Chapter 10—Transit-Oriented Development (TOD)

Introduction

High quality transit is an important component of a vibrant, sustainable community. Reliable and efficient transit systems allow people to drive less, resulting in lower per-capita emissions, increased walking and bicycling, and higher disposable income. One of the key factors of success for any transit system is high ridership, which allows for more comprehensive coverage and frequent service. Perhaps the best way to achieve high ridership is by linking transit service to residential and commercial development. Transit-Oriented Development (TOD) is a development strategy that takes advantage of the relationship between transit and density to create a better transit system and a more vibrant community.

Transit-Oriented Development has generated a lot of interest over the past few years, but the concept is not new. In fact, TOD was a common development pattern prior to the rise of the automobile. In the late 19th and early 20th centuries, many North American communities developed densely along streetcar lines. During the mid-to late 20th century, the proliferation of the automobile and expansion of the highway system allowed development to become more dispersed, ultimately leading to a more uniform pattern of lower density development. While it is possible to provide transit service to a dispersed population, the cost of doing so is very high and the quality of service tends to be poor (e.g., infrequent, slow, etc.). Conversely, TOD is a cost-effective way to provide high quality transit service.

◄ Lynx Blue Line, Charlotte, NC *(Photo: Dave Reid, 2007) .*

- This picture shows light rail service to a high-density commercial center.

Planning for TOD is an ongoing process. While areas with existing transit service and high densities offer the best possibilities, the principles of TOD can also be applied to planned future development, even where transit service does not currently exist. In this case, planning for future transit can eliminate the need for costly retrofits and create a more sustainable land use pattern.

Benefits

Recent demographic trends and shifting socio-cultural values point to an increased demand for transit in the United States, and urban areas in particular. As baby boomers become less capable of providing for their own transportation, they will increasingly rely on public transit for mobility. At the same time, younger generations have become more concerned with the consequences of automobile-oriented transportation, and look to transit as a desirable alternative. This pattern is reflected in the ongoing revitalization of cities across the country, and in the mid-Ohio region specifically. One of the most important benefits of TOD is that it can simultaneously address these two important societal trends.

In addition to these quality-of-life benefits, researchers have documented several more specific outcomes attributable to TOD. While these may vary across individual developments, the following patterns are likely in successful TODs:

- Increased transit ridership: residents living near transit stations are about 5 times more likely to commute by transit as the average resident of the same city. Related benefits include (Lund et al. 2004; TCRP 2004):
    - Increased bicycling and walking and associated health benefits.
    - Reduced fuel consumption and associated pollution.
    - Reduced traffic congestion and vehicle miles traveled.
    - Higher transit revenues.
- Reduced automobile ownership: car ownership among people who live in TODs is roughly half compared to similar households not living in TODs (TCRP 2008).
- Reduced overall personal transportation costs (Litman 2004).
- Revitalized neighborhoods and economic development (TCRP 2004).
- Increased land values and rents (TCRP 2004).
- Increased property and sales tax revenues (TCRP 2004).

Implementation Strategies

There is a number of tools and strategies that communities can employ to encourage transit-oriented development. These range from broad policies to site-specific implementation measures. Typically, the idea behind these strategies is to create conditions that will allow the private sector to be profitable in creating TODs. Additionally, certain strategies are intended to benefit transit agencies. Some or all of the following strategies can be used to encourage TOD:

