

## Background

### Transit-oriented Development in the United States

#### Theory

TOD projects can help achieve a variety of economic, social and environmental objectives, which include the following:

#### *Economic*

- Transit-oriented development seeks to concentrate land uses close to the transit station and increase the number of transit users. To be economically viable, transit—particularly fixed guideway (light, heavy and commuter rail) transit—must have a sufficient number of people living and working near the stops or stations. For example, studies of the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system indicate that transit use declines by 0.65 percent for every additional 100 feet a potential rider lives or works away from a transit stop.
- Residential and commercial developments near transit appreciate more in value than other types of development. Commercial and office developments at transit facilities can rent for as much as an additional \$3.00 per square foot compared to similar developments elsewhere.<sup>1</sup> Further, office vacancy rates were lower and the share of regional economic growth was greater in jurisdictions where TOD projects have been successfully undertaken.<sup>2</sup>
- The greater economic benefits that TOD produces for the private sector translate into an increased taxable base for the public sector. TOD improves the return on the public investment in the transit system and increases the tax revenues for the jurisdictions in which the TOD projects are undertaken. During the first 20 years that Metrorail was open to the public, WMATA estimates that joint development projects undertaken within a mile of the transit stations added approximately \$2 billion in property value and higher commercial and retail rents.
- TOD projects can also slow, or even reverse, the financial drain that unchecked, auto-oriented low-density development can create on local fiscal resources. Low-density “greenfields” development requires the construction or continual expansion of expensive new infrastructure, particularly transportation, utility and sewer systems and school construction. Low-density residential development also entails considerable increases in



*Transit-oriented development concentrates and combines land uses that capitalize on the public investment in transit. Printed with permission from The Cordish Company.*

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<sup>1</sup> Center for Livable Communities: *A Policymaker's Guide to Transit-Oriented Development*.

<sup>2</sup> Center for Livable Communities: *A Policymaker's Guide to Transit-Oriented Development*.

annual public support costs to provide fire and police protection and to maintain streets and roads.

### **Social**

- Transit-oriented development can help redevelop declining communities and can stabilize mature neighborhoods that might otherwise decline as private development continues to concentrate on greenfield sites farther out. A number of jurisdictions that have undertaken successful TOD projects (see Best Practices) have used the substantial public financial commitment that transit represents to anchor major redevelopment and revitalization programs.
- Transit-oriented development can also provide a more diverse mix of housing, employment, shopping and recreation choices, all concentrated closer to transit and pedestrian alternatives that reduce reliance on the automobile. Concentrating land uses—particularly residential development—closer to transit provides alternatives to single-occupant automobile use. This is particularly important for the work commute. A better land use mix closer to a transit station makes it possible to live within walking distance of jobs, services and shopping. Nationally, experience indicates that implementing TOD projects as widely as possible in a metropolitan area can reduce annual vehicle trips by as much as 7 percent and annual vehicle miles traveled by up to 13 percent.<sup>3</sup>

### **Environmental**

- Automobile usage in the country and the region has outstripped both population growth and the development of technology that can reduce or eliminate harmful emissions. Auto emissions are arguably a major contributor to global warming and greenhouse effects that are adversely affecting the environment. In July 2002, the U.S. Environmental Protection Agency downgraded the Metropolitan Washington area from a serious to a severe non-attainment area. The reclassification imposes costly, far-reaching additional obligations on local jurisdictions throughout the region to comply with tougher emissions and pollution limits by 2010.
- Transit-oriented development improves existing patterns of land use, conserves scarce natural resources—particularly open space and agricultural land—and reduces automobile use and dependency.

### **Defining Characteristics**

There is no one definition of what constitutes “good” transit-oriented development. Successful TOD varies around the country and is not always the same even within the same

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<sup>3</sup> Center for Livable Communities: *A Policymaker’s Guide to Transit-Oriented Development*.

metropolitan area. However, most successful TOD can be characterized by planning that integrates land use and density, site design, parking, and accessibility into a specific vision of the project or development.

### **Land Use and Density**

- For transit to be viable, sufficient numbers of people have to live and work close to the transit stations. Residential densities of at least seven dwelling units an acre are needed to support line haul bus service at frequencies of 30 minutes. Residential densities of 9 to 30 dwelling units an acre are needed to support bus rapid transit and fixed guideway transit, such as Metrorail.<sup>4</sup> A minimum of 50 to 60 employees an acre—and a floor-to-area ratio (FAR) of at least 2.0—is needed to support rail transit. These densities have been appreciably lower in viable TOD projects at commuter rail terminal stations that feature mostly commuter-oriented office development.<sup>5</sup>
- Transit-oriented development consists of a mix of appropriate and complementary land uses that are a convenient, safe walking distance from each other and from transit service. The precise mix of uses will vary, depending on site characteristics, opportunities and the character of adjacent communities. Uses can also be mixed vertically, in the same structure, or horizontally, in different developments on the same parcel or site. A key goal is to mix and design land uses so that walking becomes a viable substitute for driving.
- Residential development is almost always an important part of the land use mix, particularly the uses to be located closest to transit. To be successful, however, residential development should be designed and scaled to reflect the prevailing character of neighborhoods near the transit station, at higher densities than those in communities nearest the station. The challenge is to “sell” the concept that high residential density and high quality development are both possible and achievable in the residential sections of TOD projects.
- Successful TOD is also characterized by a density gradient at the transit station that locates the highest density land uses closest to the station, within a quarter to one-half mile of the transit station. All transit users are pedestrians at some point during any trip they make, and most people will not walk more than one-half mile—approximately seven to ten minutes—to or from any form of transit service. The density gradient in a TOD project, therefore, must keep as many uses as possible within



*For TOD to work, there must be sufficient density of uses and activities to generate adequate transit ridership.*

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<sup>4</sup> Center for Livable Communities: *A Policymaker’s Guide to Transit-Oriented Development*.

