

TRANSIT ORIENTED DEVELOPMENT

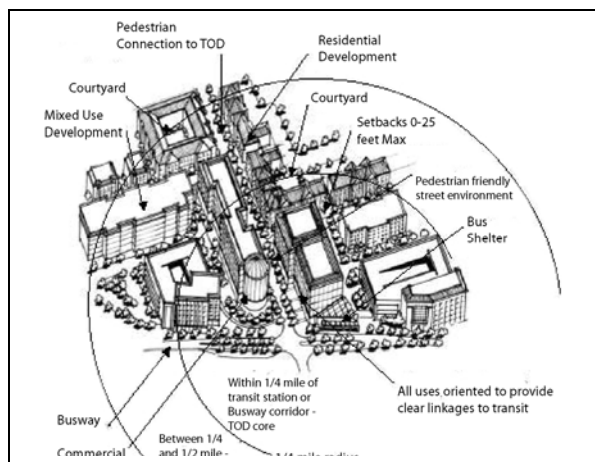
Related Tools: *Village Plan Alternative, Livable-Walkable, Infill Development*

Background and Purpose

Transit oriented development (TOD) refers to a method of regulating land use that concentrates commercial and residential growth around transit centers in order to maximize access to transit and encourage the use of non-motorized transportation. TOD is a strategy that has broad potential in both large urban and small communities using bus or rail transit systems. It focuses compact growth around transit stops, increasing population density around transit centers thereby capitalizing on transit investments by bringing potential riders closer to transit facilities and increasing ridership.

TOD can be described as development, generally within half a mile of a transit station that provides sufficient densities, mixes of activities and convenient pedestrian linkages to support significant transit ridership. Focusing development in proximity to transit stations can create interesting and functional urban centers, diminish environmentally damaging urban sprawl, and play a major role in realizing regional development strategies. In New Hampshire, TOD principles may be applicable to Park and Ride facilities, which could be considered nodes around which higher density development is concentrated.

TOD has a short, but substantial history. Many of the new towns created after World War II in England, Japan, Sweden, and France have many of the characteristics of TOD communities. These characteristics include a mix of residential, commercial, and office uses within walking distance to a transit stop or center. The land uses and transportation choices blend together to make an economically viable, but more importantly, livable area. In a sense, nearly all communities built on reclaimed land in the Netherlands or as exurban developments in Denmark have had the local equivalent of TOD principles integrated in their planning.



Sample Transit Oriented Development District
Source: Nashua Land Use Code, January, 2006

Many older United States' cities that sustained rapid growth from the mid 19th century onward developed in conjunction with the invention of and spread of rail transit. Development patterns of the older parts of cities like Boston, New York, Philadelphia, and Cleveland are closely integrated with transit service. The first transit-oriented development projects in the United States were the railroad and streetcar suburbs of the late 19th and early 20th centuries.

For example, Boston in 1850 had an area of dense settlement within a two-mile radius from city hall. Before the invention of the telephone and the introduction of street railways in the 1850s most routine activities were limited to what could be accomplished within walking distance. Without streetcars, as the city grew and expanded, the resulting development would have cut off daily communication between shops and offices and necessitated the development of autonomous subcities and the inefficient duplication of services and facilities. Streetcars preserved the centralized communication of a walking city on an enlarged scale. Residential development followed the main transportation lines and clustered around the streetcar stations, which was soon followed by stores, churches, and schools to serve the residents of the area. For example, residents living along Washington Street shopped locally and went to Boston for major purchases or for work.

The success of the early streetcar suburbs was dependant on pedestrian access to transit for connection to downtown jobs and neighborhood services. Typical features of these early transit neighborhoods included a transit depot and public space in the center of the neighborhood.

Appropriate Circumstances and Context for Use

There are many advantages of a TOD. A TOD reduces the use of single-occupant vehicles by increasing the frequency in which people walk, bicycle, carpool, vanpool, or take a bus, streetcar, or rail. It does this by increasing population densities closer to transit facilities, creating a potential ridership pool, rather than building homes away from population centers, which makes people more dependent on roads and automobiles.

