The Role of State DOTs in Support of Transit-Oriented Development (TOD)

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Executive Summary

The research described in this report addresses the role that State Departments of Transportation (DOTs) can play in supporting transit-oriented development (TOD). The research was conducted for the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on the Environment (SCOE). The report includes four components:

- **Section 1.0** defines TOD, provides an overview of its benefits, and discusses reasons why state DOTs may have an interest in supporting TOD;
- **Section 2.0** provides an overview of municipal practices that support TOD and discusses why public sector intervention is needed;
- **Section 3.0** describes activities that have recently been undertaken or planned by state DOTs to directly or indirectly support local TOD implementation efforts; and
- **Section 4.0** presents recommendations for how state DOTs can more actively support TOD through their policies, programs, and projects.

TOD has been defined as "a pattern of dense, diverse, pedestrian-friendly land uses near transit nodes that, under the right conditions, translate into higher patronage." Considered broadly, TOD can include transit-supportive design in bus corridors as well as the more traditional high-density developments around rail stations. The research for this project found that a small, but increasing, number of state DOTs are directly working to support and promote local TOD planning and implementation efforts. Furthermore, many other DOTs are supporting TOD indirectly through their policies and programs.

DOTs that have been most active in supporting TOD cite a number of motivating factors and benefits:

- TOD can reduce vehicle-miles of travel (VMT), resulting in reduced demands on the state transportation system, lower long-term investment requirements, and improved air quality;
- TOD can increase transit ridership, making existing and planned transit systems more productive;
- By increasing options for transit and nonmotorized travel, TOD can improve mobility for the elderly, children, low-income households, mobility-impaired persons, and others without access to an automobile;
- State involvement in TOD activities already underway at the local level can

The transportation benefits of TOD can include reduced VMT, reduced long-term investment needs, increased transit ridership, increased mobility, and revenue generation.

help ensure that state interests (such as protecting the functionality of the state highway system, and making efficient use of scarce public resources) are represented; and

- When states own land adjacent to transit stations, TOD can provide an opportunity for revenue generation to finance transportation infrastructure improvements.

In addition to these benefits to transportation agencies and their customers, TOD has many potential nontransportation benefits, such as land preservation and reduced energy and water quality impacts resulting from more compact development patterns. Furthermore, states that are funding transit capital investments note that transit-supportive land use is an important criterion applied by the Federal Transit Administration (FTA) when making funding decisions.

Many state DOTs have been reluctant to become involved in TOD because they view development projects and land use planning as an issue of local authority. However, other DOTs – as well as regional and local transportation agencies such as metropolitan planning organizations (MPO) and transit agencies – have discovered a variety of ways in which they can support and facilitate TOD without infringing upon local sovereignty. These agencies believe that their interest in the transportation impacts of development patterns justifies their involvement in land use issues, including TOD. Furthermore, they have found that relationships with communities often are *strengthened* through supportive state agency involvement in planning for TOD and other land use issues with transportation linkages – in turn, supporting the DOT's ability to implement projects and achieve objectives such as mobility, safety, and other benefits to the traveling public.

A number of state DOTs have found that their support for TOD and other transportation and land use planning activities has actually strengthened relationships with local communities.

Activities that have been undertaken or planned by State DOTs to support TOD include:

- **Establishing TOD as a Priority for the Agency** – State DOTs that have most actively and effectively supported TOD – including California, Florida, Maryland, and New Jersey – have done so as a result of consistent top-level support at the agency. This support has been sustained across administrations and has translated into increasing understanding of and support for TOD among agency staff at all levels.
- **Revising Agency Policies and Practices –** A number of DOTs have reviewed and updated agency policies and practices to be more supportive of local land use objectives, including TOD, and have conducted internal training to introduce staff at all levels to these policies and practices. For example, numerous state DOTs around the country, including most of those contacted for this research, are adopting Context-Sensitive Solutions (CSS) or Context-Sensitive Design (CSD) practices, which can support TOD by allowing state

roadways in station areas to better mesh with the pedestrian-oriented character of these areas. Other examples of agency policies and practices include fast-track development and review procedures for minor infrastructure projects supporting TOD (such as pedestrian improvements in station areas) and project prioritization and evaluation criteria that consider land use and/or TOD objectives. For example, the Maryland DOT has made development potential a criterion in the alignment and station siting for fixed-guideway transit projects.

- **Establishing Partnerships –** Successful implementation of TOD often requires coordination among many different levels of government as well as the private sector. State and regional governments, including DOTs, can take the lead in forming these partnerships, especially when strong local agency leadership has not emerged, or can participate in existing partnerships. For example, the New Jersey DOT worked with ten other state agencies and departments to establish the Transit Village Initiative, which rewards communities that have successfully planned and implemented TOD by prioritizing state funding and technical assistance to these communities.

  The New Jersey DOT has worked with ten other state agencies to prioritize state funding and technical assistance to communities that have successfully planned for and implemented TOD in transit station areas.

- **Conducting Education and Outreach –** Especially in regions where TOD concepts are not yet widely understood, the DOT can lead or support education and outreach efforts to explain TOD principles, benefits, and implementation practices. For example, Florida DOT's Transit Office has created planning resources, including a design manual and a CD-ROM TOD tool kit, to assist municipalities, transit agencies, and other interested parties in designing new development to support bus and rail transit. The California Department of Transportation (Caltrans) has established an on-line TOD database describing successful projects and the practices that brought them into place.

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- **Advocating for State Policy Changes –** DOTs can champion state legislative adoption of policies that facilitate TOD. For example, Caltrans successfully supported legislation allowing state agencies and departments with "excess" land to offer it to local agencies at the appraised value for TOD use. Other practices that may need legislative approval include using state transportation funds for local roadway improvements (such as TOD infrastructure), providing flexibility in concurrency or trip reduction requirements for major development, allowing municipalities to establish tax increment finance (TIF) districts, revising tax policy to reward higher-density development, and allowing transit agencies or other public agencies to acquire land for

nontransportation uses (such as TOD) and enter into joint development agreements. Legislation passed in 2004 in Pennsylvania allows transit agencies to acquire land for nontransportation uses, partner with local governments and developers to facilitate TOD, and share in tax revenues.

- **Providing Technical Assistance –** Local governments, especially smaller municipalities, may be interested in undertaking TOD in their community but lack the staff resources or knowledge to make it happen. The state DOT can hire expert staff who can assist with local efforts to change zoning, provide economic incentives, conduct station area planning, facilitate land assembly, or create partnerships with developers, or can develop guidance on these issues. For example, two staff persons in the Florida DOT Transit Office support TOD activities and planning at a local level. Oregon's Transportation and Growth Management Program, a collaboration between the Oregon DOT and the Department of Land Conservation and Development, provides communities with consultants to assist in modifying development ordinances, comprehensive plans, and development review procedures to promote "smart" development patterns, including the principles of TOD.

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- **Leading or Supporting Planning Efforts –** Developers have identified the establishment of a station area plan with strong community support as one of the most effective ways to facilitate TOD, as it can greatly reduce the time, cost, and risk associated with implementing a TOD project. The Maryland DOT has led pilot station area planning efforts that have brought together a range of state, regional, and local agencies – as well as developers and the public – to demonstrate the importance of early and broad-based involvement in station area planning. Florida's District 5 Office in Fort Lauderdale has funded charrettes, transportation corridor studies, and neighborhood plans that address land use issues, including TOD and transit-supportive design.

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- **Funding TOD-Supportive Transportation Improvements –** State DOTs can directly provide, or work with MPOs, to make Federal and State transportation funding available for TOD planning and implementation. For example, Massachusetts has established a TOD Infrastructure and Housing Support Program, administered through the Executive Office of Transportation (EOT). The program is providing $30 million in financial assistance to local agencies for pedestrian improvements, bicycle facilities, housing projects,

and parking facilities in mixed use developments located within one-quarter mile of a transit station.

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- **Assisting with Land Purchase and Sale –** State agencies may be able to facilitate the use and sale of state-owned land near major transit stations for TOD. The Maryland, Florida, and Illinois DOTs all have placed underutilized state-owned parcels out to bid for high-intensity, mixed-use development by the private sector or nonprofit agencies. States can also provide technical or financial assistance with land assembly, to create larger parcels that are more suitable for new TOD projects.
- **Providing Information and Tools to Support Decision-Making –** DOTs can take the lead in developing and applying tools (such as enhanced travel demand forecasting methods, visualization techniques, and community indicator models) to assess the benefits of TOD and help communities evaluate options. For example, Florida DOT is sponsoring research on the impacts of TOD on transit ridership.

1.0 The Role of Transit-Oriented Development

1.1 DEFINITION

Transit Cooperative Research Program (TCRP) Report 102, *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects,* characterizes transit-oriented development (TOD) as "a pattern of dense, diverse, pedestrian-friendly land uses near transit nodes that, under the right conditions, translate into higher patronage." Although TOD has no universally accepted definition, it does have three commonly-agreed upon characteristics: a high-quality walking environment, a mix of land uses, and higher-density development within a designated area (typically one-quarter to one-half mile) surrounding a transit station or stop. TCRP Report 102 notes that creating a set definition of TOD would be difficult since the scale of factors like "high-density" are going to be quite different in a medium-sized Midwestern city than in the heart of Manhattan.[1] Indeed, TOD can occur around a light rail, heavy rail, commuter rail, or busway station, a bus terminal, or even a corridor with frequent and high-quality bus service.

1.2 BENEFITS OF TOD

TOD has been identified as one solution to many of the issues plaguing large and small cities alike, including traffic congestion, loss of community, suburban sprawl, affordable housing shortages, and the general decline of inner cities. In addition to addressing these ailments, TOD has been promoted as a tool to improve conditions such as the elusive "quality of life." TCRP Report 102 identifies six primary benefits of TOD, as shown in Table 1.1. In addition, the report identifies whether the benefits accrue to the public or private sector, and relates the primary benefits to secondary or collateral benefits.

Although TOD is widely believed to have benefits to society, TCRP Report 102 notes that many of the benefits claimed to result from TOD are difficult or impossible to quantify, and very few of them have been accurately studied. Most benefits associated with TOD are reliant on a number of additional confounding factors, making it difficult to attribute a value to TOD (e.g., how much of an

[1] Cervero, Robert, et al. *TCRP Report 102, Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects.* Transportation Research Board, 2004.

Table 1.1 Classes and Recipients of TOD Benefits

Class of Benefit	Primary Recipient of Benefit	
	Public Sector	Private Sector
Primary	1. Increase ridership and farebox revenue	5. Increase land values, rents, and real estate performance
	2. Provide joint development opportunities	6. Increase affordable housing opportunities
	3. Revitalize neighborhoods	
	4. Economic development	
Secondary/Collateral	A. Less traffic congestion and VMT-related costs, like pollution and fuel consumption (1)	G. Increase retail sales (1,2)
	B. Increase property and sales tax revenue (5)	H. Increase access to labor pools (A,6)
	C. Reduce sprawl/conserve open space (1,3,6)	I. Reduce parking costs (C,2)
	D. Reduce road expenditures and other infrastructure outlays (1)	J. Increase physical activity (C,E,F)
	E. Reduce crime (3,4)	
	F. Increase social capital and public involvement (3,4)	

Source: TCRP Report 102, p. 120.

increase in property values is a direct result of TOD versus how much resulted from other market forces?) As with the definition of TOD, the claimed benefits range among agencies and studies. Furthermore, benefits may differ depending upon the scale of measurement. For example, TODs may actually increase congestion in the immediate vicinity of the transit station, due to higher development densities, while reducing congestion on other highways in the region as a result of reduced overall VMT and vehicle-trips.

The benefits of TOD stem from the relationship between transit and development. The concept relies on the premise that transit service will bring people to and from the development around the station, and that the development will generate the trips needed to support high-quality transit. Thus, another way to categorize TOD benefits is by whether they are transportation-related or non-transportation-related.

1.2.1 Transportation Benefits

Transportation benefits typically attributed to TOD can be described as relating to one of three outcomes: reduced vehicle miles traveled (VMT), increased

mobility, and increased accessibility. The related benefits for each outcome include:

- **Reduced VMT –** TOD should reduce auto-dependency and decrease the miles that a person must travel to make a trip (for employment, education, shopping, recreation, etc.). Fewer and shorter vehicle trips translates into an overall reduced VMT. The associated benefits include improved air quality, decreased energy consumption, decreased infrastructure costs, and improved productivity and quality of life due to reduced travel time.
- **Increased Mobility –** Locating housing and employment opportunities near transit brings people to transit, thus increasing their transportation options. This is particularly beneficial to those who are unable or choose not to drive (e.g., youth, elderly, handicapped, or low-income).
- **Increased Accessibility –** In addition to aiding in mobility, locating housing, jobs, and services near transit and in mixed-use configurations allows people to conduct daily activities with shorter trips on a wider range of modes.

A recent review for NCHRP[2] found that land use strategies, including TOD as well as other related strategies such as infill and compact development, can indeed reduce regional vehicle-trips and VMT as well as increase transit ridership. They also may lead to other improvements in other transportation conditions, such as reduced travel times and congestion, although evidence regarding these impacts is mixed. Modeling studies of alternative land use scenarios have suggested that VMT reduction impacts may extend from incremental (1 or 2 percent regionally) to highly significant (50 percent or more at a neighborhood level) depending upon the range of land use characteristics explored, geographic scope, and regional context. Studies using relatively conservative projections (within the realm of feasibility) of TOD and related land use strategies applied at a regional scale have typically estimated regional VMT reductions on the order of 5 percent. More dense and compact development patterns lead to somewhat shorter vehicle trips. Relatively high localized densities of 15 to 20 residential units per acre or more – augmented by mixed land use patterns, pedestrian-accessible street networks, and high-quality transit – may lead to significant mode shifts to non-automobile modes of travel. Air pollutant emissions and energy consumption may be reduced in rough proportion to vehicle-trips and VMT.

