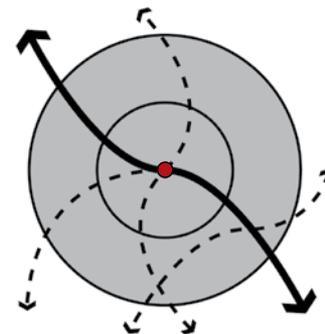
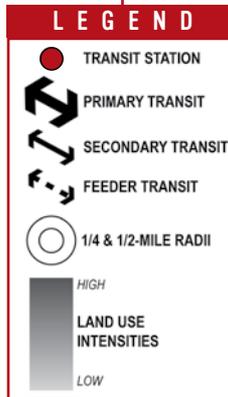
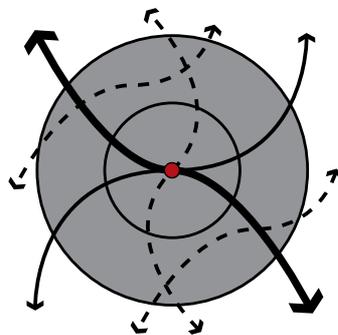
Secondary transit service is less frequent and less well-connected. There is often not enough residential density to support much local-serving retail, but there are often retail nodes. Transit neighborhoods are found within older urbanized areas that were developed as streetcar suburbs and in more recently developed suburban neighborhoods. Transit neighborhoods can offer significant development opportunities with potential to provide residents with more housing, retail, employment and mobility options, as in urban neighborhoods. Densities are usually evenly distributed in the half-mile radius around stations. Examples include Ohlone-Chynoweth outside San Jose; Plano, Texas; Barrio Logan in San Diego, Capitol Hill in Washington D.C.

Higher-density housing is concentrated around San Jose's Ohlone-Chynoweth station, which is surrounded by single-family neighborhoods.



JAY GRAHAM PHOTOGRAPHY

Urban neighborhoods have moderate to high densities and transit is less of a focal point of activity than in center place types. Intensities are usually spread evenly throughout the half-mile radius with an increase near the station.

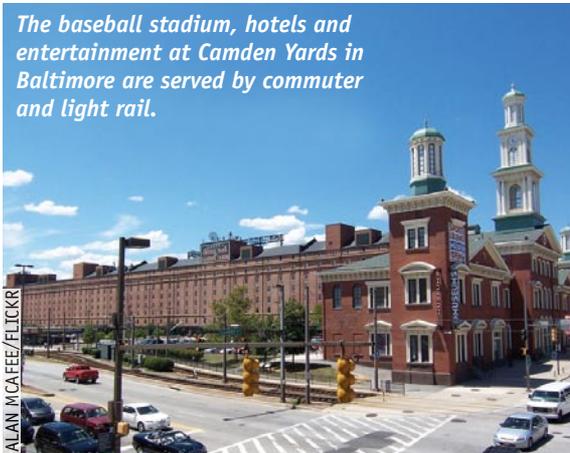


Stations in transit neighborhoods are less a focus of activity than in the previous place types and usually do not have enough density to support much local-serving retail. They are typically served by rail or multiple bus lines at one location.

Special Use/Employment District

SPECIAL-USE OR EMPLOYMENT districts are often single-use – either they are low to moderate density employment centers, or are focused around a major institution such as a university, or an entertainment venue such as a stadium. Transit stations are not a focus of economic activity. Secondary transit service is infrequent and focused on stations; development tends to be more recent, and the street grid may be less connected than in older neighborhoods. There can be significant opportunities for mixed-use development if these stations are well-connected to other parts of the region and there is demand for housing. Densities are usually evenly distributed throughout the half-mile radius around stations. Examples include South of Market in San Francisco, Camden Station in Baltimore, and South Waterfront in Portland.

The baseball stadium, hotels and entertainment at Camden Yards in Baltimore are served by commuter and light rail.



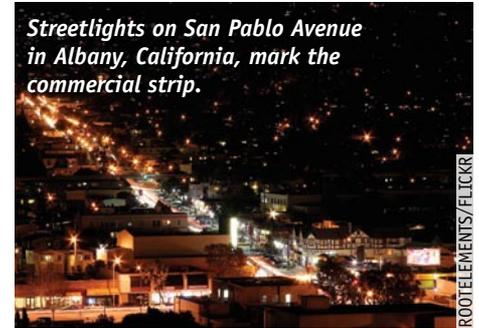
ALAN MCAFEE/FICKR

a stadium. Transit stations are not a focus of economic activity. Secondary transit service is infrequent and focused on stations; development tends to be more recent, and the street grid may be less connected than in older neighborhoods. There can be significant opportunities for

Mixed-Use Corridor

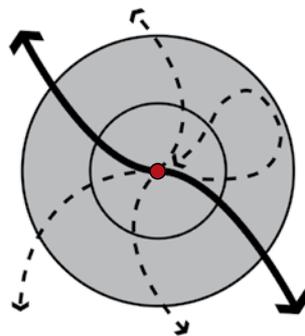
MIXED-USE CORRIDORS are a focus of economic and community activity but have no distinct center. These corridors are typically characterized by a mix of moderate-density buildings that house services, retail, employment, and civic or cultural uses. Many were developed along streetcar lines or other transit service. Mixed-use corridors are especially suitable for streetcars, bus rapid transit or other high-quality bus service with closely-spaced stops. Residential development is usually characterized by newer, denser development along the corridor, with older, lower-density homes just off the main strip. Mixed-use corridors are sometimes served by transit stations that create nodes of activity, but these are less distinct than in other types of places, and they are served by networks of secondary transit such as local bus. Mixed-use corridors offer a good opportunity for infill and mixed-use development, and development is usually more intense within a quarter-mile of transit stops. Examples include International Boulevard in Oakland, Washington Street in Boston, and University Avenue in St. Paul, Minnesota.