The following list demonstrates some of the advantages of implementing a TOD ordinance:

- 1. Choice in mobility**
 - By creating “activity nodes” linked by transit, TOD provides important mobility options, very much needed in the state’s most congested metropolitan areas.
 - Allows young people, the elderly, people who prefer not to drive, and those who do not own cars the ability to be mobile.

- 2. Increasing public safety**

- By creating active places that are busy through the day and evening and providing “eyes on the street,” TOD helps increase safety for pedestrians, transit-users, and many others.
3. Increase in transit ridership
 - TOD improves the efficiency and effectiveness of our transit service investments by increasing the use of transit near stations by 20 to 40 percent.
 4. Reduces rates of vehicle miles traveled (VMT)
 - TOD can lower annual household rates of driving by 20 to 40 percent for those living, working, and/or shopping near transit stations.
 5. Increase in household disposable income
 - Housing and transportation are the first and second largest household expenses, respectively.
 - TOD increases disposable income by reducing driving costs; saving \$3,000-4,000 per year for each household.
 6. Reduction in air pollution and energy consumption rates
 - By providing safe and easy pedestrian access to transit, TOD can lower rates of air pollution and energy consumption.
 - TODs can reduce rates of greenhouse gas emissions by 2.5 to 3.7 tons per year for each household.
 7. Helps to conserve resource lands and open space
 - Because TOD consumes less land than low-density, auto-oriented growth, it reduces the need to convert farmland and open spaces to development.
 8. Plays a role in economic development
 - TOD is increasingly used as a tool to help revitalize aging downtowns and declining urban neighborhoods, and to enhance tax revenues for local jurisdictions.
 9. Reduces infrastructure costs
 - Depending on local circumstances, TOD can help reduce overall infrastructure costs for expanding water, sewage and roads to local governments by up to 25 percent through more compact and infill development.
 10. Contributes to the creation of more affordable housing

- TOD can add to the supply of affordable housing by providing lower-cost and accessible housing, and by reducing household transportation expenditures.
- Housing costs for land and structures can be significantly reduced through more compact growth patterns.

A TOD project is often an opportunity to bring together a diverse group of stakeholders to work together toward achieving a number of goals. Stakeholders who might be involved in a TOD project include municipalities and developers, neighbors, riders, bicycle organizations, community health agencies, banks and businesses. The table below lists the typical stakeholders in a TOD planning process.

Transit oriented development generally occurs under three conditions:

- 1) When stations are located in prime regional and community nodes of activity attractive to typical market forces.

Stakeholder	Possible Goals
Transit Agency	<ul style="list-style-type: none"> • Maximize monetary return on land • Maximize ridership • Capture value in the long term
Riders	<ul style="list-style-type: none"> • Create/maintain high level of parking • Improve transit service and station access • Increase mobility choices • Develop convenient mix of uses near station
Neighbors	<ul style="list-style-type: none"> • Maintain/increase property values • Minimize traffic impact • Increase mobility choices • Improve access to transit, services, jobs • Enhance neighborhood livability • Foster redevelopment
Local Government	<ul style="list-style-type: none"> • Maximize tax revenues • Foster economic vitality • Improve quality of life • Encourage healthy choices • Redevelop underutilized land
Federal Government	<ul style="list-style-type: none"> • Protect “public interest” and set limits on how federally-funded investments can be used
Developer/Lender	<ul style="list-style-type: none"> • Maximize return on investment • Minimize risk • Ensure value in long term

Source: *Transit Oriented Development: Moving From Rhetoric to Reality* Debra G. Brueckner, et al. Created on 9/13/2008 at 9:14 AM
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- 2) When the regional and local real estate market is active.
- 3) When local public policies and regulations permit or encourage intensive development in station areas.

To be most effective, TOD should be “urban” even in a suburban setting. Pedestrian-scale design draws people to return repeatedly. Urban development with sufficient population density supports transit, while low-density suburban development does not. TOD can be implemented in urban and suburban areas where there is adequate compact development combined with adequate public transit service, and is most successfully implemented by regional and local governments in conjunction with private developers and businesses. TOD can consist of new urban or village-scale neighborhoods designed around public transit stations, or incremental changes to existing urban neighborhoods that have or will eventually have public transit.

To reduce external trips, TOD projects should be located in higher-density, mixed-use, pedestrian districts with high-quality transit service. External single-occupancy vehicle (SOV) trips can be reduced as much or more by people walking within a mixed-use urban district as they can by using transit within and between urban centers.