Studies also have examined the roadway infrastructure costs related to "sprawling" versus compact development patterns. TOD projects may require specific local infrastructure investments, but may result in infrastructure cost savings from a regional perspective. A statewide study in New Jersey found that

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[2] Cambridge Systematics, Inc. and Elizabeth Deakin. *Transportation Impacts of Smart Growth and Comprehensive Planning Initiatives.* NCHRP Project 25-25 Task 02 Final Report, May 2004.

a statewide planned growth scenario, which would concentrate development in existing urbanized areas including around transit stations, could save 870 centerline miles of local roadway and $870 million in local road infrastructure costs, a reduction of 23 percent from trend conditions.[3] A national study that estimated road requirements based on relationships between population density and the density of road-miles estimated that a nationwide compact growth scenario could save 188,000 miles of new roads, at a cost savings of $109 billion, over the 2000-2025 period.[4]

1.2.2 Nontransportation Benefits

Nontransportation benefits of TOD result from building in a medium to high-density, mixed-use pattern. These benefits would similarly be realized without the transit element of TOD. However, transit can be a catalyst and/or linchpin in the local area to promote this type of development. Some of the nontransportation benefits resulting from TOD may include:

- **Increased public safety** resulting from high-density, mixed-use development in a pedestrian-friendly environment, creating vibrant and lively neighborhoods;
- **Increased household disposable income** as a result of reduced reliance on personal automobiles and therefore decreased transportation costs;
- **Conservation of open space** made possible by focusing development in high-density, established urban centers;
- **Increased land available for public space**, as a result of compact, high-density development;
- **Economic development opportunities** provided by mixed-use urban centers based around transit;
- **Increased tax base for local government**, as a result of the TOD attracting commercial and retail activity;
- **Affordable housing**, made more financially feasible due to zoning for higher-density residential use; and
- **Increased diversity of housing choices** within a region, including apartments and condominiums in a mixed-use environment.

The benefits associated with a particular TOD will be dependent on specific conditions and variables such as the design of the TOD, local economic and market conditions, level of transit service, and existing development patterns.

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[3] Center for Urban Policy Research. *The Costs and Benefits of Alternative Growth Patterns: The Impact Assessment of the New Jersey State Plan.* Rutgers University, 2000.

[4] Burchell, Robert W., Anthony Downs, Barbara McCann, and Sahan Mukherji. *Sprawl Costs: Economic Impacts of Unchecked Development.* Island Press, 2005.

1.3 NATIONAL TOD TRENDS

TOD is gaining popularity around the United States due to a confluence of factors. First, TOD is increasingly seen as one strategy in response to the symptoms of suburban "sprawl," a condition that is increasingly negatively viewed in both large and small communities around the United States. These symptoms include increased traffic congestion, dispersed employment centers, loss of farmland, negative impacts on sensitive natural environments and habitats, loss of community, and a general reduction in "quality of life." The response employed to combat these conditions is commonly referred to as "smart growth"; TOD is one potential smart growth strategy.

The second trend is a renewed interest in urban living. Americans are once again seeking out urban residences and cultural experiences in places where transit has existed since the early part of the 20th century. The Brookings Institute reports that this is a function of young professionals, empty nesters, and immigrants all finding urban areas to be exciting places to live and work.[5] There is now a strong and growing market for mixed-use urban development. This resurgence is providing the necessary capital to revitalize urban areas that had previously deteriorated as middle-income families moved out to the suburbs and major employers followed them to large, campus-style office parks located along freeways.

Third, many older suburbs are growing and facing problems associated with high-density and a diversity of incomes. Not only do they need transit to support the population moving in, they need the tax base to provide services to residents that can best be generated through retail and commercial properties. Therefore, more suburbs are finding TOD a viable solution to help create downtown areas that serve the community as well as benefit the municipal government.

Finally, there has been a renewed interest in public transit. According to TCRP Report 102, 27 out of 30 of the largest United States metropolitan areas are currently planning or constructing new bus rapid transit or rail systems.

In response, many public agencies have undertaken policy initiatives to support TOD. A common trend occurring in cities with rail service is the conversion of park-and-ride lots to mixed-use development. Transit agencies have found that the conversion of such lots can be financially beneficial through leveraging the value of the property while simultaneously increasing ridership. Some states and MPOs have seen the benefits of TOD and are allocating Federal monies to the effort. For instance, the Metropolitan Transportation Commission in the San

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[5] Belzer, Dena and Gerald Autler. *Transit Oriented Development: Moving from Rhetoric to Reality*. The Brookings Institution on Urban Mobility and Metropolitan Policy and The Great American Station Foundation, June 2002.

Francisco Bay Area promotes TOD through its Transportation for Livable Communities Initiative. The program provides funding for projects that "bring new vibrancy to downtown areas, commercial cores, neighborhoods, and transit corridors, enhancing their amenities and ambiance and making them places where people want to live, work, and visit."[6] The Atlanta Regional Commission has funded a similar program that provides planning grants for livable communities as well as $350 million in implementation funds through the long-range transportation plan. States also have provided their own funding. For example, Minnesota's Livable Communities Act, administered through the Metropolitan Council, has provided $128 million between 1996 and 2004 in planning and implementation grants for affordable housing, brownfields cleanup, and transit-supportive development demonstration projects in the Twin Cities metropolitan region.

Although they rarely have funding to put toward the effort, municipal governments throughout the country are playing a critical role in promoting TOD by adjusting land use policies and zoning regulations to encourage mixed-use, higher density development around transit, streamlining development review procedures, and creating mechanisms to finance development and related infrastructure improvements.

1.4 STATE DOT INTEREST IN TOD

As documented in TCRP Report 102, TOD is typically viewed as a local activity due to local government jurisdiction over land use. However, state agencies, including some state DOTs, are increasingly taking an active role in helping to plan for and promote TOD. These agencies are recognizing that TOD directly supports their own mission and goals.

Fundamentally, TOD is land use that supports efficient transportation. State DOTs hold the responsibility to create an efficient, economical, and environmentally sound transportation system that provide viable options for the movement of people and goods. Therefore, many of the benefits associated with TOD, such as reduced VMT and decreased infrastructure needs and maintenance, are directly in line with state DOTs' objectives.

In addition, state DOT involvement in TOD planning and development can directly benefit the DOT in a number of meaningful ways. Reducing congestion improves the functionality of state roads, increases safety, and improves public perception of transportation agency performance. Reducing transportation demand and taking advantage of available transit capacity can reduce the need for investment in new or expanded highway facilities, freeing up funds for other uses such as system preservation and alternative modes. State DOTs' profes-

[6] http://www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm.

sional and technical expertise can help ensure that Federal and state funds supporting TOD are used as efficiently and effectively as possible, providing the greatest transportation benefits. State DOT involvement in the design of roadways, other transportation facilities, and the development itself can ensure that the functionality of the state highway system is preserved through techniques such as access management, traffic mitigation strategies, and the appropriate location, sizing, and design of regional and local road connections.

Value capture is another potential benefit of state DOT involvement in TOD. In general, investments that improve transportation access (such as transit stations or highway interchanges) increase the value of adjacent property. Value capture techniques, such as tax increment financing, can help finance the infrastructure investments that created these value increases. For example, value capture was used by the District of Columbia to support construction of a new Metrorail transit station. While value capture techniques will typically be implemented directly by local governments, the resulting funds can help supplement state and Federal transportation funding provided for transit projects. DOTs may be able to facilitate the use of value capture techniques through partnerships, technical assistance, and advocacy for state and municipal policy changes.

2.0 Municipal Roles and Policies

2.1 BARRIERS TO TOD: WHY IS PUBLIC SECTOR INTERVENTION NECESSARY?

There are a number of barriers to TOD, many of which apply to any type of infill, mixed-use, and high-density development. TCRP Report 102 has grouped these barriers into three categories: fiscal, organizational, and political.

1. **Fiscal Barriers –** While some TOD projects are being implemented in undeveloped "greenfields" locations, TOD is often targeted towards infill settings, such as transitioning industrial and warehousing areas or existing urban neighborhoods. In general, infill development is more expensive than greenfield development. The added expense can result from structural requirements, site clearance, and infrastructure improvements. Often, structured parking is required in order to achieve transit-supportive densities and support a pedestrian-friendly environment. Higher land values in urban settings can also be a barrier to developing projects other than high-end office or residential buildings. Property tax policies that are based on the value of the building and site improvements, rather than the value of the land itself, may be a disincentive to higher-density development. TOD as a development practice is relatively unproven, and many developers are reluctant to move into an industry that comes with higher risk than standard greenfield development.

2. **Organizational Barriers –** Because of their inherent complexity, successful TOD projects have most often been implemented through a high level of coordination among a number of agencies and stakeholders (e.g., transit agencies, municipal governments, redevelopment authorities, developers and investors). Without the proper mechanism for collaboration and sufficient leadership, this coordination can be challenging.

3. **Political Barriers –** TOD commonly faces NIMBY ("not in my backyard") attitudes from community members. Complaints are typically associated with fears that high-density and mixed-use development will degrade the residential qualities of a neighborhood, displace existing residents and businesses, increase traffic, and increase strains on school systems and other local public services.

In addition to these general barriers, TCRP Report 102 identifies four TOD-specific issues that require attention to ensure success:

1. **The Congestion Conundrum –** High-density, mixed-use development with transit creates a paradox. On the one hand, the goal is to reduce congestion, while on the other hand this pattern of development concentrates people in a place, thereby creating local congestion. TOD proponents argue – and

transportation modeling has demonstrated – that over the long term, TOD will generally have net benefits for regional congestion. Nearby residents, however, are concerned about localized congestion and may oppose higher-density development regardless of its regional benefits.

2. **The Conflict between "Node" and "Place" –** Transportation agencies view stations as nodes within a system, with requirements for access by transit feeder service and park-and-ride commuters. However, TOD requires that a station become a "place" in and of itself – a pleasant environment for living and working – an objective that is potentially in conflict with that of efficient traffic movement. The cooperation of the transit and other transportation agencies is required to balance access needs with the principles of place-making.

3. **The Parking Puzzle –** TODs should require less parking than traditional developments due to their higher transit and nonmotorized mode shares and their "park once" mixed-use environments. It is common, however, for local jurisdictions to impose traditional minimum parking requirements on TODs. Logistically it is difficult to accommodate the parking, and financially these mandates often make the project infeasible. On the other hand, developers and lenders can be hesitant to build projects with limited parking facilities due to concerns regarding market value impacts. Finding the balance can be difficult.

4. **Mixed-Use Formula –** Mixed-use development can maximize the transportation benefits of TOD by facilitating walk, bicycle, and transit trips, but this type of development can face a number of institutional barriers. Each type of real estate (e.g., residential, commercial, retail) often has its own lenders, contractors, and financing parameters, creating complicated partnerships and financial agreements. Insurance for mixed-use developments tends to be more expensive, affecting the bottom line. Finally, a general lack of industry experience with comparable development can make projecting revenues difficult. This has led to a few failed projects, causing more concern on the part of investors and developers.

All of these barriers can be overcome as mixed-use development and TOD become more common and proven as successful models. Today, however, public sector intervention remains a critical component to help place additional successful examples on the market, demonstrating the benefits and providing proof that the concept can work.

2.2 TYPES OF MUNICIPAL POLICIES AND PRACTICES

Municipal and regional governments and redevelopment agencies have used a number of tools to encourage the implementation and success of TOD. As noted in Section 2.1, traditional zoning regulations are a common barrier to TOD.

Agencies with land use control have used a number of techniques to adjust zoning regulations to address these barriers.

- **TOD Zoning –** To promote mixed-use and higher density development around transit stations, local governments can adopt zoning regulations that require (or at least allow) this type of land use.
- **TOD Overlay Zones –** Rewriting zoning regulations can be prohibitively cumbersome. Therefore, some municipalities choose to adopt overlay zones around transit stations which will modify, eliminate, or add regulations to existing zoning regulations.
- **Transit-Supportive Land Uses –** Moving one step beyond TOD zoning, local governments can specify the types of land uses that are permitted (e.g., banks, child-care centers, retail) and those that are not compatible and thus not permitted (e.g., automobile repair, gas stations, drive-through restaurants).
- **Minimum Densities –** TOD zoning codes may specify minimum density thresholds for development, as well as the more common maximum densities. Residential thresholds can range from as low as seven units per acre for bus-based TODs, to 30 units per acre for rail-based TODs.
- **Form-Based Zoning Codes –** Also known as performance-based codes, form-based codes have received renewed interest within the past two or three years as an alternative way of regulating land use that can also be directed at transit-supportive objectives. Form-based codes de-emphasize land use in favor of building form and typology, and therefore make it easier to implement mixed-use projects. They also focus on the streetscape and public realm, and are meant to be applied in a participatory manner.
- **Parking Requirements –** Although some TODs rely on park and ride lots to support ridership, generally municipal governments will reduce parking minimum requirements in TOD zones. A more aggressive approach is to cap maximum parking spaces by dwelling unit or square foot of commercial development. Municipalities have also adopted minimum bicycle parking requirements.

Amending zoning regulations makes TOD allowable where it otherwise would not have been. Many municipalities have found, however, that additional incentives must be offered for developers to initiate a project. A number of policies and incentives have been used to promote TOD, including:

- **General Plans –** Many states require all municipalities to adopt a general or comprehensive plan. The plan typically serves as the document to guide the physical development of a town, but can also lay out the municipality's development policy. Incorporating the principles of TOD into a general plan can lay the framework and help to coordinate zoning and additional policy incentives.