Streetlights on San Pablo Avenue in Albany, California, mark the commercial strip.



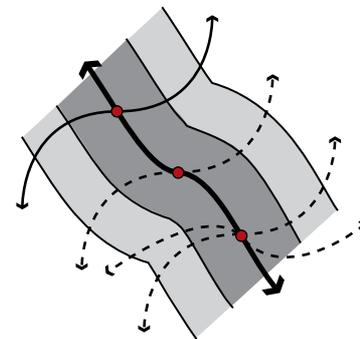
ROOTELEMENTS/FICKR

Special use/employment districts are often focused around a university or sports stadium, and stations are not the focus of economic activity. Densities are usually evenly distributed in the half-mile radius around stations.



LEGEND

- TRANSIT STATION
- PRIMARY TRANSIT
- SECONDARY TRANSIT
- FEEDER TRANSIT
- 1/4 & 1/2-MILE RADII
- HIGH LAND USE INTENSITIES
- LOW LAND USE INTENSITIES



Mixed-use corridors offer good opportunities for infill and mixed-use development. They are a focus for economic and community activity but have no distinct center, though development is usually more intense within a quarter-mile of transit stops.

How To Identify A TOD Place Type

	CENTERS			
	Regional Center	Urban Center	Suburban Center	Transit Town Center
<i>What are the characteristics of the station area?</i>	Primary center of economic and cultural activity	Significant center of economic and cultural activity with regional-scale destinations	Significant center of economic and cultural activity with regional-scale destinations	Local center of economic and community activity
<i>What is the transit mode?</i>	All modes	All modes	All modes	Commuter rail, local/regional bus hub, light rail
<i>What is the peak frequency of transit?</i>	< 5 minutes	5-15 minutes	5-15 minutes	15-30 minutes
<i>What is the land use mix and density?</i>	High-density mix of residential, commercial, employment, and civic/cultural uses	Moderate- to high-density mix of residential, commercial, employment, and civic/cultural uses	Moderate- to high-density mix of residential, commercial, employment and civic/cultural uses	Moderate-density mix of residential, commercial, employment and civic/cultural uses
<i>What are the retail characteristics?</i>	Regional-serving destination-retail opportunity; need for local-serving retail	Regional-serving destination-retail opportunity; need for local-serving and community-serving retail	Regional-serving destination-retail opportunity; need for local-serving and community-serving retail	Community-serving and destination-retail opportunity; need for local-serving retail
<i>What are the major planning and development challenges?</i>	Integrating dense mix of housing and employment into built-out context	Integrating high-density housing into existing mix of housing and employment to support local-serving retail	Introducing housing into predominantly employment uses and improving connections/access to transit	Increasing densities while retaining scale and improving transit access
<i>Examples</i>	Downtown San Francisco and Boston, Chicago's Loop, Midtown Manhattan, downtown Denver	Rosslyn-Ballston Corridor outside Washington D.C.; downtown Baltimore; Hoboken, New Jersey; Houston's Medical Center	Lindbergh City Center in Atlanta; Evanston, Illinois; Addison Circle outside Dallas; Stamford, Connecticut;	Prairie Crossing in Grayslake outside Chicago; Suisun City in the San Francisco Bay Area; Roslindale Village and Winchester outside Boston

D I S T R I C T S		C O R R I D O R	
Urban Neighborhood	Transit Neighborhood	Special Use/ Employment District	Mixed-Use Corridor
Predominantly residential district with good access to regional and subregional centers	Predominantly residential district organized around transit station	Local focus of economic and community activity without distinct center	Local focus of economic and community activity without distinct center
Heavy rail, LRT/streetcar, BRT, commuter rail, local bus	LRT/streetcar, BRT, commuter rail, local bus	LRT/streetcar, BRT, potentially heavy rail	LRT/streetcar, BRT, local bus
5-15 minutes	15-30 minutes	15-30 minutes	5-15 minutes
Moderate- to high-density residential uses with supporting commercial and employment uses	Low- to moderate-density residential uses with supporting commercial and employment uses	Concentrations of commercial, employment and civic/cultural uses, potentially with some residential	Moderate-density mix of residential, commercial, employment and civic/cultural uses
Primarily local-serving retail opportunity; need for some community-serving retail	Primarily local-serving retail opportunity	Potential for community- and regional-serving retail but need to balance demands for access	Primarily local-serving retail opportunity; need for some community-serving retail
Expanding local-serving retail opportunities and increasing high-density housing	Integrating moderate-density housing and supporting local-serving retail	Creating sustainable off-peak uses and accommodating peak travel demand	Expanding local-serving retail opportunities and high-density housing opportunities
Fruitvale in Oakland, Greenwich Village in New York City, the Pearl District in Portland, University City in Philadelphia	Ohlone-Chynoweth outside San Jose; Plano, Texas; Barrio Logan in San Diego; Capitol Hill in Washington D.C.	South of Market in San Francisco, Camden Station in Baltimore, South Waterfront in Portland	International Boulevard in Oakland, Washington Street in Boston, University Avenue in St. Paul, Minnesota

QUESTIONS ARE POSED in this table to help all the station area planning partners identify the areas they are planning within the place typology. The place types in the typology are generalized so as to highlight similarities and differences as well as the parameters that tend to define their land use mix, housing densities, and transit service. Because of this a particular place may not fit exactly into one of these types. All of the characteristics that are identified, defined and quantified are intended to be descriptive and not prescriptive, in the recognition that all places are unique.

Note: The term “station area” typically refers to the half-mile radius around the station, about 500 acres in size. The term “primary transit mode” refers to the transit types that typically support the place type.