TOD generally requires at a minimum six residential units per acre in residential areas and 25 employees per acre in commercial centers, and about twice that for fixed rail or other transit alternatives with high start-up and operating costs. These densities create adequate transit ridership to justify frequent service, and help create active street life and commercial activities, such as grocery stores and coffee shops, within convenient walking distance of homes and worksites.

Other factors are also important beside simple density. Transit ridership is also affected by factors such as employment density and clustering, demographic mix (students, seniors, and lower-income people tend to be heavy transit users), transit pricing and rider subsidies, parking pricing and road tolls, the quality of transit service, the effectiveness of transit marketing, walkability, and street design. A particular density may be inadequate to support transit service by itself, but becomes adequate if implemented with a variety of transit encouragement and smart growth strategies.

The ideal conditions for implementing TOD may not currently exist in many rural communities in New Hampshire, however, communities can begin planning for the eventuality by identifying possible nodes that have the beginning characteristics of successful TOD. Areas in town that are more concentrated and accessible to highways for bus transit may warrant some long range planning to allow for future TOD development.

Areas near Park and Ride lots may be looked at as potential overlay districts, although these areas are not ideal candidates for TOD because they are automobile oriented and

tend not to be pedestrian or bicycle friendly. In addition, a connection to a transit center must be present for the successful implementation of TOD.

Legal Basis and Considerations for New Hampshire

RSA 672:21 provides legal basis for implementing a TOD zoning ordinance in New Hampshire. In addition, RSA 674:2 and 674:3, which regulate the creation of municipal master plans, should be reviewed and used to create the underlying policies that support TOD.

Governmental policies and actions supporting TOD can be expressed by several governmental entities and through a variety of instruments – the N.H. Department of Transportation, regional planning commissions and metropolitan planning organizations, local governments and transit agencies. As with any innovative zoning ordinance, the local policies that support TOD should figure prominently in the municipal master plan. The municipal master plan should identify areas within a municipality where TOD would be most appropriate, establish base criteria for creating such a district and identify the necessary regulatory changes that would be required for a successful TOD. Approving the underlying public policies is the first step toward implementing TOD. Allowing mixed uses, increased densities, and creating choice in transportation modes should have a strong foundation set forth in the master plan.

Public planning efforts to support development around transit stations sometimes goes awry by establishing unreasonable or inflexible standards that discourage developers. The resultant delay in market response raises the risk of losing development opportunities altogether. Supportive policies need to be in place prior to initiation of TOD. Developers can more easily accept plan amendments and negotiations for zoning revisions if a policy direction for TOD is already established.

Once TOD is identified as a desired public policy, the municipality should closely examine its zoning regulations. Most existing zoning ordinances prohibit the proper mix of uses, building designs, and densities most suitable for generating transit ridership and for attracting developers' interest to station locations. In addition, public zoning and building provisions may impede design of convenient connections between development projects and station access points. Standards for setbacks and buffering, restrictions on building heights, and density limits all may work against transit-friendly design.

In addition to municipal policies, regional transit provider networks are necessary to implement successful local TODs in more rural settings. Coordination and commitment to act cooperatively by the many agencies and jurisdictions involved in transit is key to establishing this as a sustainable type of development in New Hampshire.

Examples and Outcomes of Where Technique Has Been Applied

Nashua, New Hampshire

The city of Nashua, N.H. incorporated a transit oriented development district as a development option in its *Land Use Code* adopted January 2006. The transit oriented development district (TOD) is a “special district,” which comes into effect only upon an application for rezoning in an area of the city that meets certain criteria. The city chose this option in order to have zoning regulations ready to be implemented by willing land owners and developers in partnership with the city Community Development Office.

The Nashua TOD encourages a mixture of residential, commercial, and employment opportunities within identified commuter rail station areas or other high capacity transit areas. The ordinance promotes transit supportive development, ensures access to transit, and limits conflicts between vehicles, pedestrians, and transit operations. It also allows for a more intense and efficient use of land at increased densities for the mutual re-enforcement of public investments and private development. Uses and development are regulated to create a built-up environment oriented to pedestrians and to provide a density and intensity that is transit supportive. The development standards encourage a safe and pleasant pedestrian environment near transit stations by encouraging an intensive area of shops and activities, by encouraging amenities such as benches, kiosks, and outdoor cafes, and by limiting conflicts between vehicles and pedestrians. A TOD is restricted to areas within one-half mile of an existing or planned transit station, which area is equivalent to a 10-minute walking distance.