- **Subarea or Station Area Plans –** Subarea plans provide a more detailed framework for development in a given part of the city, such as a transit station area. These plans can describe factors such as needed public sector infrastructure improvements as well as allowable densities, types of uses, and design guidelines for development. Subarea plans can help provide a more predictable environment for developers, increasing their willingness to undertake projects in station areas.
- **Density Bonuses –** Municipalities can opt to increase allowable density for projects that meet TOD specifications. This can improve the profit margin for developers by increasing the number of units within the building footprint and therefore make mixed-use development more attractive than single-use development.
- **Favorable Lending –** Low-interest loans and other lending programs can help offset the additional cost that may be attributed to TOD.
- **Direct Grants and Loans –** Public sector agencies have secured funding to award to developers pursuing TOD to offset additional associated costs. Grants and loans may also be provided for specific needs, such as cleanup of contaminated "brownfields" sites.
- **Assistance with Land Assembly –** In an existing urban area, assembling the prime parcels for effective TOD can be difficult. Local governments can aid in this process by purchasing and holding parcels until sufficient land has been assembled for a viable private-sector development.
- **Streamlined Development Reviews –** Fast-tracking development reviews can decrease the time to break ground on a project, which can directly affect the bottom line for developers. Predictable review processes and consistently applied requirements reduce the risk to developers and increase their willingness to pursue a project.
- **Infrastructure Finance and Value Capture –** Often, private developers require assistance with the creation or rehabilitation of infrastructure, including local streets, pathways, utilities, and public space, in station areas. Strategies such as tax increment finance (TIF) districts, special assessment districts, and split-rate property taxes may be used to incrementally fund infrastructure improvements in station areas using the additional tax revenue gained from new development.
- **Tax Policies –** Property tax policies that base the assessment partially or entirely on the value of the land itself, rather than entirely on the value of the building and site improvements, can help to encourage higher-density development. Taxation based only on improved value provides no additional incentive for property owners to develop their land, even in areas with high land values. In contrast, taxation based on land value can result in a declining tax burden (relative to overall project revenues) as the density of development on the land increases.

2.3 ACTIONS OF GREATEST IMPACT AND NEED

While many agencies and jurisdictions have undertaken policy initiatives to promote TOD, data on which policies and practices are most effective at promoting TOD are scarce. The information that exists is largely anecdotal, and relies heavily on the views and experiences of stakeholders. Furthermore, different TOD stakeholders and partners have varying opinions about what tools are most critical and most effective. TCRP Report 102 documents the most commonly employed practices. According to the report the most widely tool used is funding for the development of station-area plans. Other common practices include zoning / density bonuses, relaxed parking standards, and capital funding.

Views on the relative importance of different barriers differ between the public and private sector, and also among levels of government agencies. TCRP Report 102 documents these differences, based on surveys of practitioners. The **public sector** agency staff surveyed assigned the following level of importance to various barriers:

- **Most Important –** The *automobile-dependent landscapes* of many United States cities have created a culture unfamiliar with transit. The condition has created a "chicken-and-egg" situation; while TOD can be used to increase transit ridership, the lack of an existing and proven transit system makes many potential TOD partners view this type of development as risky.
- **Also Important –** A series of "lacks": lack of *lender and developer interest*, limited *local expertise* in planning and implementing TOD, questionable *market demand*, and *local zoning restrictions* (identified by higher levels of government only).
- **Moderately Important –** Factors such as *community opposition*, *local skepticism* over the value of TOD, *inadequate transit services*, and *location of transit stations*.
- **Minimally Important –** Legal barriers, replacement parking requirements.

Developers surveyed assigned the following level of importance to various barriers:

- **Most Important –** A streamlined, predictable *development review process*.
- **Also Important –** A carefully crafted *community plan*, with broad-based buy-in, that adds certainty to the development review process by establishing a vision for development.
- **Other Valued Supporting Activities –** "Laying the groundwork," especially through *land assembly* and the *provision of infrastructure*.
- **Helpful in Certain Contexts –** *Public sector financing*, including for retail components of mixed-use, for vertical mixed-use projects, risk minimization for environmental cleanup, and for high-risk projects in depressed inner-city neighborhoods. In most cases, though, financial incentives are not the factor driving decisions to develop.

- **Not Usually Helpful –** *Public-private partnerships* (unless they result in an economic advantage for the developer). Developers prefer to have control over the project and process.

There is general agreement that while proximity to transit can add value to development, the viability of each project – and therefore the willingness of a developer to undertake a TOD project – depends upon the fundamental viability of the product in the local and regional marketplace. Transit access alone will not make the project successful, nor will any amount of public sector assistance or subsidies, if market demand does not exist for a specific product type. Local and regional factors contributing to a stronger demand for TOD-type products include strong economic growth, political support, high levels of traffic congestion, high property values, and attractiveness of the specific location or subarea.

2.4 STATE AND REGIONAL AGENCY ROLES IN SUPPORTING MUNICIPAL IMPLEMENTATION PRACTICES

Local government control over land use regulation tends to place the direct implementation of TOD into the hands of municipalities, redevelopment authorities, and transit agencies (for agency-owned property). To date, most state and regional activity promoting TOD has been in the form of technical assistance and the pass-through of Federal grants. State, regional, and even Federal government agencies, however, are increasingly playing a lead role in creating an environment conducive to TOD, thereby supporting or even initiating local activities. This includes efforts by state DOTs, who have an interest in promoting TOD to support more efficient transportation patterns.

TCRP Report 102 lists seven initiatives that transit agencies identified as effective for higher level governments to undertake for the promotion of TOD. The initiatives are listed in order of importance, along with mean scores by respondents on a scale of 1 to 7 (where 1 = minimal and 7 = significant):

1. Planning grants (4.5);
2. Targeted infrastructure funding (4.0);
3. Smart growth legislation (3.8);
4. Tie capital grants to local TOD commitments (3.6);
5. Concurrency / adequate public facilities ordinance requirements (3.3);
6. Required siting of government buildings near transit (3.2); and
7. Development of regional impact requirements (3.1).

These seven initiatives represent a subset of a larger set of ways in which state and regional governments may become involved in promoting TOD and ensuring that TOD projects result in the greatest possible benefits. These include:

- Revising agency policies and practices;
- Establishing partnerships;
- Conducting education and outreach;
- Advocating for state policy changes;
- Providing technical assistance;
- Leading or supporting planning efforts;
- Funding TOD-supportive transportation improvements;
- Assist with land purchase and sale; and
- Providing information and tools to support decision-making.

Each of these strategies will be discussed in more detail in the following sections. Section 3.0 reviews existing and planned activities at state DOTs, while Section 4.0 includes recommendations about how DOTs can effectively support transit agency, municipal, and private-sector implementation of TOD projects.

3.0 Current and Planned State DOT Activities

Section 1.0 of this report describes the motivation and reasons for state departments of transportations (DOT) to be involved in the promotion or facilitation of transit-oriented development (TOD). For example, many state DOTs have determined that promoting TOD is closely aligned with their mission to provide an efficient transportation system, reducing the need for further highway system expansion and maintenance.

Section 3.0 describes the findings of a review of existing state policies and practices by state DOTs that promote TOD. The project team began this review by identifying states that have been active in promoting TOD and reviewing documentation and other literature describing those programs. DOT staff involved in TOD programming and planning in these states were then interviewed to gather information on current activities, proposed initiatives, effectiveness of programs, and barriers to program implementation. Planning staff at DOTs in a number of other states with fixed-guideway urban transit systems also were contacted to determine whether their agency has had any involvement with TOD. Activities at a total of 18 state DOTs were reviewed. Most of these contacts involved telephone or in-person interviews with high-level planning staff at the agency, conducted between August and October 2005. A few are based on discussions with agency staff as part of a national review of transportation and growth practices conducted for NCHRP in mid-2004.[7]

In addition to state DOT contacts, the project team contacted 15 other agencies that have been actively involved in TOD, including MPOs, transit agencies, cities, and counties. Contacts were made by telephone between August and October 2005. Staff from these agencies were asked about their own TOD-related activities, how they work with state agencies, and potential efforts that could be undertaken at the state DOT level to support TOD.

3.1 STATE DOT ROLES IN TOD

The research revealed that state DOTs vary greatly in their level and method of involvement in TOD programming and planning. The level of involvement can be loosely organized into three categories: 1) state DOTs that are directly and

[7] Specifically, the information for Colorado and Texas is based on a site visits conducted in June 2004 for NCHRP 8-36(40), National Site Visits on Transportation and Growth. These site visits also provided information in support of the New Jersey findings.

proactively engaging in TOD promotion through funding and other supportive programs; 2) state DOTs that are implementing other activities that are supportive of TOD; and 3) state DOTs indicating that they are not directly supporting TOD or implementing a TOD program at this time. (These states may still have undertaken practices that are indirectly supportive of TOD, such as involvement with local agencies on TOD planning and implementation or adoption of context-sensitive design standards.) Table 3.1 summarizes the states contacted for this research and their status.

Table 3.1 State DOTs Contacted

Status of TOD Activities	States Contacted
Proactively involved in TOD	California
	Florida
	Maryland
	Massachusetts
	New Jersey
	Pennsylvania
	Washington, D.C.
Implementing Other TOD-Supportive Activities	Colorado
	Illinois
	Minnesota
	Oregon
	Washington State
Not Directly Supporting TOD at This Time	Arizona
	Missouri
	North Carolina
	Texas
	Utah
	Virginia

It should be noted that the differences among states in the second and third categories may not be significant. Resources for this project permitted interviews with only one or two staff in each agency, usually high-level planning staff. A comprehensive inventory of potentially supportive policies and practices at each state was not conducted. Staff at states who indicated they are "not directly supporting TOD at this time" may not be aware of, or may not have considered, specific policies and actions within different levels or departments of the agency that could potentially be supportive of TOD. On the other hand, staff at agencies who indicated they are "implementing other TOD-supportive activities" clearly

felt that supporting local TOD efforts was an important objective, and were interested in demonstrating ways in which agency policies and programs accomplish this objective.

3.2.1 DOTs with Proactive TOD Programs

The DOTs in California, Florida, Maryland, Massachusetts, New Jersey, Pennsylvania, and Washington, D.C. have all implemented TOD programs or policies.

California

Local governments and transit agencies throughout California have been promoting TOD for decades, especially in conjunction with new transit lines. The first efforts date from the 1970s with the Bay Area Rapid Transit (BART) system. More recently, there has been significant activity in other regions, including San Diego, Los Angeles, San Jose, and Sacramento, as rail systems are built or expanded. Efforts also are expanding to include new bus rapid transit corridors in these areas.

Historically, the State has avoided involvement in land use issues, but an awareness of the importance of coordinating transportation and land use has driven a new level of involvement. In 2000, the California Department of Transportation (Caltrans) sponsored a study with the following objectives: "Define transit-oriented development and its successful components; describe the potential benefits of TOD; examine the status of implementation of TOD in the United States and California; identify the major barriers and impediments to the wider implementation of TOD; identify what is working well, as well as the need for additional resources to overcome barriers; and, finally, develop a set of potential strategies and activities that the State of California may implement to facilitate the broader implementation of TOD in this State."[8] The study was released in September 2002, and provided eight strategies that could be employed by the State to encourage implementation of TOD. These strategies were divided into two categories: 1) State Programs and Polices; and 2) Funding for TOD Planning and Implementation (see Table 3.2).

Since 2002, a number of these strategies, through the efforts of Caltrans and elected officials, have been implemented to varying degrees. Two strategies have been addressed through new legislation. Strategy 1B (Use and sale of state land for TOD) was adopted through the passage of state bill AB 1410. This legislation requires state agencies and departments with "excess" land to offer it to local agencies at the appraised value for TOD use. Previously, state agencies would

[8] http://www.dot.ca.gov/hq/MassTrans/doc_pdf/TOD/TOD_Study_Exectutive_Summary.pdf.

Table 3.2 Recommended Strategies from Caltrans' Statewide Transit-Oriented Development Study

Strategy Area	Strategy	Specific Strategy
Strategy Area 1: State Programs and Policies	Strategy 1A: Improved coordination of regional land use and transportation planning	
	Strategy 1B: Use and sale of state land for TOD	
	Strategy 1C: Facilitate local review and approval processes	1C(1) – CEQA processes in relation to TOD 1C(2) – Improved models and analysis tools 1C(3) – Improved data on effects and benefits of TOD
	Strategy 1D: Technical assistance and information	
Strategy Area 2: Funding for TOD Planning and Implementation	Strategy 2A: Provide funding to local agencies to plan and implement TOD near major transit stations	2A(1) – Funding for local TOD planning 2A(2) – Finding for local agency TOD implementation 2A(3) – Funding for TOD demonstration projects 2A(4) – State "Housing Incentive Program"
	Strategy 2B: Targeted tax-increment financing for TOD	
	Strategy 2C: Financing for private sector development	
	Strategy 2D: Use of state transportation funds for TOD	
	Strategy 2E: Expand 'Location Efficient Mortgage' Program	

sell the land to the highest bidder. Strategy 1C(1) (CEQA processes in relation to TOD) was addressed through the enactment of SB 1925, which exempts projects from the California Environmental Quality Act that are less than 100 residential units, on an infill site of less than four acres in an urban area, and are located within one-half mile of a major transit station.