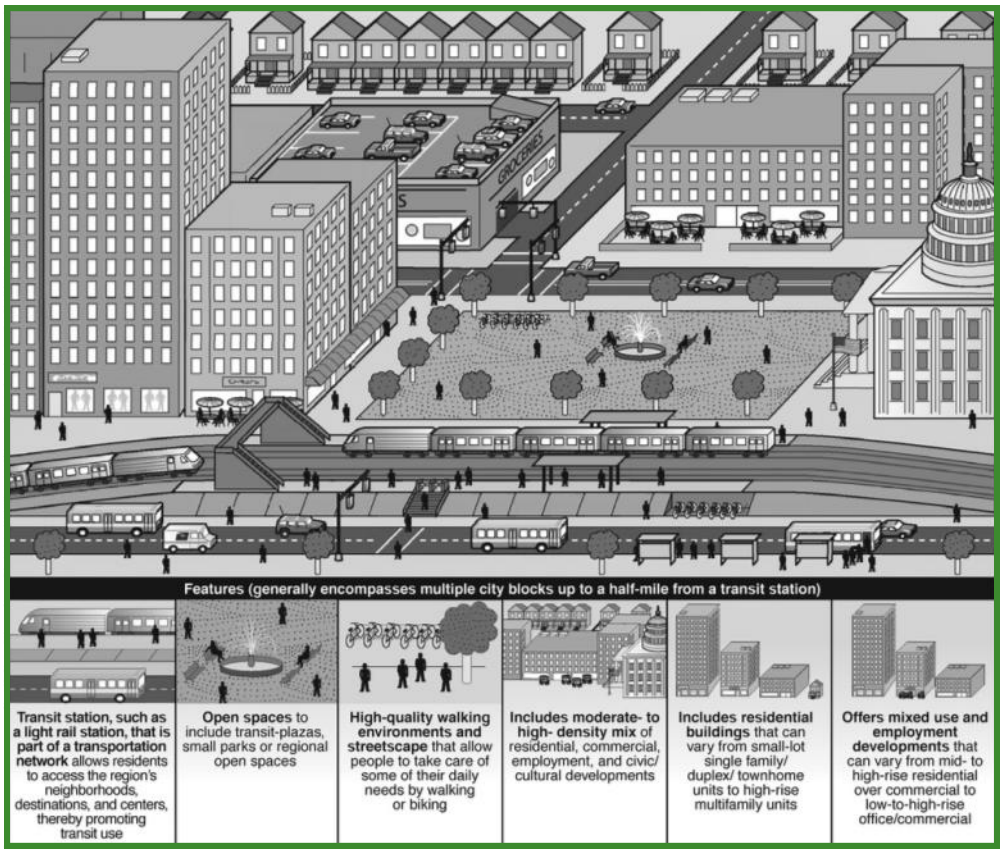
- Zoning: land use controls implemented through changes in zoning designations or TOD overlay zones. (For more information on Zoning, see Chapter 9 on Land Use and Zoning.) In many cases, TOD zoning can be implemented proactively, before a station and/or development is in place. The provisions of TOD zoning may include (TCRP 2004):
    - High-density near transit stations, gradually declining farther away. Residential densities ranging from 7 to 30 units per acre are suggested, based on the intensity of transit (Ewing 1997).
    - Mixed land uses near transit stations.
    - Reduced parking requirements, or parking maximums near transit stations.
    - Increased requirements for bicycle and pedestrian access. Examples include sidewalk connections to transit stops, schools, and trails, and bicycle parking requirements at buildings and transit stops.
    - Increased floor-to-area ratios (FARs). Floor-to-area ratio is calculated by dividing the total square footage of a building by the square footage of the land. The resulting measure reflects the intensity of the use of land. A minimum FAR of 0.35 is suggested for nonresidential areas.
- Value capture: TOD projects can be funded through any of several “value capture” strategies, such as special assessments, tax increment financing, joint development, or developer/impact fees (CTOD 2008).
- Coordinated public infrastructure investment: for example, infill sites may need upgraded sewers and water lines, streetscape improvements, bike and pedestrian access improvements, etc.
- Tax incentives: local governments may reduce tax obligations for commercial developments near transit stations. Similarly, federal income tax credits could be used to encourage TOD, as proposed by Sen. Robert Menendez (NJ) in

2010.

- Land-banking: recognizing the potential for transit-oriented development, redevelopment agencies, transit agencies, or other governmental or non-profit agencies may purchase land to be developed at such time as it becomes feasible to implement TOD.
- Carsharing: residents and employees of TODs benefit from carsharing, which allows individuals to rent a car or truck for short trips, such as grocery shopping or emergencies. While it is generally expected that these individuals will rely on transit, walking, or biking for most trips, access to a vehicle is important to fulfill a person's full range of mobility needs. Carsharing allows people to live without owning a car, which in turn results in a host of benefits.
- Reduction of trip generation rates for TOD compared to conventional developments: the development process typically requires that traffic resulting from new development does not overburden the current transportation system. To this end, planners use trip generation rates to determine whether existing road capacity needs to be expanded as a result of new development. However, conventional trip generation rates are not representative of likely mode shares in TODs. As a result, trip rates should be reduced when evaluating TODs.

Additional Considerations

- TOD is best thought of as a set of development concepts rather than an end product. A development may incorporate some features of TOD, while omitting others, depending on the situation.
- Although TOD is often associated with rail, TOD does not prescribe a particular transit technology. For instance, TOD can be based around fixed-route bus service, bus rapid transit, light rail, streetcars, commuter rail, or other transit



◄ Representation of a Transit-Oriented Development *(GAO, 2009).*

technologies.

- One of the primary factors that individuals consider when deciding whether to use transit is travel time. Improved transit travel times result in greater transit mode share.
- Reduced automobile ownership is a cornerstone of TOD success. A mix of land uses is important to achieve that goal.
- The conversion of excess surface parking to TOD is an especially beneficial strategy that can also meet the goals of infill development.
- The structure of the current real estate finance system unfairly limits the financial viability of proposed TODs. An improved system would allow lenders to consider transportation costs in their decision of whether to fund a mortgage. A mortgage based on this concept is referred to as a "location-efficient mortgage." Since transportation costs are typically not considered in a lender's decision, the borrowing power of potential TOD residents may be less than their actual ability to pay, based on their lower transportation costs. Conversely, mortgages provided to residents where driving is the only viable option are likely to overestimate the borrower's ability to pay. To address this problem, the Center for Neighborhood Technology has developed the Housing & Transportation Affordability Index, which includes an interactive map of transportation and housing costs for the Columbus, OH region.

Sources

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