Development Guidelines For TOD Place Types

	CENTERS			
	Regional Center	Urban Center	Suburban Center	Transit Town Center
Housing Mix (New Development)	High-rise and mid-rise apartments and condos	Mid-rise, low-rise, some high-rise and townhomes	Mid-rise, low-rise, some high-rise and townhomes	Mid-rise, low-rise, townhomes, small-lot single family
Station Area Total Units Target	8,000-30,000	5,000-15,000	2,500-10,000	3,000-7,500
Net Project Density (New Housing)	75-300 du/acre	50-150 du/acre	35-100 du/acre	20-75 du/acre
Station Area Total Jobs Target	40,000-150,000	5,000-30,000	7,500-50,000	2,000-7,500
Minimum FAR (New Employment Development)	5.0 FAR	2.5 FAR	4.0 FAR	2.0 FAR

ONCE THE PLANNING partners have identified an appropriate place type to guide planning in a particular station area, these guidelines can be used to think through the characteristics of the places they want to create. The following criteria should be discussed:

- **Housing mix:** the range of housing types will vary depending on local conditions and the community vision. These types refer to new, not existing, housing.

- **Station area total units target:** The range will vary according to local conditions.

D I S T R I C T S			C O R R I D O R
Urban Neighborhood	Transit Neighborhood	Special Use/ Employment District	Mixed-Use Corridor
Mid-rise, low-rise, townhomes	Low-rise, townhomes, small-lot single family, and some mid-rise	Limited residential potential; mid-rise and high-rise if appropriate	Mid-rise, low-rise, townhomes, with small-lot single family off the corridor
2,500-10,000	1,500-4,000	2,000-5,000	2,000-5,000
40-100 du/acre	20-50 du/acre	50-150 du/acre	25-60 du/acre
NA	NA	7,500-50,000	750-1,500
1.0 FAR	1.0 FAR	2.5 FAR	2.0 FAR

• **Net project density:** The range should include several housing types. Local market conditions will determine densities and design.

• **Station area total jobs target:** The market for employment uses will determine the potential for jobs. The targets can help determine the amount of land devoted to each use.

• **Minimum FAR:** The floor area ratios provide a baseline for the development of employment and help determine the appropriate mix of building types.

NOTE: The term “station area” typically refers to the half-mile radius around the station, about 500 acres in size. The development thresholds suggested here represent what is typical for each place type. Development plans should also respond to local conditions.

A TOD Residential Building Typology

	Net Density (Target)	Characteristics	Construction Type	Parking Configuration		
RESIDENTIAL TYPES	Small-Lot Single Family/Duplex	8-20 du/acre (15 du/acre)	Small lots (max 6,000 sf), 2-3 stories with detached units, direct entry from street with potential for secondary units	Type V (max 3 stories/35 feet)	Individual garage/driveway and on-street	
	Townhouse	12-40 du/acre (30 du/acre)	2-4 stories with attached units, direct entry from street, units can be paired with flats for increased density	Type III/IV (max 4 stories/50 feet)	Tuck-under garage/driveway and on-street	
	Low-Rise Multifamily	20-75 du/acre (55 du/acre)	2-4 stories with apartments/condos, single- or double-loaded corridors with lobby entrance, off-street parking in surface/structure	Type III (max 4 stories/50 feet)	Tuck-under garage or surface parking lot, potential for structured parking	
	Mid-Rise Multifamily	50-150 du/acre (110 du/acre)	4-6 stories with apartments/condos, single- or double-loaded corridors with lobby entrance, off-street parking structure/below grade	Type I/III (max 5 stories/65 feet)	Ground floor podium/sub-grade or elevated structure	
	High-Rise Multifamily	75+ du/acre	7+ stories, usually with base and point tower, single- and double-loaded corridors with lobby entrance, off-street parking in structure or below grade	Type I/II (max 12 stories/120 feet/no limits on Type I)	Off-street parking in structure or below grade	

Note: In both charts "Construction Type" refers to categories of fire protection that govern construction in the Uniform Building Code. "Type I" refers to structures of concrete and/or steel; "Type II" refers to structures of load-bearing masonry and/or steel; "Type III" refers to structures of load-bearing masonry, steel and/or wood; and "Type V" refers to wood structures.

A TOD Mixed Use / Employment Building Typology

	Net Density	Characteristics	Construction Type	Parking Configuration	
MIXED USE TYPES <i>Mid-Rise Residential Over Commercial</i> <i>High-Rise Residential Over Commercial</i>	40-90 du/acre	3-6 stories with apartments, single- or double-loaded corridors with lobby entrance, off-street parking in structure or below grade	Type I/III (max 6 stories with building code modification/65 feet)	Groundfloor podium/subgrade or elevated structure	
	60+ du/acre	7+ stories, usually with base and point tower, single- or double-loaded corridors with lobby entrance, off-street parking in structure or below grade	Type I/II (max 12 stories/120 feet/no limits on Type 1)	Off-street parking in structure or below grade	
EMPLOYMENT TYPES <i>Low-Rise Office/Commercial</i> <i>Mid-Rise Office/Commercial</i> <i>High-Rise Office/Commercial</i> <i>Institutional/Other Employment</i>	0.5-2.5 FAR	1-3 stories with lobby entrance to upper floors; retail, office or mixed-use with mix of tenant types, including limited large-footprint retail uses; parking in surface lots or structures	Type III/IV/V (max 4 stories/65 feet)	Off-street parking in groundfloor podium or surface	
	2.0-5.0 FAR	3-7 stories, with lobby entrance to upper floors, office with potential groundfloor retail, parking in structure or below grade	Type I/II (max 12 stories/160 feet)	Off-street parking in structure or below grade	
	4.0+ FAR	6+ stories with lobby entrance to upper floors sometimes with point tower over base, office with potential groundfloor retail, parking in structure or below grade	Type 1 (no limits)	Off-street parking in structure or below grade	
	varies	schools, civic uses, stadiums, hospitals, other entertainment uses; range of densities and sizes; parking often in structures or below grade	Varies	Parking often in structures or below grade	