To implement Strategy 1A (Improved coordination of regional land use and transportation planning), Caltrans, in collaboration with the Federal Highway Administration (FHWA) and the U.S. Environmental Protection Agency (EPA), has sponsored a pilot project to study institutional options and technical planning tools that would result in improved regional transportation, land use, and environmental planning as well as the delivery of transportation projects. The Merced County Association of Governments (MCAG) was chosen as the pilot agency. The project will test the integration of tools, such as geographic information systems (GIS) and traffic and environmental models, in the development of the MCAG 20-year Regional Transportation Plan. Evaluation of

the effectiveness of this method will serve as a model for use throughout California and the United States.[9]

Strategy 1D (Technical assistance and information) led Caltrans to develop an on-line TOD database to serve as a resource for potential TOD projects. The database provides detailed information on land uses, site maps, implementation processes, financing, facilities, zoning, design features, pedestrian access, transit services, travel benefits, and photos of 21 TODs throughout California. According to Caltrans staff, this resource has been well-received and well-utilized by interested parties and stakeholders throughout the State and across the county. In 2005, Caltrans released a *Transit-Oriented Development Compendium*, as a resource for developers, public agencies, and policy-makers who are interested in TOD. As suggested by Strategy 2D, State Transportation Congestion Relief Program and Regional Surface Transportation Program (STP) funds have been utilized to build six parking structures at TODs, freeing up surface parking lots for mixed-use development.

Some recommendations have not been successfully implemented due to political opposition or financial constraints. For instance, funding has not been made available for implementation of Strategy 2A (Provide funding to local agencies to plan and implement TOD near major transit stations). The state "Housing Incentive Program" was not adopted, although a number of nonstate-sponsored programs, such as the Location Efficient Mortgage Program and the Metropolitan Transportation Commission's Housing Incentive Program in the Bay Area, are filling a similar need. Strategy 2B (Targeted tax-increment financing for TOD) has hit some political roadblocks due to concern over the impacts on other redevelopment areas and the impact of a recent U.S. Supreme Court ruling about the authority of a local government to use eminent domain.

Florida

Florida DOT (FDOT) has received direction from state leadership for many years to conduct and promote planning that supports transit. The Department's motivations for supporting TOD and transit-supportive design include:

- Thirty percent of the population in Florida does not drive, and is, therefore, reliant on transit for mobility. Providing access to transit is important, as is ensuring that transit services (for which FDOT provides significant funding and coordination support) can be provided in a cost-effective manner.
- The Department is recognizing that in some cases it owns surplus land (e.g., excess surface parking for transit stations) that can be sold to make it more productive, boost transit ridership, and generate revenue for the Department.

[9] http://www.mcag.cog.ca.us/projects/pip.htm.

- Land use is an important criterion in the Federal Transit Administration's (FTA) New Starts process, and, therefore, for obtaining funding for planned transit investments.
- The State has for over two decades emphasized the importance of growth management policies. Tremendous growth is occurring throughout the State, and the State has identified TOD as one mechanism to support this growth. Developable land is becoming scarce in some areas – especially the Miami-Fort Lauderdale region – and the State recognizes the need to increase density in existing communities that are served by transit to maximize the use of resources.

To date, fixed-guideway transit investment in Florida has been concentrated in the Miami-Fort Lauderdale area. FDOT has taken a broader view of TOD, however, promoting site design and land use planning that is supportive of transit service in general, including fixed-route bus and paratransit services. Many of these activities have been undertaken at the state level through FDOT's Transit Office. In addition, Districts 5 and 6 (Fort Lauderdale and Miami) are increasingly supporting TOD through planning activities as well as the disposition of real estate for transit station areas and corridors.

FDOT has not established a specific TOD program, but has undertaken a variety of tools and efforts, both directly and indirectly supporting TOD:

- **Outreach and Tools –** FDOT's Transit Office produced an "Accessing Transit" report (available on their web site) that includes a discussion of design principles to support transit access. They also have produced a CD-ROM of TOD resource materials, including design principles, implementation tools, case studies, and descriptions of successes and lessons learned, that they hand out routinely to municipalities, developers, and other interested parties. Two staff persons within the Transit Office support TOD activities and planning. In addition, the Highway Systems Planning division offers a Site Impact course to municipal officials and consultants. This course includes a module on transit-oriented design.
- **Project Development and Design Practices –** FDOT is in the process of revising their Plans and Preparations Manual, the agency's handbook for road designers, to better incorporate transit into the design of the roadway system. In the near future, they also hope to update their Project Development and Environmental Design Manual to give transit more consideration.
- **Development Review and Mitigation –** FDOT is initiating a program to examine how transit is treated within the Development of Regional Impact (DRI) process, an environmental review process that is required by state law for major development projects. This review will include a pilot project to improve relationships with developers in the Orlando area, addressing issues such as access to transit stops and traffic impact mitigation. FDOT also sponsors demand management programs such as ridesharing and carsharing.

- **Research –** FDOT manages transit research projects at the Center for Urban Transportation Research (CUTR) at the University of South Florida, which is funded by the state and Federal government through the National Center for Transit Research. CUTR currently is undertaking research on the impacts of TOD on transit ridership.
- **Property Conversion –** Property conversion efforts to support TOD have been led by the District 5 office (Fort Lauderdale), with District 6 (Miami) also expressing interest. District 5 currently is disposing of three large, underutilized park-and-ride lots and soliciting proposals for conversion to structured parking and mixed-use development.
- **Planning Studies –** District 5 in particular has funded charrettes, transportation corridor studies, and neighborhood plans that address land use issues, including TOD and transit-supportive design. The District currently is working with the South Florida Regional Transit Authority on TOD planning for proposed light rail transit stations. A District-led corridor study of Broward Boulevard is considering transit options and land use improvements. The District also has worked with local jurisdictions to address transit in land use planning; for example, the City of Central Plantation master plan includes increased densities around proposed LRT. A scope of work to conduct a regional activity center plan currently is under development. Additional corridor studies are being planned, with the participation of Regional Planning Commissions and local jurisdictions, which will address transportation and land use issues.

FDOT District 5 staff note that communities have had a very positive response to the DOT addressing land use in corridor, neighborhood, activity center, and transit station planning. People understand the importance of linking transit and land use and are happy to see proposals and studies on this issue from the DOT. Some mistrust resides within local agencies due to the DOT's perceived traditional role as a highway agency, but this is changing. FDOT has found, nevertheless, that one of the greatest barriers to TOD remains neighborhood opposition, especially fear of density and affordable housing. Financing TOD also has been a challenge, especially for proposals that include affordable housing, given the region's high land costs. FDOT's approach to overcoming these barriers has been to make the neighbors feel part of the planning process. Staff comment that station area planning must be "bottoms-up" – it is important to repeatedly reach out, asking people what they want and how to achieve it.

Maryland

Maryland DOT (MDOT) has taken a "decentralized" approach to supporting TOD; there is no legislative mandate that the agency is following and no single office or person that is implementing a TOD program. The Office of Planning and Capital Programming (OPCP), however, has informally taken the lead on most TOD initiatives, working with MDOT's modal administrations, including the State Highway Administration (SHA) and the Maryland Transit Administration

(MTA). Four staff within the OPCP each devote between 25 and 75 percent of their time to TOD-supporting activities.

MDOT's TOD work began in the mid-1990s as an outgrowth of Governor Paris Glendenning's Smart Growth initiatives, but has continued (with different methods and focus) under the current administration. The agency's programs initially focused on funding capital projects such as structured parking at stations and streetscaping. Consistent with the current administration's philosophy, the agency's approach has been to take active leadership and provide a catalyzing role to address key obstacles and areas of uncertainty for TOD implementation. Ongoing implementation has continued to come from the leadership and the initiative is carried out by key staff within the agency. The administration as well as agency leadership recognize a variety of benefits of TOD and the agency's TOD-supportive activities, including:

- Leveraging existing and new transit investments to maximize transit ridership, increasing the cost-effectiveness of these investments;
- Reducing vehicle travel demand and the need for highway or transit service investment in outlying areas;
- Improving safety and mobility for travelers, including pedestrians as well as vehicles;
- Assisting the agency's engineers in prioritizing and systematically implementing pedestrian and traffic improvements in station areas;
- Developing approaches that encourage regulatory streamlining to improve the project development environment; and
- Exploring creative financing and funding techniques that can contribute toward transit facilities.

MDOT's recent work to promote TOD has included:

- **Transit Station Area Planning –** The OPCP led an award-winning pilot study for the West Hyattsville Station area on Washington's Metrorail system. This study brought together the various stakeholders who need to be involved in implementing the plan (e.g., local elected officials, planning and zoning staff and commissions, resource and public works agency staff, landowners, and neighbors). The goal is not just to create a plan, but to ensure that the support and tools necessary to implement the plan are in place. Lacking resources to conduct such studies on a widespread basis, OPCP is looking to implementing agencies, such as the Washington Metropolitan Transit Authority (WMATA), the MTA, or local jurisdictions, to lead and replicate similar efforts, and WMATA already is undertaking a similar study on a multistation corridor with significant TOD potential.
- **Pedestrian Improvement Studies –** The OPCP sponsored a pilot study to examine needs for pedestrian improvements in the Wheaton Station area on the WMATA Red Line. The study's objectives were to examine and prioritize

area-level needs comprehensively and, again, to bring together the stakeholders responsible for implementation. SHA endorsed the study and is now working to identify 10 other locations where it could conduct similar studies. SHA staff note that the study has been helpful for its engineers as they can use the recommendations to prioritize and systematically implement improvements, rather than simply responding to complaints and requests on an ad hoc basis.

- **Property Disposition –** MDOT's Office of Real Estate (ORE) also has become involved in TOD efforts, through the disposition of state land for TOD and joint development, and has worked closely with OPCP on these efforts. For example, ORE is supporting OPCP in a $150,000 study examining how best to dispose of 25 acres of state-owned land adjacent to the existing Baltimore Metrorail and light rail lines as the core area in a larger redevelopment of 110 acres of urban land. MDOT's ORE has solicited a Request for Qualifications seeking a private-sector development partner for the development of this land consistent with TOD principles developed for this area.
- **Transit Project Planning –** MDOT is increasingly emphasizing the importance of land use and TOD in planning for any new transit facility or project, and is ensuring that this is an integral part of planning for the proposed east-west MTA Red Line extension in Baltimore. This consideration includes making alignment and station location decisions to maximize TOD and economic development opportunities, as well as specific project and station design issues. The Alternatives Analysis phase of this study includes a number of TOD-focused planning activities, including developing TOD principles; developing station area typologies and sample plans; conducting a market analysis; conducting presentations for elected officials, developers, and the community; working with communities on form-based codes; and developing strategies, a timeline, and responsibilities for further TOD planning and implementation.

MDOT notes that a number of other agency policies and programs also directly or indirectly support TOD projects. These include:

- Requirements to include sidewalk and bicycle improvements in all urban projects unless otherwise justified;
- A funding program to improve pedestrian connections to transit stations and stops;
- Prioritization of investments in transit, as well as roadway improvements that support TOD and other infill/redevelopment opportunities;
- The SHA's Thinking Beyond the Pavement context-sensitive design initiative, which included a major revision of the state highway design manual; and
- Lack of a set parking replacement policy for TOD or joint development. While many transportation agencies require one-to-one replacement of station area parking displaced by new development, MDOT will allow

reductions in parking if they believe it makes sense for the area – potentially making TOD more financially feasible.

MDOT believes that its programs, and especially the recent focus on demonstrating processes and building relationships for planning, have been successful in facilitating TOD. Department staff, however, also note a number of challenges and lessons learned from their efforts to date. Working with limited resources has been one challenge (the Department can only fund one or two major pilot studies a year), hence the agency's emphasis on catalyst or demonstration projects that can be replicated. Staff note that the costs of conducting a good planning study – one that involves the full range of stakeholders necessary to support implementation – can be significant, ranging from $250,000 to $300,000 for the study plus $100,000 to $150,000 for implementation support. Despite the potential long-term capital cost savings, the agency recognizes a need to keep its efforts focused on high-payoff locations and topics. Furthermore, the agency has specifically decided not to offer grant programs for TOD funding, since they believe that money without support and guidance would be ineffective.

OPCP staff note that the support of modal administrations and agency engineers for TOD efforts would be improved with better technical information and methods. For example, unlike for traffic improvements, methods are not well-developed for measuring the benefits of pedestrian improvements, or for making tradeoffs between traffic and pedestrian benefits. Finally, the ability to successfully implement TOD can vary by geographic area and context; in particular, TOD has been much more accepted in the Washington, D.C. area than in Baltimore as a result of both market forces and previous planning history. Station area plans need to be based on sound market studies, to ensure that they are realistic.

Massachusetts

Massachusetts has recently begun promoting TOD as part of the State's emphasis on Smart Growth. In 2003, Governor Romney created the Office of Commonwealth Development (OCD) to oversee and coordinate the activities of the State's transportation, housing community development, and environmental agencies. The office has placed a particular emphasis on coordinating policies in support of Smart Growth and sustainable development.

The State's 2004 Transportation Bond Bill directed OCD to establish a new TOD Infrastructure and Housing Support Program, which is being administered through the Executive Office of Transportation (EOT). The program is providing $30 million in financial assistance to public agencies for four project types – pedestrian improvements, bicycle facilities, housing projects, and parking facilities – in mixed use developments located within one-quarter mile of a transit station. EOT is collaborating with the Department of Housing and Economic Development (DHED) on implementing the housing component of this program.

To ensure that projects support TOD principles, OCD, in consultation with EOT and DHED, established specific evaluation criteria for each of the four project types. The criteria address consistency with TOD design principles; impact on transit ridership; improvement in public access to transit, jobs, and live/shop/work activities near transit; improvement in safety; and affordability requirements (for housing). Parking projects are expected to support transit ridership and TOD without increasing the general supply of station area parking. For example, funding may be provided to support a parking garage as part of a compact, mixed-use development, but not a simple expansion of a parking lot for park-and-ride purposes. The maximum amounts to be awarded per project are $2 million each for housing and parking projects, and $500,000 each for bicycle and pedestrian projects. The initial call for grant proposals was made in fall 2005. The State also is incorporating smart growth criteria, including TOD, in state grant programs administered by other agencies.