The ordinance was designed to implement the recommendations set forth in Nashua’s Master Plan:

- Enhance existing commercial areas with improved landscaping, aesthetics, signage, nighttime light pollution, architectural design, traffic flow, and coordination with abutting land uses whenever possible.
- Encourage increasing residential and employment densities as in-fill in established neighborhoods to increase transit ridership, particularly in downtown areas with access to the forthcoming Broad Street Parkway.
- A “planned” transit station is a station proposed for development that meets the following criteria: (a) a site plan/design of sufficient detail to accurately describe the location, size, and type of the facility and any support facilities that have been prepared and is on file in the appropriate city or state department, agency or office; (b) not less than 50 percent of the estimated funding necessary to develop the transit station has been appropriated, earmarked or otherwise secured for the project, and (c) the transit station is included in the state’s 10-year Transportation Improvement Plan, the city’s Capital Improvements Program, or other similar state or city funding plan or program. The TOD is designed to be used in

conjunction with a tax increment financing district to support the extension of commuter rail to the city of Nashua.

Concord, Massachusetts

In 1987, the town of Concord, Mass., integrated a transit development goal as part of the town's long-term comprehensive plan. The long-range plan identified the Concord Center Station as an important node for future higher density commercial and residential development. The resulting Concord Common development comprises three mixed-use buildings with retail space, office space, a restaurant and rental apartments.

Canton, Massachusetts

Canton, Mass., has also implemented design and zoning techniques to encourage TOD. The new zoning proved to be the catalyst for a constant stream of new housing development in the downtown concentrated around the transit station. In an effort to enhance connections between downtown and the train station, the town recently issued a request for proposals for a streetscape improvement project in the TOD overlay district. It will include brick sidewalks, new signage, historic traffic lights, enhanced pedestrian crossings, new landscaping, recessed curbing and enhanced gathering points.

Portland, Maine

As part of its "Vision for Bayside" the city of Portland, Maine, is implementing a variety of techniques to enhance the downtown area and development of transit oriented development. The following are sections from the plan entitled "A New Vision for Bayside."

- Bayside will be an attractive urban gateway and extension of the downtown business district for the city of Portland. A fully functioning urban district and neighborhood will reconnect with and add to the fabric of the peninsula from downtown to the adjacent neighborhoods.
- Bayside will contain housing, workplaces, services, transportation, recreation, dining and shopping, all within comfortable walking distance of each other and downtown. Attractive lighted sidewalks, bicycle and pedestrian trail linkages will connect these uses, designed for full and maximum accessibility.
- Mixed use, compact and intensive land development, and quick and convenient transit service combine to make Bayside a neighborhood that has genuine mobility choice. This model for the peninsula and beyond will be designed from the ground up, free from dependence upon the automobile. Features including the trail connectors and frequent shuttle service throughout the peninsula area and to all major transportation centers will signify progress and commitment by the city to implement the 1993 Portland Transportation Plan.

- Strategically located parking structures will serve multiple functions, connect with transit services, facilitate the flow of traffic with minimal impact on neighborhood residents, and avoid extensive land consumption by surface parking lots.

Portland began to implement this vision by enacting a “Mixed Development District Zone” in 2006. This zone limits automobile oriented development by prohibiting auto-dependent businesses such as gas stations, auto repair and drive-through facilities (except for banking) and limits the development of surface parking. Parking structures are required to have pedestrian friendly design and must have one or more permitted uses located along all primary street frontages.

The district prohibits single family detached housing in favor of attached multi-family housing, live/work units and a full complement of commercial development opportunities. The district has no minimum lot size or frontage requirements, and has a maximum street frontage setback of 10 feet. There is no maximum residential density, and full building coverage of a lot is allowed. Pedestrian and multi-use trails, as well as intermodal transportation facilities, are permitted uses within the district.