A TOD Open Space Typology

		Size	Characteristics	
OPEN SPACE TYPES	<i>Transit Plaza</i>	0.1-0.5 acres	Small open space adjacent to the station; can be linear or with a defined center; primarily hardscape amenities for riders; used to support station access and passive recreation	
	<i>Plaza</i>	0.1-1.0 acres	Small open space, usually close to buildings; primarily hardscape with some landscaping; primarily passive recreation	
	<i>Small Parks</i>	0.1-2.0 acres	Small open space, often separated from buildings by a roadway; primarily landscaped with some hardscape; primarily passive recreation	
	<i>Community-Scaled Parks</i>	1.0-5.0 acres	Medium-sized open space, usually separated from buildings by a roadway; mix of landscape and hardscape; mix of active and passive recreation	
	<i>Regional Open Space</i>	varies	Large open space as part of a trail system or network of parks; primarily landscaped; primarily active recreation	

Station Area Planning

PRINCIPLES



Light rail runs through Del Mar station just south of the main shopping street in Pasadena, California, providing high-density residential, local-serving retail, and a destination restaurant.

SUCCESSFUL STATION area planning must take into account housing production, access and circulation issues, urban design and place-making, and the public infrastructure required to create great neighborhoods and high-quality transit-oriented development. Consideration of the following nine principles — a checklist of considerations is provided for each — can help guide the planning effort.

Maximize ridership with transit-oriented development:

STUDIES SHOW THAT PEOPLE who live in transit-oriented development are more likely to use transit than people who live elsewhere in the region. One recent study of TOD projects in four California cities found that residents of TOD are five times more likely to use transit, and that those who work in TOD are 3.5 times more likely to use transit. A 2008 study for the Transit Cooperative Research Program showed that people who live in TOD use their cars half as much as the regional average. Station area plans help communities identify the scale and type of development that is appropriate for the station area in order to provide more riders for transit. The plans should acknowledge that people who live in the half-mile radius of a station are more likely to take transit, and reduce parking standards and provide for the needs of pedestrians and bicyclists.

TOD PLAN CHECKLIST

Develop clear land-use alternatives:

Developing options for different development scenarios should occur early in the planning process to allow for public discussion and input by community members, property owners and other key stakeholders.

Understand market demand:

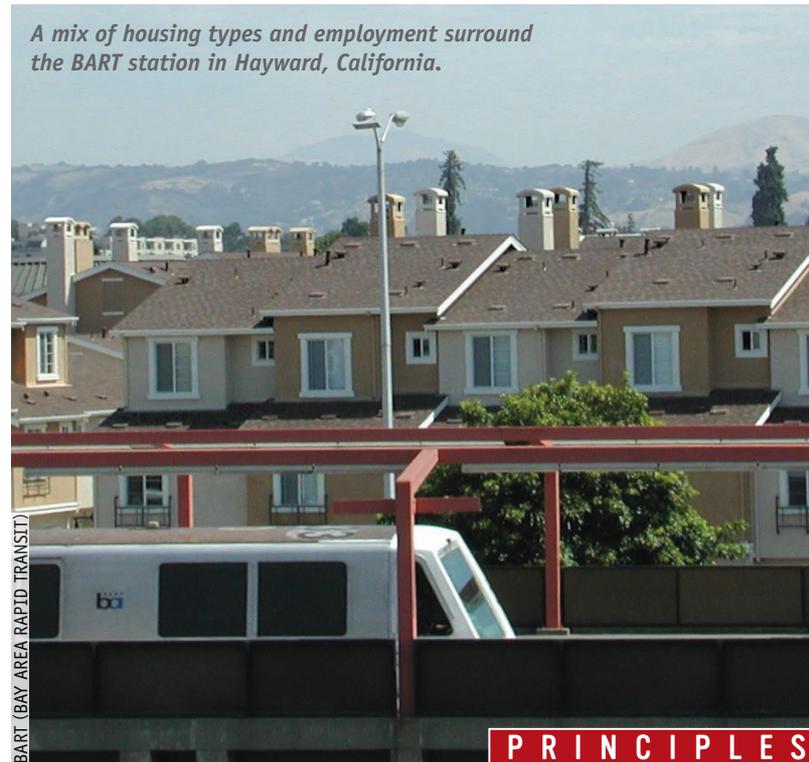
Plans should understand the market demand for higher-density housing and employment. Where plans include a retail or mixed-use component, including local-serving stores, the feasibility of these uses should be analyzed.

Forecast ridership using TOD modeling tools:

TOD modeling tools should be used where feasible to estimate the changes in ridership that will result from the different development alternatives (the provision of parking, levels of development, transit access, etc.).

Minimize land-use conflicts:

Potential land use conflicts with adjacent industrial or residential uses should be minimized. The plan should be an opportunity to decide if current industrial uses should be preserved for jobs or goods movement, or if they should be allowed to redevelop as other uses.



Analyze the impact of zoning requirements on potential densities:

Zoning provisions such as lot coverage, setbacks and height limits may make it difficult to achieve the densities envisioned in the plan.

Set minimum allowable density standards:

While many zoning codes specify a range of densities or a maximum density, setting minimum densities can help define what qualifies as TOD and provide flexibility to accommodate market demand.

Locate key services near stations:

Key social services like childcare centers, health clinics and other important destinations should be located close to heavily used transit stations and hubs to accommodate the transit-dependent.

TOD PLAN CHECKLIST

Provide multilingual outreach:

Depending on the demographic make-up of the community, it may be important to provide translation into various languages.

Organize a citizen advisory committee:

Citizen advisory committees can help provide broad-based participation in the development of the plan.

Organize a technical advisory committee:

Technical advisory committees provide input from partner agencies, including other city departments, transit providers and regional agencies.

Create a plan website:

Websites can be an effective way of generating input and disseminating information on the plan.