New Jersey

New Jersey has taken a statewide approach to transportation and land use coordination, which has been supported by a number of state agencies, including the New Jersey Department of Transportation (NJDOT). The New Jersey State Planning Commission adopted the State Development and Redevelopment Plan (SDRP) in 1992. The purpose of the plan is to direct growth into urban centers and reduce infrastructure costs and environmental impacts related to new development. The document is nonregulatory, and therefore the State has relied upon related statutes, incentives, priority funding, and educational/awareness campaigns to achieve the goals.

Especially since the late 1990s, NJDOT has worked to reexamine its policies and programs and undertake new initiatives in support of the state plan. NJDOT has realized that there is no way it can fund all of the statewide capital improvements that have been studied or planned throughout the State. Instead, they are working to find transportation solutions that are less capital-intensive than highway expansion, such as improved land use planning and increased use of existing transit infrastructure. Leadership from top levels of state governance as well as the NJDOT administration have led to a sustained commitment to these initiatives and to growing support among program-level staff.

In a joint partnership with New Jersey Transit and nine other state agencies and departments, in 1999 NJDOT initiated the Transit Village Initiative to focus on planning and capital improvement resources in communities with transit stations. NJDOT has taken the lead on designating communities, selecting projects, and providing funding for transportation improvements, and has designated a full-time staff position to serve as program coordinator. To be designated as transit villages, communities must demonstrate that they have undertaken specific actions, such as zoning changes, to spur higher-density, mixed-use redevelopment near their transit stations. While the program includes only a modest amount of capital funding, designated communities receive state

recognition, as well as priority for state technical assistance and funding from other sources. As of October 2005, there are 16 designated transit villages.

NJDOT staff and local officials believe the program has been successful in a number of ways. NJDOT notes that communities highly value the Transit Village designation and the program appears to be providing an incentive to change zoning and undertake other actions to promote redevelopment in transit station areas. Officials and staff from designated communities have noted that the high level of publicity attracted by the designation has in turn helped to attract developers. Funding for streetscape, bicycle, pedestrian, and transit improvements also has led to improved station area environments that support both reinvestment and new investment to create TOD. Cooperation among 10 state agencies – to coordinate policies and priorities in support of a common objective – has been an important factor in the success of the program.

NJDOT has recently undertaken a broader program known as NJFIT (Future in Transportation) to improve the linkage between transportation and land use. A primary component of this program is 10 corridor pilot studies for integrating transportation and land use planning, focused on corridors ranging from two to 30 miles in length. Within these studies, NJDOT is working with local jurisdictions to develop strategies such as access management, local street networks, pedestrian and transit infrastructure, and mixed-use development to reduce demands on the state highway network.

NJDOT also has worked since the late 1990s to develop and implement context-sensitive design policies, including revising its highway design manual and conducting trainings for hundreds of staff, consultants, and other local engineers and planners. These policies are potentially supportive of TOD by allowing greater flexibility in state road design in station areas to support improved pedestrian and transit access.

Pennsylvania

In November 2004, the Pennsylvania state legislature passed Act 238, the Transit Revitalization Investment District Act (TRID). This act establishes a new program to promote TOD, the TRID program, to be administered by the Pennsylvania DOT (PennDOT) and the Department of Community and Economic Development (DCED). The act includes:

- Development of a "how-to" book on TOD;
- Authorization for transit agencies to partner with local governments and developers to facilitate TOD and also share in tax revenues;
- Planning and implementation grants for TOD, initiated by local governments defining a TRID and identifying responsibilities and land ownership. The act authorizes the State to award planning grants of up to $75,000 to each municipality and requires a 25 percent local match;

- The establishment of value capture areas in which local jurisdictions and transit agencies share incremental tax revenues to benefit improvements within the zone; and
- Allowance for transit agencies to acquire land for nontransportation purposes, including economic development.

PennDOT and the DCED are working to obtain funding from a variety sources to support implementation of the program. Although the program is still being established, a number of municipalities have expressed interest. PennDOT will provide both funding and technical assistance. PennDOT notes that TOD can serve as an economic catalyst and is consistent with the Department's mission, which includes the promotion of economic development. It also should help support PennDOT's goals of shifting resources away from capital investment and into system preservation.

Washington, D.C.

As a city-based agency, Washington, D.C. DOT (DDOT) is able to focus TOD efforts at a more local level than other state DOTs. The city has established TOD as a main focus and objective for development in the city. With limited land available for development and a large base of property exempt from the tax rolls, the city desires to maximize the use of its remaining land to increase tax revenue, while minimizing additional vehicular travel from this development. DDOT is collaborating with the city's planning department on city, ward, and neighborhood planning to support TOD. They have created a coordinated transportation and land use plan for the city, and developed neighborhood plans consistent with this plan. DDOT has been the lead in developing the transportation aspects of the neighborhood and city plans. DDOT also has undertaken transportation improvements to support specific TOD projects, such as the New York Avenue Metrorail Station, a new station located to serve a redevelopment area.

DDOT also has been involved in a number of other activities that support TOD principles by promoting alternatives to vehicle ownership and use. DDOT is promoting car-sharing through marketing to District residents and assistance with identifying parking spaces. In addition, DDOT staff have advocated for setting parking meter rates at market rates rather than artificially low; as well as creating a Benefit Assessment District based on land value (rather than improvement value) to finance infrastructure and promote development around transit stations.

DDOT staff cite local opposition as one of the most significant barriers to achieving more TOD. In some Metrorail station areas, developers have had to significantly scale back development proposals due to neighborhood concerns over density and traffic impacts. Some DDOT staff also believe that a revised property tax structure, which taxes the value of land rather than improvements on the land as currently is done, would create incentives for TOD by lessening the tax burden associated with higher-density development.

3.2.2 States Indirectly Supporting TOD

A number of states indicated that they have not undertaken initiatives that directly support TOD planning and implementation, but nonetheless have adopted policies or programs – such as project planning and design practices, grant programs for local transportation and land use planning, or flexible state highway design policies – that indirectly support TOD. These states include Colorado, Illinois, Minnesota, Oregon, and Washington State.

Colorado

The Colorado Department of Transportation (CDOT) has indirectly supported TOD, by working with the Denver Regional Transit District (RTD) to conduct, and in some cases jointly manage, studies of corridors where both highway and transit solutions are being considered. One example is the Southeast Corridor project in Denver, which includes highway improvements as well as construction of a new LRT line. This project serves a number of TOD opportunity sites.

While RTD and local jurisdictions are taking the lead on facilitating TOD at these sites, the CDOT/RTD-led project team has agreed to make design modifications or to issue change orders to better support TOD proposals. For example, at the Colorado Boulevard Station, the light rail alignment is diverted away from the freeway, along an existing rail right-of-way, to provide better access to the Colorado Center transit-oriented development. In Greenwood Village, the project issued a $7 million change order (paid for by the City) for CDOT to consolidate a maintenance facility, giving the village space to construct a new town center adjacent to its planned LRT station.

CDOT and the RTD are applying a similar joint planning approach to other corridors in the region. These corridors are still in the alternatives analysis phase and are identified in the long-range transportation plan as locations needing both highway and transit improvements. The joint approach should continue to help facilitate multimodal transportation solutions throughout the region to support local and regional land use objectives.

Illinois

IDOT views TOD as a local initiative and responsibility, but is willing to work with local jurisdictions and transit agencies to support TOD planning and implementation efforts. However, IDOT has supported TOD for the past 20 years through their Technical Studies program, which provides financial assistance to local agencies for planning studies. They also have worked with a few municipalities to convert IDOT-owned surface parking lots to mixed-use development. In addition, IDOT is active in other TOD-supportive areas, including the application of Context-Sensitive Solutions planning and design principles in transit station areas.

In the last legislative session a bill was passed, with IDOT's support, to merge the MPO and the regional planning agency for the Chicago region. This will

help TOD by integrating the transportation planning and land use planning agencies for the Chicago region into a single agency.

Minnesota

The Minnesota DOT (Mn/DOT) views TOD as an MPO or local responsibility. However, as an agency, Mn/DOT has undertaken support of TOD through involvement in the development of transit corridors. The agency undertook a regional commuter rail study that, while not directly considering TOD, set the stage for further development of specific corridors and resulted in the state legislature providing funding for two tiers of commuter rail project feasibility studies. Mn/DOT currently is using the last of the funding to partially underwrite, along with Hennepin County and the City of Minneapolis, a detailed design study of an intermodal station (terminal) for the Northstar commuter rail corridor that integrates with a city TOD area plan. As the grantee for Federal money for development of Northstar, Mn/DOT acts as a clearinghouse for the city- and/or county-led TOD efforts that are required to meet New Starts criteria from FTA. Mn/DOT also serves as a reviewing agency for TOD projects along the new Hiawatha light rail line in Minneapolis.

Oregon

The State of Oregon is well known for its innovative measures towards growth and the coordination of land use and transportation. The State's Land Conservation Department and Development Commission (LCDC) adopted 19 statewide planning goals in 1979. Goal 12 aims "to provide and encourage a safe, convenient, and economic transportation system." The goal emphasizes the importance of supporting transportation through land use and land use through transportation infrastructure. For example, the guidelines state that "lands adjacent to major transit stations, freeway interchanges, and other major air, land, and water terminals should be managed and controlled so as to be consistent with and supportive of the land use and development patterns identified in the comprehensive plan of the jurisdiction within which the facilities are located."

In 1991, the LCDC established the Transportation Planning Rule in an effort to coordinate land use and transportation planning with the overall goal of reducing the number of vehicle trips on state and local roadways. Under this rule, all local governments with a population of 2,500 or more must develop and implement a transportation system plan that supports multiple modes of travel. Comprehensive plans should promote increased residential and commercial densities along transit corridors.

In 1993, the Oregon Department of Transportation (ODOT) and the Department of Land Conservation and Development (DLCD) collaborated to create the joint Transportation and Growth Management Program (TGM). The program, supported by state and Federal funds, assists local governments in land use and transportation coordination in an effort to make more efficient use of the transportation infrastructure, and to facilitate the creation of more livable neighborhoods

and vital centers. Specifically, the program offers four tools to assist local jurisdictions: grants, design assistance, code assistance, and education.

- **Grants –** TGM grants are awarded to local government land use and transportation projects that expand transportation choices for people. The funding can be used to update land use and transportation plans, enhance bicycle and pedestrian facilities, improve transit access, change local land use codes to encourage mixed-use and higher-density development, and improve transportation connections between destinations.
- **Design Assistance –** The Oregon Coastal Futures Project offers professional design assistance to coastal communities that are interested in projects that will enhance the quality of life. Preference is given to projects that promote "people-oriented, sustainable design, and transportation and housing options."
- **Code Assistance –** TGM provides communities with consultants to assist in modifying development ordinances, comprehensive plans, and development review procedures to promote "smart" development patterns, including the principles of TOD.
- **Education and Outreach –** TGM sponsors a number of workshops and public forums to educate local government officials and citizens about transportation and growth management concepts. For example, the Main Street Road Show program offers half- or full-day workshops to small towns throughout the State to identify local solutions to transportation and growth management issues. Among other topics, the workshops can address transit, access management, pedestrian and bicycle-friendly design, and land use planning. The TGM program also has produced a number of resource publications on specific topics that can support TOD implementation, including infill and redevelopment, commercial and mixed-use development, neighborhood street design, balanced transportation network design, and parking management.

Washington State

In 2005, the Washington State Legislature created the Office of Transit Mobility (OTM) within the Washington State DOT (WSDOT). The new office was created in conjunction with a mandate to shift the Department's priority from vehicle throughput to person throughput. The OTM is tasked with providing guidance on the coordination of public transit, integration of public transit and the highway system, and promoting solutions to increase connectivity and corridor efficiency. As part of this direction, the OTM is expected to "recommend best practices for integrating transit and TDM strategies in regional and local land use plans to reduce traffic and improve mobility and access."

The OTM also will manage a newly funded Regional Mobility Grant Program which will aid local governments (cities, counties, and public transportation benefit districts) in funding both capital and operating projects that increase the efficiency of the transportation system and focus on corridor enhancement. Although the request for proposals from applicants does not require that projects

integrate TOD concepts, OTM staff anticipates receiving requests for project funding that will facilitate and support TOD-related projects.

In addition to these recent activities, WSDOT has sponsored research on transportation and land use topics. The OTM will be tasked with determining how to implement the findings of this research. The agency recently added new language to its design and traffic manuals that allow flexibility for context-sensitive design techniques. Working on a more local level, WSDOT has been a participant in efforts by local government (such as King County) to develop TOD policy. In addition, WSDOT maintains a local office in the Seattle metropolitan area that focuses on TDM strategies. The office has participated in a number of collaborative efforts resulting in TOD-related projects.

3.2.3 States That Are Not Directly Involved in TOD

The remaining state DOTs reviewed (Arizona, Missouri, North Carolina, Texas, Utah, and Virginia) indicated that they are not actively promoting or planning for TOD. The most common reason for their lack of involvement is the strict interpretation of land use as a local issue, and therefore a reluctance to regulate from the state level. Some states noted that TOD is simply not an issue of interest within the State. The lack of ownership or operation of any transit facilities also was cited as a reason for no TOD activity. In Arizona, the DOT notes that MPOs conduct all transportation planning and programming for the metropolitan areas, where TOD would be of interest. The remainder of the State is rural, and therefore has very limited transit service.

3.2.4 Summary of State DOT Activities

This survey of national practice has found that a number of state DOTs are supporting transit-oriented development, through a variety of different activities. These include:

- Changing agency policies and practices, such as roadway design and project prioritization practices;
- Establishing partnerships;
- Conducting education and outreach on TOD principles, methods, etc.;
- Advocating state legislative and policy changes;
- Providing technical assistance to municipalities;
- Leading or providing funding for planning efforts, including station area planning as well as corridor or area-level planning that considers land use and transit accessibility;
- Funding TOD-supportive transportation improvements, such as bicycle and pedestrian access to transit, structured parking, or station-area streetscaping;

- Conducting or assisting with land purchase and sale for TOD projects; and
- Sponsoring research and/or decision-support tools that provide information on TOD benefits and impacts.