Model Language, Illustrations, and Guidance for Implementation

MODEL ORDINANCE FOR TRANSIT ORIENTED DEVELOPMENT

Title: Transit Oriented Development

I. PURPOSE

The purpose of the transit oriented development (TOD) is to implement the following recommendations set forth in Chapter X of the Master Plan (list recommendations where applicable): encourage an appropriate mixture and density of activity around transit centers to increase ridership and promote alternative modes of transportation to the automobile and decrease auto-dependency and mitigate the effects of congestion and pollution.

The intent of this ordinance is to provide a pedestrian, bicycle, and transit supportive development that integrates auto uses with a complementary mix of land uses, where streets have a high level of connectivity and the blocks are small, all within a comfortable walking and bicycling distance from light rail stations.

The specific objectives of this district are to encourage people to walk, ride a bicycle or use transit; allow for a mix of uses designed to attract pedestrians; achieve a compact pattern of development more conducive to walking and bicycling; provide a high level of amenities that create a comfortable environment for pedestrians, bicyclists, and other users; maintain an adequate level of parking and access for automobiles and integrate this use safely with pedestrians, bicyclists, and other users; encourage uses that allow round-the-clock activity around transit stations; provide sufficient density of employees, residents and recreational users to support transit; provide a high quality of life while reducing energy use; and generate a relatively high percentage of trips serviceable by transit.

[Margin Note: This section explains what a transit oriented district is and describes the purpose of implementing such a district. References to the master plan to clarify the intent of this section are important to demonstrate consistency with municipal vision and policies.]

II. BOUNDARIES

Example of district boundaries: The zoning provisions shall extend for a radius of up to one-half mile from the Central Transit Station and shall apply for a depth of 200 feet extending from the Central Avenue property line. Central Avenue lot widths shall match the lot widths of properties across the street with a minimum width of 100 feet, but are not required to provide matching lot widths greater than 150 feet.

[Margin Note: This section describes the location of the TOD. The TOD should be located where the land area will support transit usage because of the nature of existing or proposed development, street system, access to public transportation and alternative modes of transportation, mix of business and residential development and other relevant factors.]

III. USES

A. Permitted Uses

Because most transit users will walk only one-quarter to one-half of a mile to a transit facility, transit influence areas require high densities on small areas of land. Uses inconsistent with transit will undermine the most efficient use of limited land areas within a TOD, and may render the transit system unworkable. Accordingly, the uses permitted within the TOD district are those which are dependent upon, or which may generate, a relatively high level of transit usage.

B. Prohibited Uses

Uses that would interfere with transit usage and which generate few transit trips are not permitted. Such uses include, but are not limited to:

- Drive-in businesses
- Dry storage of boats
- General manufacturing
- Heavy commercial services, except laundry facilities
- Sales and rental of large boats
- Vessel repair (major or minor)
- Principal use, non-residential long-term surface parking
- Outdoor storage
- Car wash
- Sales and rental of motorized vehicles
- Sales, service and rental of commercial equipment and construction materials
- Salvage and recycling
- Towing services
- Principal use vehicle repair (major or minor)
- Wholesale showroom
- Warehouse

[Margin Note: This section lists the uses that are prohibited within the zone. The examples below show uses that would discourage a pedestrian friendly atmosphere and promote a more automobile-oriented area.]

C. Conditional Uses

- Large scale retail facilities when incorporated into the neighborhood setting, designed with architectural treatments that are in line with pedestrian scale development.
- Parking Garages may only be permitted when incorporated into the design of a building, and designed with architectural treatments deemphasizing the primary auto use.

D. Site Plan Review

Within the TOD, all site plans submitted to the planning board for approval in accordance with this section shall be accompanied by a report, including appropriate studies, drawings, plans and illustrations, which shall address the following relevant factors:

1. Analysis of the ability of the proposed use and existing uses to coexist and the potential impacts that proposed and existing adjoining and surrounding uses and buildings may have upon one another.
2. Analysis of any impacts on significant natural, architectural, visual or aesthetic qualities of the surrounding environment.

3. Analysis of the health and safety impacts on customers, residents, employees and the general population.
4. Analysis of economic or property value impacts.
5. Analysis of traffic and parking impacts.
6. Analysis of the adequacy of existing municipal facilities and services.
7. The consistency of the site plan with the TOD objectives and guidelines established by this section, the master plan and sound planning and development principles.
8. Prior to the preparation and submission of a site plan, the applicant shall hold preliminary review sessions with the planning department and/or planning board to solicit their comments and recommendations.