Conduct wide public outreach, including workshops and open houses:

A range of opportunities should be employed to secure public participation in the development of the plan.

Involve the city council and planning commission:

The early involvement of elected and appointed officials can help ensure their buy-in and smooth the way for adoption of the plan.

Use visual tools:

Photosimulations of development alternatives are a useful tool for engaging the public, and can help secure support for higher densities or other desired outcomes.

Involve developers and property owners:

Developers and property owners bring an important perspective, particularly regarding the market feasibility of plan alternatives.

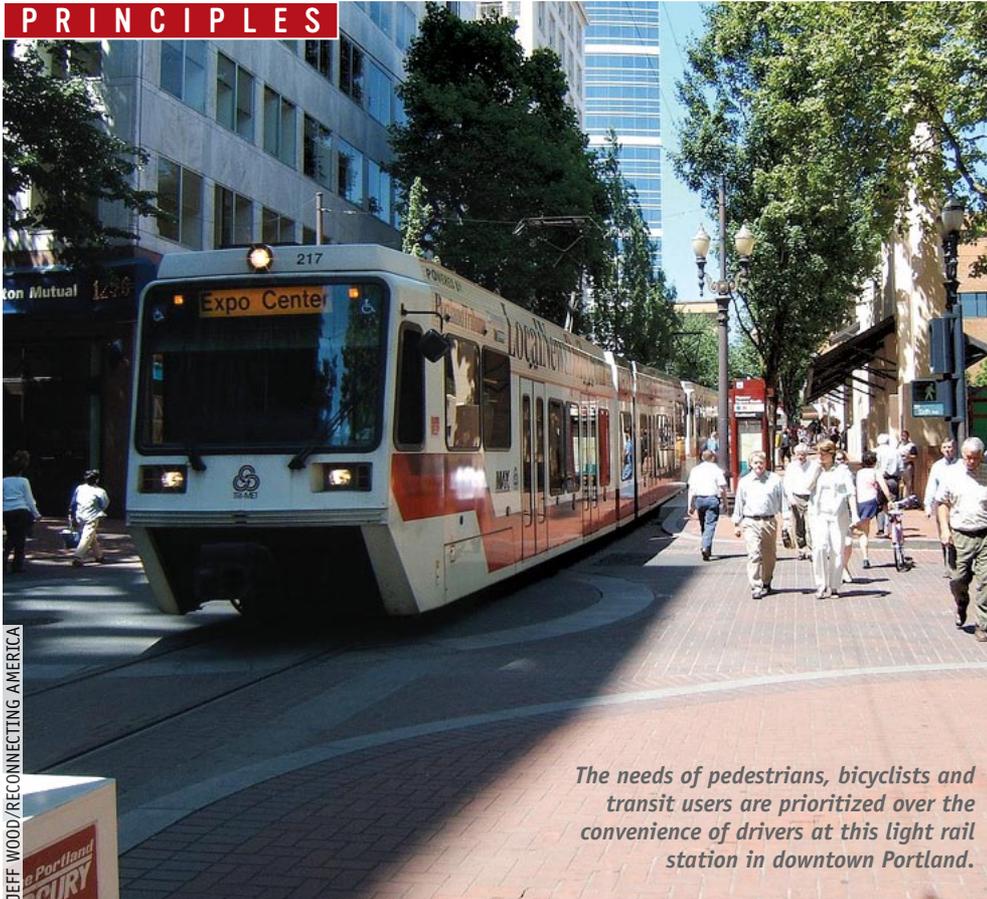
Have a media strategy:

A media strategy can help secure broader coverage of planning efforts.



Generate meaningful community involvement:

ENGAGING THE PUBLIC in the decision-making process early and often is essential to the success of any station area plan. To enhance participation, the planning process should be staged at an easily accessible venue at times when community members are likely to be able to attend, instead of expecting them to show up at transit agency or planning department offices during regular business hours. And while the Internet is an essential communications tool, not all residents will have access to computers, so it is important to send information in the mail. Moreover, in order to have meaningful and constructive input, the community should be educated about TOD and its potential to leverage private investment for community benefits like public plazas and parks. It is also important to explain that trade-offs are sometimes required in order to ensure projects achieve the goals of all the TOD partners (developers and investors, city, transit agency and community). Engaging in an open and honest discussion and focusing on outcomes that incorporate community needs and values is critical.



JEFF WOOD/RECONNECTING AMERICA

The needs of pedestrians, bicyclists and transit users are prioritized over the convenience of drivers at this light rail station in downtown Portland.

Design streets for all users:

THE STREETS SURROUNDING transit stations need to support multiple transportation modes — automobiles, buses, pedestrians and bicyclists, taxis — and provide for the safety of all users. The design of intersections and crossings, sidewalks and transit stops should consider the safety of the young, the elderly, and the mobility impaired. This approach to designing streets may necessitate trade-offs due to space constraints, but the needs of pedestrians, bicyclists and transit users should be prioritized over the convenience of automobile drivers.

TOD PLAN CHECKLIST

Consider TOD-specific street design standards:

Narrower travel lanes and slower design speeds are often appropriate in transit-oriented neighborhoods. They should be considered in the planning process and the advantages weighed against potential impacts such as lower bus operating speeds and higher operating expenses.

Consider multimodal performance standards:

The planning partners should consider adopting performance standards such as levels of service for all modes, including bikes and pedestrians, and other TOD-appropriate standards that don't prioritize access by automobile at the expense of other modes.

Incorporate bike and pedestrian access:

All streets in the station area should accommodate bicyclists and pedestrians with wide sidewalks, curb cuts and ramps, audible signals, bike lanes, trails, and bike parking appropriate for anticipated demand. Convenient and fully accessible paths of travel for wheelchair users and the mobility-impaired should be prioritized.

Prioritize safety and security:

Plans should address the safety and security of users with design responses including lighting and providing visibility for users and for "eyes on the street."