Table 3.3 provides examples of activities by state DOTs according to the categories outlined above.

Table 3.3 Examples of TOD-Supportive Strategies and Actions by State DOTs

Strategy	Actions That Directly Support TOD	Actions That Indirectly Support TOD
Change Agency Policies and Practices	CA – Conduct TOD study and make recommendations CO – Allow project change orders to support local TOD efforts FL, MD – Use development potential as a criterion in prioritizing transit projects, locating alignments, and stations FL – Review treatment of transit in development review process	CA, FL, IL, NJ, MD, MA, MN, OR, PA, WA – Adopt flexible or context-sensitive design standards CA – Study institutional options and tools to improve integration of land use and environmental issues in transportation WA – Create Office of Transit Mobility to support best practices in transit coordination
Establish Partnerships	FL, MD, MN – Coordinate transit capital investment (New Starts) planning with municipal land use planning MA, NJ, PA – Work with other state agencies to coordinate funding and technical assistance for TOD MD – Sponsor demonstration TOD planning studies with focus on partnerships	
Conduct Education and Outreach	CA – On-line TOD database and TOD compendium FL – Report and CD-ROM to promote TOD principles; TOD module in site impact course NJ – Recognize and reward successful "transit villages"	OR – Conduct workshops and public forums on transportation and growth management concepts, including transit access and TOD; publish resource documents
Advocate State Legislative/ Policy Changes	CA – Prioritize use/sale of state land for TOD; allow environmental review exemptions for small TOD infill projects	
Provide Technical Assistance	FL – Provide technical staff to support TOD planning efforts NJ – Prioritize technical assistance for designated "transit villages"	OR – Provide design assistance and code assistance for municipalities to link transportation and land use
Undertake or Support Planning Efforts	FL, MD – Conduct corridor and station area planning to support TOD PA – Award planning and implementation grants for designated "transit revitalization districts"	CO – Conduct joint highway/transit corridor planning D.C. – Conduct integrated transportation and land use neighborhood planning IL – Provide grants to municipalities for transportation/land use planning efforts NJ – Conduct integrated transportation and land use corridor planning

Strategy	Actions That Directly Support TOD	Actions That Indirectly Support TOD
Fund TOD-Supportive Transportation Improvements	CA, MA – Fund structured parking at TOD sites MA – Fund bicycle/pedestrian improvements in station areas DC – Fund new infill rail transit station through creation of a Special Assessment District	OR – Award grants to local projects that expand transportation choices, including transit access
Assist with Land Purchase and Sale	CA, FL, IL, MD – Sell/lease state-owned land for TOD purposes	
Sponsor Research, Decision Support Tools	FL, WA – Sponsor research on TOD, design, and transit ridership	

3.2 NON-DOT AGENCY PERSPECTIVES

A total of 15 MPOs, transit agencies, cities, and counties also were surveyed to identify their TOD-supportive activities as well as to determine their perspective on state-level involvement in TOD. These agencies were selected because they are known to be active in promoting TOD and to obtain viewpoints from a diversity of geographic contexts.

3.3.1 Metropolitan Planning Organizations

MPOs are situated politically and geographically to easily promote TOD. Many MPOs control a large portion of the state transportation funds and, therefore, often have more resources available to fund programs than state DOTs. Although few have any direct authority over land use planning, MPOs nevertheless represent an entire metropolitan area and are, therefore, positioned to coordinate with both local and state agencies. Five MPOs were contacted for this study:

1. Atlanta Regional Council (ARC) – Atlanta, Georgia;
2. Delaware Valley Regional Planning Commission (DVRPC) – Philadelphia, Pennsylvania;
3. Metropolitan Council – Minneapolis-St. Paul, Minnesota;
4. Metropolitan Transportation Commission (MTC) – San Francisco Bay Area, California; and
5. Puget Sound Regional Council (PSRC) – Seattle, Washington.

All five of the MPOs reviewed have designed specific programs supportive of local efforts to create plans that incorporate the principles of TOD. The most common strategies have included funding, outreach, and technical assistance. Most MPOs surveyed have allocate Federal and/or state transportation funds – and sometimes other state resources – to support TOD planning and implemen-

tation. For example, ARC's Livable Centers Initiative (LCI) allocates Federal transportation funds to local governments and select nonprofit organizations to create plans that link transportation improvements with land use strategies. Planning funds total $5 million over five years, while up to $350 million is being made available for implementation.

DVRPC administers the Transportation and Community Development Initiative. This program supports planning, market analysis, project and site design in designated areas that have experienced economic decline and disinvestment with the goal of reversing those trends. Enhancement and better utilization of the existing transportation infrastructure is one of the main objectives of the program. Therefore, communities with existing transit stations are prioritized.

MTC began funding local planning and technical assistance projects with a TOD component in 1998 through its Transportation for Livable Communities (TLC) program. In 2000, MTC added the Housing Incentive Program under TLC, which rewards local governments that build housing near transit stops. The funds can be used for transportation capital projects such as improved sidewalks and crosswalks linking housing, transit facilities, and other community resources.

Since the late 1990s, the Metropolitan Council has administered state funds through the Livable Communities Demonstration Account to support demonstration projects that are residential or mixed-use models for smart growth in all parts of the region. Although TOD is not a requirement for funding, the existence of transit service is a consideration when awarding grants. These funds are available on a competitive basis for capital improvement projects. The Council typically awards about $6 to $7 million annually in the seven-county region.

PSRC recently completed its Transit Station Communities Project, funded in part by grant through FHWA's Transportation and Community and System Preservation Pilot Program (TCSP). This program takes advantage of expanding transit service throughout the Puget Sound region by capitalizing on future investments. The program included two components: a Regional Coordination and Awareness Campaign to help inform local governments, transit agencies and the public about the benefits of TOD; and a Local Technical Assistance Program to help selected local communities move towards TOD implementation through assistance with station area profiles, market analyses, community charrettes, visualization techniques, and other activities.

In addition to funding and technical assistance programs, some MPOs are adopting other strategies in their efforts to promote TOD. For example, MTC adopted a TOD policy in July 2005. Goals of the policy include improving the cost-effectiveness of new transit expansion, addressing the region's housing shortage, creating new vibrant communities, and helping to preserve open space. The policy is intended to ensure that all stakeholders, including transit agencies, local governments, private sector partners, and residents will collaborate to create development patterns that support transit. In addition to providing funds for planning activities as described above, the policy creates corridor-based working

groups and establishes corridor-level thresholds to quantify minimum levels of development around transit stations in expansion projects. The housing density thresholds are linked to transit mode requiring greater density around more capital-intensive modes. To address the issue of a lack of affordable housing in TOD, below-market units are weighted more heavily in the averages. Existing stations that do not meet the threshold requirements will be given priority for funding to conduct station plans that will boost density.

DVRPC published a TOD resource report, *Linking Transit, Communities, and Development: Regional Inventory of Transit-Oriented Development Sites.* In addition to background information on TOD implementation and funding techniques, the study provides an inventory of potential TOD sites throughout the region. The 45 station profiles contain information on access, ridership, level of service, land uses, and development opportunities. This resource is intended to facilitate TOD by providing much of the information that private developers would otherwise have to collect when considering a particular project.

Most MPO staff interviewed for this study felt that their respective state DOTs were supportive of TOD efforts, and confirmed that most DOTs participate in planning initiatives. MPO staff acknowledged that it can be difficult for DOTs in states with geographic diversity to focus too many resources on transit-related activities. However, any state-sponsored activity can lend legitimacy to the cause of TOD and, therefore, help efforts on the regional level.

Some DOTs have provided funding for studies and/or have sponsored TOD-related workshops for public sector and private sector employees. New Jersey DOT has worked with DVRPC to sponsor a "TOD marketplace," bringing together municipalities, transit agencies, and private developers that have an interest in TOD. This type of event provides a forum for an exchange of information, and offers opportunities to facilitate the public-private partnerships that often increase the feasibility of TOD. Another area where MPOs acknowledged support from state DOTs was in their policies allowing for context-sensitive design and solutions. Many states have recently produced new streetscape design manuals offering greater flexibility to support transit service and pedestrian-friendly environments, rather than simply adhering to traditional level of service standards.

MPO staff identified a number of areas where states could offer more support. Additional funding for studies, plans, workshops and other supportive activities is one often-mentioned area. A few MPOs mentioned that the transfer of state highways to regional or local governments would facilitate corridor-level planning with TOD concepts, by allowing more flexible roadway design policies or relaxed functional classifications to be applied, or by speeding up redesign projects that may not be on the State's priority list. One MPO would like to see a shift in transit investment planning from one driven by existing transit markets, to one emphasizing the identification of strategic corridors followed by the investment in a transit-oriented environment. PSRC cited the difficulty with a Washington State regulation that restricts public money from being utilized to

aid private entities. This complicates the formation of public-private partnerships and other coordination efforts that make TOD more feasible.

3.3.2 Transit Agencies

Transit agencies are a direct beneficiary of TOD when it serves to boost transit ridership or generate revenue for the agency through the sale or lease of property. Four transit agencies were interviewed for this study:

1. Regional Transit Authority (RTA) – Chicago, Illinois;
2. TriMet – Portland, Oregon;
3. Triangle Transit Authority (TTA) – Raleigh-Durham, North Carolina; and
4. Washington Metropolitan Area Transit Authority (WMATA) – Washington, D.C.

WMATA and TriMet have taken a very active role in promoting TOD by getting involved in real estate development. Both agencies have found it lucrative to sell properties adjacent to transit stations (e.g., park-and-ride lots) to private developers for conversion to TOD development. WMATA has proactively purchased the land around new transit stations and worked with local land use authorities to ensure that TOD-supportive zoning regulations and other policies are in place to promote mixed-use and high-density development.

Another technique, utilized by Chicago RTA in their Regional Technical Assistance Program, is to promote specific station area planning through funding and technical assistance. This program offers resources to local communities with a public transit station (bus or rail) to conduct station area planning. These plans must integrate the transit facility, but are not required to adhere strictly to the principles of TOD. RTA allows local communities to determine for themselves how to develop, but notes that most communities do end up with a TOD plan. Even in greenfield development sites, many towns are interested in creating a mixed-use "downtown" around their transit stations.

TTA in Raleigh-Durham has been working toward integrating transportation and land use for the past decade in support of a regional rail system, currently under construction, utilizing diesel multiple unit technology. The transit agency has created TOD guidelines for station area development, published a Livable Communities brochure, and reviewed development potential in station areas. In 2005, the transit agency hired a master developer team to create mixed-use developments where opportunities exist around the 12 stations in the initial 28-mile segment. TTA's goal is to boost ridership on the new transit system while simultaneously harnessing the economic benefits of the new infrastructure investment for the entire region.

The transit agencies interviewed for this study reported that, for the most part, state DOTs are supportive of TOD, although not heavily involved in the actual planning activities on the local or station area level. More common is participation on advisory committees, evaluation of plans, and the funding of TOD stud-

ies. In some instances, DOTs have made land available for TOD. Generally, the transit agencies reported that DOTs are open to new ideas and willing to be flexible when it comes to context-sensitive design principles.

There are some areas where state policies can restrict or create barriers to TOD. TriMet reported that there is an inherent inconsistency between one Oregon DOT policy and the efforts of the transit agency. ODOT is pursuing a policy that would allow them to have control over all land use decisions and regulations within a half-mile radius of a freeway interchange. In an effort to curb the use of freeways for local trips (thereby reducing congestion and subsequent road expansion needs, etc.), ODOT is attempting to limit development around the interchanges. However, in situations where a transit station is located within the half-mile radius, there is an understandable conflict.

In situations where DOTs have not been involved, transit agencies are looking for collaboration and support. Providing more funding for station area activities and promoting transit expansion over highway expansion were two other efforts that transit agencies mentioned as useful in the promotion of TOD.

3.3.3 Local Governments

Land use decisions and regulations fall within the purview of local governments. Therefore, municipalities (and counties) often have the most influence over TOD. A brief survey of four municipalities and two counties for this study revealed that partnerships with transit agencies, MPOs, and state DOTs can be crucial to successful TOD implementation at many stages in the process. Representatives of the following local governments were interviewed for this study:

- Arlington County, Virginia;
- Charlotte, North Carolina;
- Hennepin County, Minnesota;
- Houston, Texas;
- Minneapolis, Minnesota; and
- San Diego, California.

Each local government is active in promoting TOD, but together they represent a wide range of strategies and history of involvement. Some programs specifically spell out "TOD" as a goal, while others support the main principles for urban centers, whether or not they have a transit station.

Charlotte, Hennepin County, Houston, and Minneapolis have been working in recent years to plan for and implement TOD in conjunction with light rail lines either recently opened (2004) or under construction. Charlotte initiated planning in advance of its first light rail line (the South Corridor line, currently under construction), adopting station area policies, plans, and transit-supportive zoning in the vicinity of proposed stations. The city's plans are consistent with a "wedges and corridors" transportation and land use vision established for the region in

the 1990s. The city also has purchased land for the purpose of TOD, and has adopted a new street classification system that better supports pedestrian-friendly urban environments. To facilitate cooperation between the city and the transit agency, both have designated TOD coordinators on staff.

Houston recently completed its first light rail line, the Main Street Corridor, and is undertaking the design process for two additional lines. The city is incorporating TOD in new downtown, corridor, and station area development plans and currently is planning for its first multimodal transit center. Since rapid transit is new to the area, the concept of TOD is still gaining ground. As an additional challenge, Houston has no zoning throughout the city, so typical TOD zoning overlay techniques are not applicable. The city has created coalitions centered around each corridor – involving the transit agency, corridor institutions, other major property owners, business leaders, and community groups – to devise a strategy to best support the new transit lines through land use and urban design. For the Main Street Corridor, this involved creating a master plan and implementation plan for the corridor, as well as funding urban design strategies such as pedestrian improvements and landscaping.