IV. DENSITY

- A. Minimum levels of six residential units per acre or 25 employees per acre are required to support transit ridership. Developments with lower levels of density will not support transit ridership and will create unacceptable levels of vehicular congestion.
- B. The development shall not exceed a maximum level of 40 residential units per acre.

[Margin Note: Density levels should be determined based upon existing or anticipated modes of transit. Minimum and maximum density levels should be determined for the district.]

V. SETBACKS

The front setback shall be established as follows:

- (1) Minimum front setback: 0 feet from the edge of the sidewalk. A minimum setback of 5 feet from the property line shall be required where street tree planting is required.
- (2) Maximum front setback: 15 feet.

[Margin Note: refer to the Village Plan Alternative to coordinate appropriate setback distances.]

VI. MODIFICATION OF DIMENSIONAL, DENSITY AND OTHER REGULATIONS

- A. The planning board, in determining the acceptability of proposed site plans within the TOD, shall have the authority to approve proposed dimensions, density and uses proposed in a development in accordance with section B below.

- B. In considering an application, the planning board must determine that:
 - 1. The proposed use and existing uses coexist and the proposed uses do not negatively impact existing adjoining and surrounding uses and buildings.
 - 2. There are no significant adverse impacts to natural, architectural, visual or aesthetic qualities of the surrounding environment that cannot be mitigated.
 - 3. There are no significant adverse health and safety impacts on customers, residents, employees and the general population.
 - 4. There are no significant adverse impacts to economic or property values.
 - 5. There are no significant adverse impacts to existing traffic patterns and parking circulation.
 - 6. There is adequate existing or proposed municipal facilities and services.
 - 7. The site plan is consistent with the TOD objectives and guidelines established by this section, the master plan and sound planning and development principles.

VII. LOCATION AND ACCESS TO PARKING

- A. Within 500 feet of a commuter rail stop, no minimum parking is required.
- B. Within ¼ mile of a transit station, the minimum parking standard is 50 percent of the parking spaces required by this ordinance.
- C. Within the balance of the TOD, the minimum parking standard is 75 percent of the parking spaces required by this ordinance.
- D. Parking must be located to the rear of a structure or built into or under a structure; or parking may be located between a rear or side lot line and a structure.
- E. If parking garages are permitted, the ground floor should be devoted to mixed use and pedestrian scale architectural treatments.

[Margin Note: This section is critical to any TOD ordinance because limits on parking are a vital element to establishing and maintaining a successful TOD zone where driving is discouraged. Bicycle parking can also be addressed in this section.]

VIII. BUILDING & LANDSCAPE STANDARDS

- A. Proposed building massing, proportions, spacing, scale, setbacks, orientation, facade treatment, height and roof lines should be integrated and compatible with the surrounding area.

- B. Exterior building and paving materials and details shall be of a composition, scale and form compatible with the site and building environment.
- C. Buildings should be designed in context with clusters of buildings that present a distinct or unified architectural pattern and scale.
- D. Buildings shall be oriented to enhance, maintain and protect unique or significant internal and external view corridors and vistas.
- E. Open space and landscaping shall be incorporated and, where practical, provide visual and physical links to parks, plazas, squares and Main Street.
- F. Open space and landscaping shall be provided to accentuate points of access and pedestrian activity.
- G. Street trees are part of an overall streetscape plan designed to give special character to each street and coherence to each area. The desired aesthetic shall be achieved through the use of native/proven, hardy, adapted species where reasonable.
- H. Lighting sources shall be of an appropriate design and located at strategic locations to provide a safe environment and to accentuate important points of activity, access and building features of landmark proportions and details. Lighting sources shall be adequately shielded to avoid glare.

[Margin Note: Encouraging pedestrian use is a top priority in TOD. Landscaping and streetscaping areas so that the pedestrian can enjoy a safe and attractive environment enables TOD to be more successful. Minimum standards addressing streetscapes, sidewalks, turf and groundcover and materials can be described in this section. Refer to the Village Plan Alternative Design Guidelines for more specific details.]

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