Create opportunities for affordable and accessible living:

TRANSPORTATION IS THE second-largest expense after housing in the U.S. A recent study by the Center for Transit-Oriented Development found that while the average family spends 19 percent of household income on transportation, households in auto-dependent neighborhoods spend 25 percent, and households with good access to transit spend just 9 percent (see charts below). This savings can be critical for low-income households, who spend a greater percentage of their incomes on transportation. These are the same households who are more likely to use transit on a regular basis, thereby helping to ensure higher ridership. For both of these reasons, station area plans should incorporate mixed-income housing wherever possible.

Building housing near stations can enhance affordability since households living near transit can save 16 percent of household income on transportation expenses.

Source: Center For TOD and Transportation Affordability Index, 2004 Bureau of Labor Statistics

Set affordable housing goals:

Plans should set goals for affordable housing, and proactively implement policies such as inclusionary zoning and density bonuses. Policies should reflect market realities.

Target affordable housing resources to station areas:

Resources should be targeted to station areas to maximize affordability. More affordable housing will promote both transit ridership and social equity.

Provide a range of housing options:

Ideally a range of housing choices should be made available within station areas, including housing for families and seniors. Secondary units such as granny flats should also be permitted.

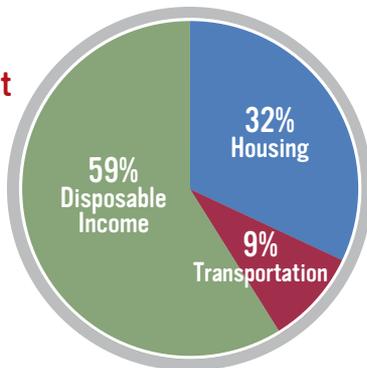
Minimize the displacement of current residents:

Policies to minimize the displacement of lower-income residents living in station areas should be considered and adopted where appropriate and feasible.

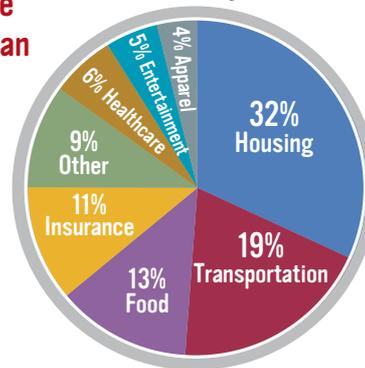
Ensure accessibility:

Accessibility policies should go beyond the scope of ADA requirements and ensure that some portion of development is accessible for those with disabilities.

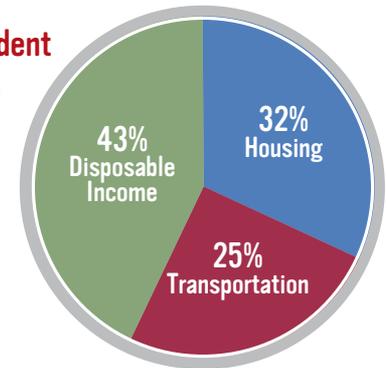
Location Efficient Environment



Average American Family



Auto-Dependent Exurbs





JEROME UNTERREINER/ZGF

The “water feature” on the streetcar line in Portland’s Pearl District is a regional draw and makes city living attractive for families with children.

Make great public spaces:

The public space around stations should be pedestrian-friendly and welcoming to transit riders, TOD residents and other visitors. A successful public space is easy to walk around in, provides comfortable places for sitting, and incorporates shade and landscaping, attractive lighting, water fountains, and public art. The addition of some retail can make transit more convenient and comfortable by allowing users to purchase coffee, a magazine or newspaper, or a snack. It’s important to make these spaces feel welcoming and safe both for the people who live and/or work at the station as well as for transit riders who come in off the street.

TOD PLAN CHECKLIST

Consider parks and open space:

The provision of open space such as plazas or parks should be an integral consideration in alternative land-use scenarios.

Involve the community in programming:

Station areas are more likely to be well-used if community members help determine the development program — whether retail, child care or other services should be included, for example.

Provide visual tools:

Photosimulations of open space and other public space are a useful tool for engaging the public, and help secure support for higher densities and open space.

Include public art that adds value:

Public art is best when it involves local artists and reflects local history, culture and aesthetics.

Develop design standards:

Good plans often include detailed design standards for facades, signage, fenestration and street furniture.

TOD PLAN CHECKLIST

Analyze parking supply and demand:

Plans should quantify the existing supply and use of parking, and estimate future use considering the planned development under different zoning and parking management options.

Consider innovative parking management policies:

Station area plans should consider policies such as reduced parking or maximum parking requirements, shared parking, car-sharing, parking assessment and revenue districts, and parking financing strategies.

Consider whether to provide parking:

Plans need to consider the appropriate size, location and cost of parking facilities, and analyze the relative costs and land requirements of generating ridership through park-and-ride lots versus TOD versus providing access by other modes (for pedestrians, bicyclists and buses).