Minneapolis, through its city's Community Planning and Economic Development Department (CPED), established a station area planning process to create small area plans for the half-mile radius around transit stations on the Hiawatha light rail line, which opened in 2004. CPED has undertaken a number of efforts to support implementation of the plans, such as applying pedestrian overlay zones and funding joint development activities. Hennepin County (in which the City of Minneapolis is located) established a TOD grant program for local public agencies in the county. The program has been in place since 2002 and disperses $2 million per year for qualifying TOD projects in transit corridors. Starting in 1996, the county's Community Works program also has led corridor-based programs to plan for more transit-supportive development along existing major bus corridors as well as rail station areas.

Arlington County and San Diego, with transit systems dating to the 1970s and 1980s, have a much longer history in TOD promotion. Arlington County is well-known for its TOD efforts along the Rosslyn-Ballston WMATA Orange Line corridor. Since the 1970s, the county has been successful in creating and sustaining a TOD vision and implementing policies to support this vision. The result has been significant quantities of high-density, mixed-use development in four contiguous station areas, with densities stepped down to transition into neighboring residential areas.

San Diego has adopted a "City of Villages" strategy in its general plan to accommodate projected growth. The objective of this strategy is to focus new mixed-use development (including housing, employment, schools, and civic uses) in areas where high levels of activity already exist. The plan also calls for connecting these villages with an improved transit system to support the new development. The plan supports efforts by the region's transit agency to expand

its light rail system as well as implement enhanced bus service along selected corridors.

Local government respondents noted that their respective state agencies are involved cooperatively in TOD activities on a variety of levels. Some states have provided funding for capital improvements, or related studies. A few of them have enabled the transfer of streets from state to city ownership to enable the implementation of context-sensitive solutions around transit stations. In Arlington County, where corridor planning involves a number of municipalities, VDOT has been important and influential in helping the group of governments to come to a consensus on how to deal with a specific decision. In this way, VDOT has indirectly supported TOD even though the agency does not have any specific policies or programs directed at TOD.

The municipalities interviewed listed a number of ways in which state agencies could become more involved in TOD promotion. All local government staff interviewed mentioned the need for more funding. Minneapolis and Hennepin County staff mentioned that more flexible funding and state money for local infrastructure projects, and a greater emphasis of the administration on transit priorities, would greatly increase the ability for TOD projects to be fully realized. In addition, a focus on development criteria rather than just transportation criteria in station siting and design would be helpful. From the perspective of Minneapolis and Hennepin County, Mn/DOT's upper-level management has not shown support for transit in general and specifically TOD, slowing the process of project implementation. The cabinet level status of transportation in state government makes it subservient to the current administration's policy agendas, which, recently have focused primarily on highways rather than transit.

Some agencies also mentioned that a shift in philosophy from state agency leadership and staff is needed. In Virginia, for example, the prevailing viewpoint remains that transportation is a state issue and land use is a local issue. Without a shift in this viewpoint, it will be difficult for TOD to achieve state support and reach its full potential.

3.3.4 State versus Local Perspectives

It is interesting to compare responses by state agencies with perspectives provided by local and regional agencies. In some cases, state DOTs felt that they were being supportive of TOD (even if not actively promoting it), while local agencies disagreed with this assessment. In other cases, local agencies noted instances in which state DOT policies or actions did support their TOD efforts, but these actions were not explicitly identified by DOT staff.

A primary reason for this discrepancy is probably the large and complex organization of state DOTs, which may be involved in or affect TOD at many different levels. For this research effort, resources permitted only one or two staff at each agency to be interviewed – usually central office planning directors or staff. Especially without a formal agency TOD policy or program, planning staff may

not have considered specific policies or actions as being either supportive or unsupportive of local TOD efforts. They also may not be aware of specific activities in other offices (e.g., engineering/design, environmental, real estate, and district level) that may have directly or indirectly supported (or not supported) local TOD efforts.

3.3 SUMMARY OF FINDINGS

As this review and Table 3.3 have demonstrated, state DOTs are undertaking a variety of activities to promote TOD. Table 3.4 summarizes the extent of these activities as well as the activities undertaken by MPOs, transit agencies, and municipalities surveyed. Activities are classified as those through which the agency is directly supporting TOD (D), or those through which the agency is indirectly supporting TOD (I).

This review also confirms that DOTs who are supporting TOD view it as being consistent with their agencies' missions. Benefits include reducing vehicle-travel demand and long-term highway capital investment needs; increasing transit ridership and the productivity of transit investments; improving mobility for transit travelers; and supporting local economic development through transportation investments. Some agencies also have identified internal benefits such as improved relations with local communities and improved guidance for engineers in project prioritization, as a result of enhanced planning processes. State agencies with surplus property in transit station areas have directed its redevelopment to support transit, at the same time generating revenue for the agency.

The reluctance of many state DOTs to become more heavily involved in TOD often stems from the view that land use is not an area in which the state can exercise authority, or is not part of the transportation agency's traditional responsibility. Yet other agencies' experiences demonstrate that state agencies, including the DOT, can successfully become a participant in land use planning and decision-making without usurping local authority. Strategies such as establishment of planning partnerships, provision of technical resources, and prioritization of financial support have all been successfully applied by DOTs, and have actually helped to strengthen relationships with local communities, rather than undermine them.

Some of the common (and interrelated) factors that appear to have supported greater levels of state DOT involvement in promoting TOD include:

- Political and administrative leadership (especially from the state governor's office and/or the DOT administrator) in support of transit as well as "smart growth" principles in general, including TOD;
- Strong interest at the local level, among citizens as well as local governments and elected officials, in TOD, smart growth, sustainable development, etc.;
- A culture within the state that is supportive of, or at least open to, the concept of planning;

- Historical levels of state involvement in planning issues, including land use and environmental planning and development review; and
- State agency responsibility for transit planning (for example, Florida and Maryland both have transit modal divisions, meaning that they have a more direct interest in TOD).

These factors appear to have been strongest in many of the coastal states, especially the Mid-Atlantic and West Coast states, as well as Florida. Nevertheless, recognition of the importance of linking transportation and land use planning, including strategies such as TOD, is spreading throughout the country. This is true not only in areas facing rapid growth pressures in the south and west, but also in areas grappling with continued suburban growth and urban vitality issues in the northeast and Midwest.

State DOT staff themselves, as well as staff at MPOs, transit agencies, and local governments involved in TOD planning and implementation, also have offered numerous suggestions for how state agencies can better support the realization of TOD. These recommendations will be discussed in detail in Section 4.0.

Table 3.4 Ways in Which Transportation Agencies Have Supported TOD

	State or Metro Area	Agency	Change Agency Policies and Practices	Establish Partnerships	Conduct Education and Outreach	Advocate State Legislative/ Policy Changes	Provide Technical Assistance	Lead Support Planning Efforts	Fund TOD-Supportive Transportation Improvements	Assist with Land Purchase and Sale	Sponsor Research, Decision Support Tools
Actively Promoting TOD	States										
	California	Caltrans	I		D	D				D	D
	Florida	FDOT	I		D			D		D	D
	New Jersey	NJDOT	I	D	D		D	I	D		D
	Maryland	MDOT	I	D			D	D	D	D	
	Washington, D.C.	DDOT		D		D		D	D		
TOD Legislation	Massachusetts	EOT	I	D					D		
	Oregon	ODOT	I		D	I	D	D			
	Pennsylvania	PennDOT		D	D		D	D	D	D	
	Washington State	WSDOT	I	D					I		D
Supportive of TOD	Colorado	CDOT		I							
	Illinois	IDOT	I				I	I		D	
	Minnesota	Mn/DOT	I					I			I
	MPOs										
	Atlanta	ARC		D	D			D	D		
	Philadelphia	DVRPC		D	D			D			
	San Francisco	MTC		D	D			D	D		
	Seattle	PSRC		D	D		D	D			
	Minneapolis/St. Paul	Metropolitan Council						I	D		
	Transit Agencies										
	Chicago, Illinois	RTA		D			D	D			
	Portland, Oregon	Tri-Met		D				D		D	
	Raleigh-Durham, North Carolina	TTA		D	D			D	D		
	Washington, D.C.	WMATA		D				D		D	
	Municipalities										
	Arlington, Virginia	Arlington County		D				D	D		
	Charlotte	City of Charlotte	I	D				D	D	D	
	Hennepin County, Minnesota	Hennepin County					D	D	D	D	D
	Houston	City of Houston		D				D	D		
	Minneapolis	City of Minneapolis		D				D	D		
	San Diego	City of San Diego		D				D	D		

D = Direct.
I = Indirect.

4.0 Recommendations

4.1 What Role Can a DOT Play in Supporting TOD?

The findings from this research suggest that there are a variety of actions that state DOTs can take to effectively support TOD. The actions described here typically fall within the mission of a state transportation agency, and support the actions of other agencies (including transit agencies and municipalities) that are working to change land use and development patterns to support transit. Some roles that a DOT can play include:

- **Catalyst –** Especially in places in which there is no local champion, the state can take the lead in demonstrating the transportation and other benefits of TOD; conducting education and outreach to local jurisdictions, the private sector, and other parties regarding these benefits; and sponsoring pilot projects to demonstrate the viability of TOD.
- **Facilitator/Resource –** Even where a local champion already exists, support from higher levels may be valuable or even necessary in bringing together all the stakeholders required to make TOD a success. The DOT can provide technical tools and resources to help transit agencies, neighboring local jurisdictions, the private sector, and the public work together to bring TOD visions and concepts to reality.
- **Enabler –** Existing DOT or other state agency policies and practices may, often inadvertently, stand in the way of local efforts to achieve TOD. The DOT can reevaluate and revise its policies and practices to better help localities achieve their land use objectives. As a state-level agency, the DOT also can bring together other state agencies to coordinate investment policies and other efforts to ensure that they collectively support TOD (e.g., by focusing investment in defined priority areas), rather than working independently or at cross-purposes.

The next section recommends and describes a range of actions that state DOTs can take to promote or facilitate TOD. It is important to stress that there is no "one-size-fits-all" approach appropriate to every agency. A particular state's approach may depend upon a variety of factors. There are, however, some common types of actions that each state should consider when evaluating how it can best support TOD.

4.2 RECOMMENDED POLICIES AND ACTIONS

4.2.1 Establish TOD as a Priority and Review Needs

The first step any agency should take to support TOD is to establish that TOD is a priority for the agency – and to direct agency resources to support this priority. Leadership from the executive level is typically required to make such a statement. The agency may wish to establish a formal or informal policy statement identifying why the agency supports TOD, and will need to designate staff resources (whether expanding existing staff responsibilities or creating new positions) to study and implement TOD-supportive policies and actions.

The next step should be to identify the most significant actions that may be required to help facilitate TOD within the state. In particular, the agency should:

- Conduct outreach to stakeholders (agency staff, transit agencies, MPOs, local jurisdictions, etc.) to identify the most significant actions that are needed to support TOD. This outreach should examine the extent to which TOD has already taken place, TOD-supportive efforts already underway by other agencies, and significant barriers to TOD that continue to exist; and
- Review its own policies and practices to assess the extent to which they already support (or do not support) TOD. This review should include factors such as the agency's mission, vision, goals and objectives; state design guidelines and standards; process for approving design variances; funding policies and practices; long-range plan and STIP project selection criteria; and internal and external training practices.

4.2.2 Revise Agency Policies and Practices

The DOT may determine from its review that it needs to change agency policies and practices to be more supportive of local TOD efforts. Examples of policy changes may include:

- Adopting a formal agency policy supporting TOD, directing agency staff to work in support of TOD efforts, and identifying how they can do so (e.g., participating in local planning activities, prioritizing projects that support transit access, granting design variances in accordance with agency policies);
- Adopting TOD-supportive policies, goals, and objectives in the statewide long-range transportation plan;
- Adopting Context-Sensitive Solutions and Context-Sensitive Design policies, revising project development and design manuals and standards accordingly, and conducting internal and external training on these policies and practices;
- Directing agency design staff to apply greater flexibility in project design practices (for example, to allow reduced lane widths in exchange for wider

sidewalks or bicycle lanes along state highways in transit corridors), and streamlining the variance review process;

- Relaxing traffic impact standards in designated areas with high levels of transit service, and/or ensuring that transit and nonmotorized mode use is accounted for when estimating trip generation from new development;
- Allowing flexibility in the use of state transportation funds (e.g., for local street improvements in station areas);
- Adopting policies allowing state roads to be turned over to local governments (or "traded" for other highway segments) under appropriate conditions;
- Adopting "fast-track" project development and review procedures for minor infrastructure improvements that support TOD; and
- Adopting project prioritization criteria that support TOD (or working with MPOs to adopt such criteria), for example:
  - Prioritizing roadway, bicycle, and pedestrian projects that support TOD projects;
  - Considering TOD potential as a criterion when deciding to fund transit capital investments or expanded operations; and
  - In the alternatives analysis process, selecting corridor and station options based on TOD potential.

4.2.3 Establish Partnerships

The environment for TOD implementation is complex, and TOD rarely succeeds on a broad scale through the action of only one person or agency. The state DOT can facilitate TOD by:

- Establishing partnerships with other state agencies (e.g., planning, housing, economic development, and environmental) to align and implement state policies and programs in support of TOD;
- Establishing partnerships with MPOs, transit agencies, and/or local jurisdictions to implement TOD-supportive activities and programs; and
- Ensuring that key stakeholders relevant to land use planning and implementation are included as partners in transportation planning activities (e.g., planning and zoning officials and staff, housing and economic development program coordinators, business associations, developers, public works staff, and state resource agencies).

In some cases, strong partnerships may already have been created through the action of another facilitator agency, such as a transit agency or MPO. In this case, the DOT can support such partnerships by taking an active part in them, and by using its state-level status to reach out to and involve other state agencies.

4.2.4 Conduct Education and Outreach

Especially in regions where TOD concepts are not already widely understood, the DOT can lead or support education and outreach efforts to explain TOD principles and benefits. Examples include:

- Creating guidance for DOT staff on how and why they can support local TOD activities;
- Creating TOD or adapt reference resources (e.g., a TOD database, "how-to guides," pedestrian design guidelines, a web clearinghouse) for agency staff, local jurisdictions, developers, the public, and others that are specific to state and local conditions; and
- Conducting forums, workshops, and other forms of training and outreach on TOD principles and implementation strategies.

States should be aware that much has already been written about TOD, including its principles, benefits, and success factors. Simply writing a TOD manual or guidebook is unlikely, by itself, to cause TOD to happen. DOTs can still help, though, by identifying and/or customizing resources appropriate to local conditions. Before developing educational resources, the DOT should consult both internal and external stakeholders to identify specifically what types of resources are lacking and what would be most valuable.

4.2.5 Advocate for State Legislative and Policy Changes

The agency's review of existing policies and practices may identify state-level legal and policy constraints that inhibit the DOT's ability – or the ability of other agencies, such as transit agencies – to support TOD. DOT leadership can advocate for state legislative and policy changes to support state and local TOD efforts, such as:

- Providing joint development authority or the authority to acquire and hold land for nontransportation uses (including for the DOT and/or local transit agencies);
- Allowing the use of state transportation funds for local street improvements;
- Eliminating "one-for-one" replacement policies for station area parking displaced by new development; and
- Changing tax policy to encourage TOD (e.g., creating greater incentives for high-density development by shifting property tax rates from building value assessments towards land value assessments.)

4.2.6 Provide Technical Assistance

Local jurisdictions, transit agencies, and MPOs may sometimes want to pursue TOD opportunities, but lack the resources or knowledge for how to make this happen. The DOT can fill a technical assistance role by:

- Hiring or designating existing agency staff with land use planning and real estate development expertise who can assist local jurisdictions with TOD planning and implementation issues;
- Designating staff to help local jurisdictions and other TOD partners navigate state funding programs, prepare applications, etc.;
- Sponsoring peer exchanges to introduce staff to best practices at other agencies; and
- Providing TOD implementation assistance, e.g., for traffic impact analysis or for appropriate design and traffic mitigation measures such as parking management, car-sharing, and other travel demand management (TDM) programs.

4.2.7 Undertake or Support Planning Efforts

Corridor and station area planning has been demonstrated to be one of the most effective ways of facilitating TOD. The outcome of a strong planning process is a community-supported plan that reduces risk for developers and leads to supportive actions, such as infrastructure investment and zoning changes, by other stakeholders. The DOT can facilitate or support planning by:

- Funding pilot projects demonstrating a cooperative and broad-based process for station area or corridor planning;
- Leading or providing funding for transit station area or corridor planning efforts on a broader scale;
- Integrating land use issues, including transit-oriented design and accessibility, into corridor or area-level transportation studies already being conducted by the DOT;
- Conducting transportation-specific planning studies (e.g., pedestrian improvement studies) that support station area or corridor land use plans;
- Participating in other agencies' planning processes at an early stage, to identify and help resolve any issues or concerns that the DOT might have;
- Helping MPOs match Federal planning funds (PL) that the MPO might use for TOD planning; and
- Helping fund New Starts and other transit studies and applications that involve consideration of TOD.

4.2.8 Fund Transportation Improvements

Funding for infrastructure projects can be a strong incentive for local jurisdictions to plan for and implement TOD, and can play a key role in making TOD financially viable. A DOT can provide designated funding for TOD-supportive transportation improvements, such as bicycle and pedestrian access to transit, structured parking, or station-area streetscaping. The funded improvements

should be consistent with an established plan for the station area or corridor that identifies priority improvements and needs. In addition to infrastructure improvements, the DOT may also fund transportation programs that reduce vehicle travel and promote transit use, such as car-sharing and worksite-based travel demand management programs.

4.2.9 Assist with Land Purchase and Sale

Often, one of the major barriers to TOD – especially in urban infill and redevelopment areas – is the availability of contiguous parcels that are large enough to support commercially viable redevelopment projects. In addition, state agencies may sometimes own significant parcels of land (such as excess right-of-way, underutilized park-and-ride lots, or other surplus property) that can be used for TOD purposes. DOTs can assist with land purchase and sale by:

- If state authority exists, acquiring and holding land in planned or existing transit station areas with the intention of selling or leasing this land for TOD;
- Selling or leasing underutilized state-owned land around transit stations to developers or to other public agencies, and establishing specific criteria for TOD on the site as a precondition for the sale or lease; and
- Exploring innovative (and possibly untested) strategies such as bringing landowners into a development partnership to share in development revenues, thereby aligning interests while avoiding the need for eminent domain or large-scale public expenditure for land assembly.

Development on a specific site should be designed not only with consideration of access to the transit station or stops, but also with consideration – through a station area, corridor, or neighborhood planning process – of its relationship to other development and infrastructure improvements planned for the area.

4.2.10 Sponsor Research and Decision Support Tools

Finally, the DOT may find that there is strong local interest in TOD but also that there are many questions or concerns – from DOT or local transportation agency staff, as well as the general public – about its potential impacts and benefits. Examples of common concerns include the impact of a proposed TOD on traffic and parking; building density, form, and massing; displacement of existing residents and businesses; and potential tradeoffs between improvements to pedestrian safety and motor vehicle traffic flow. The DOT can help address these questions and concerns by:

- Sponsoring research that provides general information on TOD benefits and impacts (e.g., summarizing observed changes in transit use, local and regional VMT, congestion, air quality, and other impacts);
- Developing and/or applying decision support tools (e.g., travel demand model enhancements, visualization techniques, community indicator models)

that can provide better information on the impacts of specific station area proposals;

- Sponsoring market research to identify the potential for TOD in specific locations, the most viable forms of this development, and barriers to TOD implementation;
- Providing case studies of "best practices" on topics such as:
  - Parking provision and management policies that can help to mitigate neighborhood impacts while striking a balance between limiting supply (to promote transit use) and accommodating demand;
  - Transportation design that balances the need to create a pedestrian-friendly station environment with the need to provide motor vehicle access and mobility through the station area;
  - Tools to protect existing residents and businesses from displacement or to assist with relocation; and
- Supporting local jurisdictions in implementing these practices.

4.3 TAILORING TOD PLANNING FOR LOCAL NEEDS

The above recommendations represent a "laundry list" of practices that have already been implemented or considered by state DOTs as well as other state, regional, and local agencies. A particular state's approach, as previously mentioned, should depend upon the specific barriers and needs that exist to accomplishing TOD within its boundaries. Furthermore, the most appropriate approach may vary depending upon other factors such as:

- Philosophies of the existing political administration and agency leadership;
- Availability of financial resources to support TOD;
- The extent to which TOD has already progressed within the state;
- The geographic context of a state, including the size and density of its metropolitan areas as well as its smaller cities and towns;
- Market forces, such as population growth, demographic trends, and land prices, that determine the size of the potential market for TOD; and
- The state regulatory and policy environment, which may constrain what the state DOT can and cannot do.

The remainder of this section identifies common concerns that DOTs and other transportation agencies have about becoming involved in TOD, and identifies TOD-supportive strategies that can address these specific concerns.

"We support TOD in principle, but are strapped for funding."

A number of the TOD support strategies listed above can be implemented at very little cost. Low-cost strategies include:

- Adopting TOD-supportive policies, goals, and objectives;
- Conducting internal training for DOT staff on how to support local TOD efforts;
- Participating in planning processes led by other agencies;
- Changing project prioritization criteria to reward projects that support TOD;
- Integrating land use issues, including TOD, into transportation studies already underway or planned by the agency; and
- Sponsoring a limited number of TOD planning or implementation demonstration projects, that can serve as catalysts for other agencies to lead such activities.

"Our current administration has a fiscally conservative philosophy that focuses on regulatory streamlining and 'bang for the buck.' This has supported cost-effective TOD investments and is inherently a 'smart growth' approach."

– Nat Bottigheimer, former Assistant Director, Office of Planning and Capital Programming, Maryland DOT

When considering cost factors, agencies should also consider the potential long-term *cost savings* of conducting planning – such as TOD planning – that can reduce the need for major transportation investments by optimizing the use of existing transit and roadway investments.

"Our state has no fixed-guideway transit (or is mostly rural), so TOD isn't appropriate for us."

As states such as Florida have demonstrated, TOD concepts are just as important to support bus systems as they are to support rail transit. Supportable densities may be lower, but it is still important to have quality site and neighborhood design that orients buildings towards transit stops, creates a pedestrian-friendly environment, and includes a mix of uses that support walking trips in conjunction with transit access. Transit-supportive design improves mobility for transit dependents (elderly, children, low-income, and mobility-impaired individuals) as well as expanding transportation options for everyone.

The DOT's role in such situations may be less to facilitate specific projects or development opportunities, and more to promote awareness and implementation of transit-supportive design principles. This is especially important in corridors and areas that are well-served by transit, or are intended to be served

by transit in the future. The DOT can support the implementation of transit-oriented design practices by:

- Creating design guidelines or manuals to assist local jurisdictions in changing ordinances, developers in changing development practices, and DOT staff in recognizing transit-supportive design;
- Sponsoring planning studies for corridors with an emphasis on transit access improvements;
- Participating in local development review processes to review major projects and comment on ways in which transit access could be improved;
- Making the adoption of transit-supportive design provisions in local ordinances a requirement for providing transportation improvements that support new development or growth areas; and
- Making transit-supportive design (as well as consistency with any established access management plans) a requirement of obtaining access permits along state highways.

"Local jurisdictions don't want the DOT involved in land use."

While land use decisions are ultimately a matter of local authority, the state has a legitimate interest in these decisions in order to protect their investment in the transportation system, maximize mobility, safety, and other transportation benefits to the public, and minimize the need for costly future investments. Increasingly, state DOTs and local jurisdictions are realizing that they can both benefit from collaborative working relationships to plan for transportation and land use in a coordinated manner.

"Communities have had a very positive response to the [Florida] DOT addressing land use in corridor, neighborhood, and transit station area planning. They know that transit means land use and are happy to see proposals and studies from the DOT."

– Jeff Wiedner, Florida DOT District 5

If existing relationships are adversarial, the DOT may need to begin with small steps to reach out to communities and repair these relationships – for example, by supporting pedestrian improvements or "Main Street" initiatives in neighborhood and town centers. The DOT may offer to provide technical assistance in return for an invitation to participate in local planning. As relationships develop, the DOT can work with the community on identifying land use and transportation solutions that meet both local and regional objectives.

"People don't want high-density development, even around transit stations."

Neighborhood concerns over density and associated issues (traffic, parking, mixed income and demographics, etc.) are common when it comes to TOD proposals. Fortunately, much progress has been made in recent years in demonstrating that density, when combined with other design aspects of TOD, can have strong positive benefits to the community. Visualization techniques are becoming widely used by architects and planners to illustrate "good" density. Parking and traffic management techniques are available to minimize residential neighborhood impacts. Plans that preserve existing neighborhoods while allowing for redevelopment on opportunity sites can minimize fears about displacement. An inclusive planning process that includes extensive public outreach ensures that citizens' concerns are adequately addressed.

The state DOT can help address neighborhood concerns about TOD by:

- Sponsoring or assisting with the development of models and visualization tools to demonstrate impacts and help people make choices during the planning process;
- Providing technical or financial assistance for traffic and parking impact mitigation;
- Ensuring a strong public involvement component in DOT-led corridor and area planning efforts; and
- Working with zoning or permitting agencies to require developer sponsorship of demand management programs (such as car-sharing) to mitigate or eliminate adverse impacts of density on neighborhood parking.

"Project prioritization and selection is performed by MPOs, not by the DOT."

In metropolitan areas, project prioritization and selection is typically the responsibility of the MPO, not the DOT. The DOT is usually a player in this process, however, and may work with the MPO to create or enhance selection criteria that are supportive of TOD objectives. The DOT also is the sponsor of many of the projects included in the metropolitan plan and TIP, and can propose projects that are specifically intended to support TOD.

"Other people are leading the TOD charge here."

Many areas of the country – particularly those metropolitan areas with high levels of traffic congestion and high land values – are already seeing TOD practices work their way into the mainstream of local planning and private sector devel-

opment. In such situations, the best role the DOT might play is to evaluate its own policies and practices to determine the extent to which they may support or inhibit such efforts. In cases in which DOT practices (such as roadway design standards or funding priorities) can inhibit the creation of pedestrian-oriented transit environments, the DOT may wish to change these practices in ways that can better support local TOD efforts while still accomplishing state objectives of maintaining mobility and safety for all transportation system users.

> *"I'm a transportation professional, not a land use planner – land use isn't my responsibility."*

The job of a transportation professional is to provide maximum mobility and accessibility to the traveling public, as safely and efficiently as possible, with a minimum of community and environmental impacts. Land use patterns – as well as transportation systems – affect all of these factors. TOD can improve mobility and accessibility, especially for those who cannot or prefer not to drive, by making it easier to access transit as well as to walk or bicycle. TOD can also improve the efficiency of the transportation system as a whole by reducing VMT and increasing transit productivity. Finally, the involvement of transportation professionals in TOD and other land use planning activities can help ensure that land use decisions are made that maximize the transportation benefits of development patterns and make the most efficient use of scarce public resources.