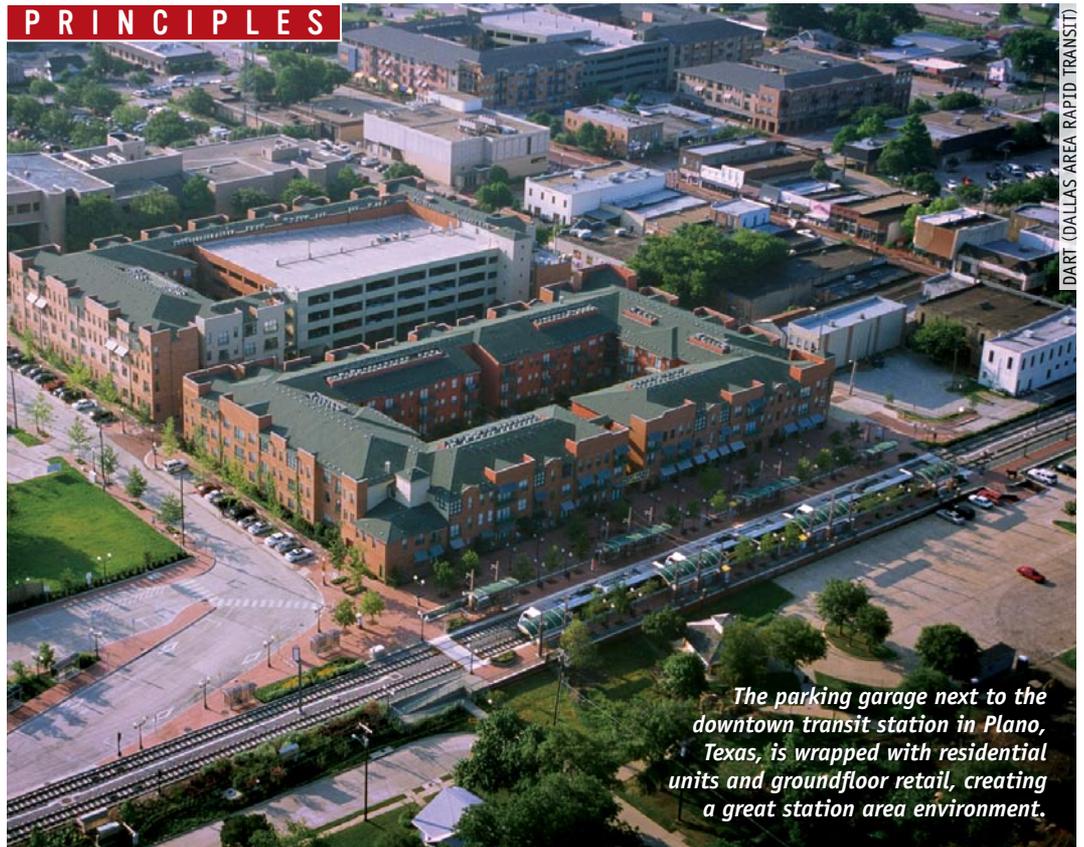
Provide bicycle parking facilities:

Bicycle access should be analyzed and sufficient bicycle parking should be provided. If many people access the station on bicycles full-service “bike stations” should be considered.

Locate parking to maximize placemaking:

Parking doesn't always need to be adjacent to the station. Often, local retail can be strengthened if transit riders have to walk along a shopping street to get to and from the station.

PRINCIPLES



The parking garage next to the downtown transit station in Plano, Texas, is wrapped with residential units and ground-floor retail, creating a great station area environment.

Manage parking effectively:

THE GOAL OF PARKING policies in the station area should be to minimize parking to the extent possible and maximize access for pedestrians and bicyclists and those who arrive at stations by bus or shuttle. If parking is poorly managed it can create a barrier to success by increasing development costs and making station areas unfriendly to those who arrive on foot or on bike. Well-managed parking can help provide revenue for infrastructure and other public improvements, can enhance ridership by making station areas accessible and inviting, and can help ensure a station will be well-integrated into the surrounding neighborhood. There are a variety of policies and programs that support this goal, including transit incentive programs, shared parking, car-sharing, TOD-friendly parking design, and transit overlay zones. People who live near transit own fewer cars and drive them less than other residents in the region. This fact should guide all parking policy.



This station in Bethesda, Maryland focuses development and activity in a way that creates value, which can be captured and used to fund station area improvements.

Capture the value of transit

EVIDENCE CONTINUES to mount that transit can generate tremendous value by concentrating development and activity around stations, and that this value can be captured and used to fund station area improvements and community benefits. Tried-and-true value capture strategies include: property and sales taxes, real estate lease and sales revenues, farebox revenues, fees on parking and business licenses, special assessment districts, tax-increment financing, and joint development. Value capture strategies can also include non-fiscal strategies such as inclusionary zoning, where the increased density and lower parking requirements for projects near stations create value for developers, allowing them to add affordable units to market-rate projects, or to provide public amenities such as plazas or parks.

TOD PLAN CHECKLIST

- Consider financing mechanisms for public infrastructure:** Plans should consider how to fund transit, station access and other infrastructure needs that have been identified. Financing mechanisms may include developer fees, value capture strategies such as tax-increment financing or benefit assessment districts, or other innovative strategies.
- Consider financing mechanisms for affordable housing:** A range of financing mechanisms should be considered, including targeting existing affordable housing resources to station areas.

This station in suburban Hillsboro outside Portland, Oregon, provides easy access for pedestrians and bicyclists and is not separated from the neighborhood by big parking lots.



BRUCE FINGERHOOD/FLICKR

TOD PLAN CHECKLIST

Identify key pedestrian corridors:

Plans should identify a network of key pedestrian corridors and detail how to provide the necessary high-quality walking environment. Plans should also look for ways to reduce block sizes and walking distances, and provide for sidewalk retail where appropriate.

Create a bicycle network:

Plans should specify a network of bike lanes and paths, and detail how bicycle access can be improved.

Consider the design of intermodal facilities:

Plans should address the need for seamless intermodal connections where there is heavy transit patronage. There should be way-finding signage, readily accessible information about transit including real-time travel information, and information about schedule coordination, fare coordination, and last-mile service.

Maximize neighborhood and station connectivity:

STUDIES SHOW THAT the walkability of the streets surrounding a station has a significant impact on whether people will choose to walk and ride transit, and the placement of intermodal facilities should not get in the way of walkability and placemaking. A strong pedestrian orientation, with adequate room for circulation, safe street crossings, an inviting station area, and amenities for transit users is important. Shorter blocks and more connected streets allow pedestrians, bicyclists, cars and buses more travel options, thereby minimizing the distance and time spent getting to the station. In contrast, disconnected street patterns – where, for example, major arterials are served by cul de sacs – lengthen distances and time, thereby discouraging transit use.

Implement the plan and evaluate its success:

A PLAN IS ONLY as good as its outcome. Good station area plans can generate increases in transit ridership, pedestrian activity, and economic development. Good plans can also set the stage for investment in affordable and market-rate housing, retail and employment. Putting programs in place early to monitor the success of the plan, including before-and-after counts of pedestrian, bicycle, and vehicle trips, measures of economic activity, and benchmarks for housing production, all help ensure success by indicating whether follow-up actions are necessary. A program-level environmental review and fast-tracked development review, for example, can help facilitate implementation of a plan.

Good station area plans can increase transit ridership and pedestrian activity, provide for more sustainable and affordable lifestyles, and generate economic development.

TOD PLAN CHECKLIST

Provide for environmental review:

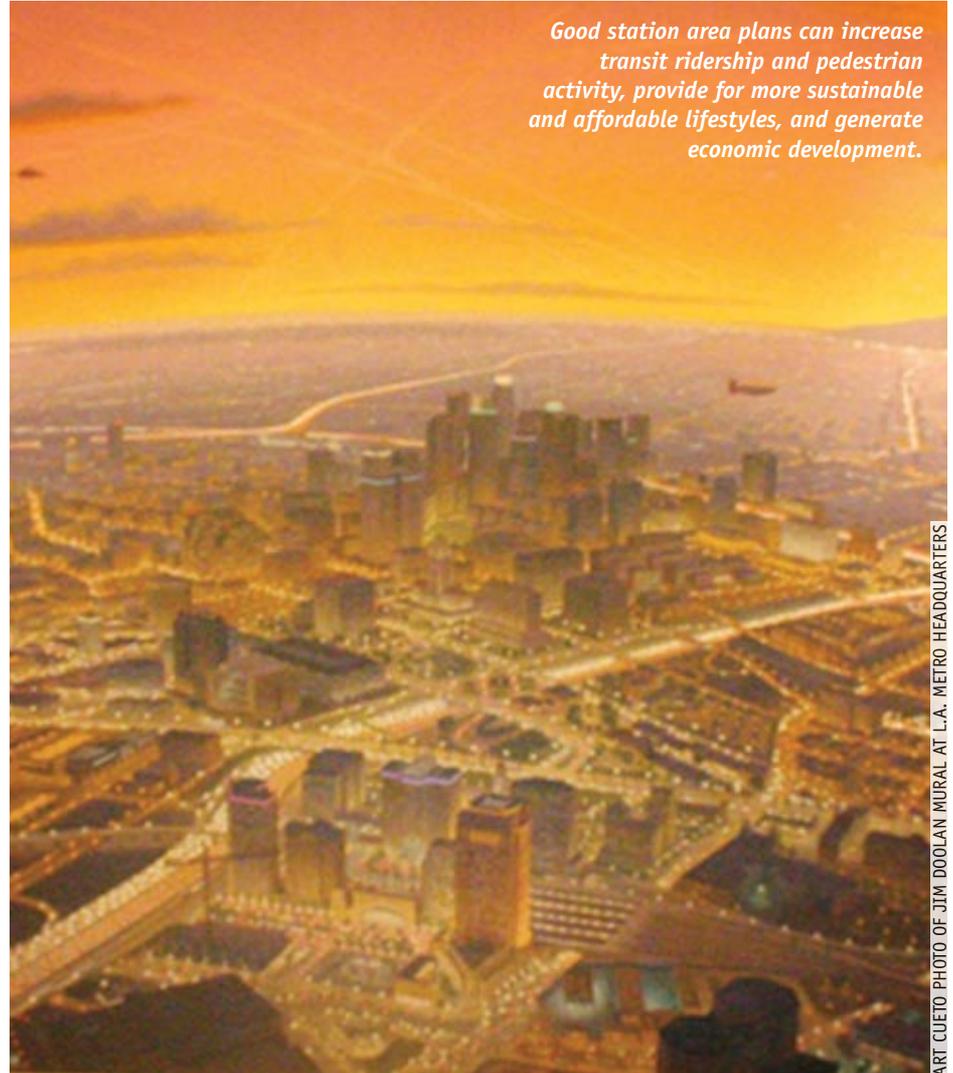
The scope should include all the environmental clearances required for plan adoption in order to facilitate the implementation of station area plans.

Develop an implementation plan and budget:

The station area plan should identify critical infrastructure and services — streets and sidewalks, local transit and shuttle services, parks, sewers, schools and housing — needed to accommodate development and meet transportation and land-use goals.

Monitor progress:

Plans should specify how to monitor progress toward meeting planning goals for development activity, transit ridership, pedestrian volumes, trip generation rates, retail sales, and other metrics to evaluate success.



ART CUETO PHOTO OF JIM DOOLAN MURAL AT L.A. METRO HEADQUARTERS

Note: Los Angeles after the year 2000, James Doolin, Artist, Gateway Transit Center, Metro Headquarters Building. Courtesy of Metro, copyright 2008 LACMTA.

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16. Abstract (Limit: 200 words) This station area planning manual is intended to help simplify the complex decisions that surround planning for transit-oriented development projects and station areas by providing details about the scales of development that are likely to occur in different types of places. The manual begins with a discussion of seven "TOD place types," followed by a self-diagnostic questionnaire to help planning partners identify a particular station area in a TOD typology. There are also typologies of the buildings and open space – plazas and parks – that are often included in these transit-oriented place types. All of the typologies can help inform decisions by enabling the planning partners to visualize and talk about the possibilities for station area plans. The second section is a discussion of station area planning principles, and includes TOD plan checklists for each principle to help planning partners consider all the options. Again, the goal is to help all the planning partners better understand the potential outcomes at the beginning of the planning process. The ultimate goal is to facilitate the creation of high-performing TOD projects and great neighborhoods.			
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