<sup>5</sup> Center for Livable Communities: *A Policymaker’s Guide to Transit-Oriented Development*.

safe, convenient walking distance both of each other and of transit.

### **Site Design**

- Buildings should be placed near the sidewalk, and streets should be lined with trees and street furniture. This minimizes walking distances to and between buildings and creates a streetscape that encourages higher levels of pedestrian activity—particularly foot traffic in retail centers.
- Pedestrian-oriented retail uses should be located on the site’s major streets. Shops and services that are sited on the principal streets and roads attract foot traffic and can help create the dynamic activity patterns close to the transit station that TOD needs to be successful.
- Retail and office uses should have at least one entrance—preferably the main one—oriented toward and close to the street. This runs counter to the practice in most suburban developments, where buildings are customarily oriented toward the parking and are set back from the street. Clustering buildings at intersections, with their frontages close to the street line, improves accessibility to transit (particularly bus stops and shelters) and encourages foot traffic.
- There should be continuous, direct and convenient pedestrian linkages throughout the TOD project site. An integrated network of pathways is important to providing the travel options that define TOD. Further, the pathways should be supported by an integrated, continuous system of street rights-of-way.
- Cul-de-sac streets and “T” (dead-end) intersections should be avoided in TOD project site design. Where possible, particularly within a mile of the transit station, the street system should be a grid network. Both networks should provide safe, all-weather pedestrian and bicyclist linkages between the residential and commercial developments on the site and employment centers, transit service, schools and parks.
- Good road access is essential to successful TOD. However, streets in TOD areas should be sized and designed according to the functions they perform in supporting transit and development. Collector and primary residential streets should be sized to carry low to medium volumes of mostly local traffic, particularly in TOD projects with significant residential development. Major streets—particularly arterials—should be integrated into the grid street system and should be designed to accommodate the principal traffic flows to and through the project site. These higher volume streets require special landscaping and other treatments to minimize them as barriers to pedestrians and bicyclists.
- The street layout and network that is most suitable for TOD may require modifications of transportation adequate public facilities (APF) regulations. A certain level of traffic congestion is desirable in transit-oriented developments. The higher traffic volumes indicate that the transit station is attracting riders and that the

land uses around it are attracting residents, workers and shoppers. However, if congestion [traffic level of service (LOS)] standards do not account for the types of land uses best suited to TOD projects, APF regulations can have an unintended effect. These regulations can make it difficult to approve very-close-to-transit-stations, high-density development that TOD planning is trying to attract. Transportation APF standards, therefore, may have to be modified when applied to TOD projects. The road and street network in the station area, therefore, should be assessed for the ability to support the volumes and patterns of traffic that are particular to TOD.

### **Parking**

- Parking in a TOD site should be strictly rationed and carefully planned. Ideally, parking lots should be placed behind buildings and away from the street. The amount of land allocated to parking should be limited and located— or concentrated—outside the prime opportunity area, within one-half mile of the transit station entrances. Abundant parking close to transit encourages automobile use and makes transit and commuter rail a much less attractive alternative to driving in the first place. This makes it difficult to attract retail uses to the TOD site that depend on heavy foot traffic for their market. It also consumes land that would otherwise be devoted to productive uses or to open or recreational space.
- Wherever possible, parking should be in structure and the capacity shared by as many uses and activities on the TOD site as possible. Commuter intercept parking owned or controlled by the transit agency can often be shared with complementary uses, such as high volume retail and late hours entertainment, whose peak parking demand periods do not conflict with those of the transit agency.
- Parking reductions must be complemented by regular or improved feeder/shuttle bus service, by pedestrian and bicyclist facilities, and programs such as transit passes that provide commuters and shoppers at the project site with practical alternatives to driving their own cars. Both national and local experience suggests that the success of TOD often depends on effective innovative parking facility design and effective management of parking supply.



*Successful TOD almost always requires consolidated and shared parking, usually in structure. Shown: Parking at Market Commons, Arlington, Virginia.*



*Effective TOD planning integrates development with the transit system and with the adjacent street network.*

### **Accessibility**

#### **Transit**

- A network of interconnected streets is important for efficient bus circulation, particularly in larger TOD projects with significant amounts of residential or office development. The streets should have turning radii, widths and pavement depths, and on-street parking regulations that permit safe and efficient bus operations.

- Transit stops and transfer facilities at TOD sites should be well lit and should provide pedestrians with both furniture (plaza benches and park seats) and protection from inclement weather. Where possible, these facilities should be sited at, or combined with, other activity generators, such as day care centers, service retail outlets, convenience stores and cafes.

**Pedestrian**

- TOD sites should feature pedestrian amenities—street trees, public furniture, buffering landscaping—that soften the outdoor environment, increase pedestrian comfort and safety, and can symbolically elevate the place of the pedestrian and transit user in the built environment.
- TOD sites should accommodate bicyclists with a street network that links the transit station to other uses and activities in the site; secure storage facilities (particularly at the transit station); and, where possible, showers and lockers for those who opt to commute by bicycle.
- All buildings, facilities and walkways within the TOD project should also be accessible to persons with disabilities. More importantly, wheelchair and other ADA<sup>6</sup>-mandated access must be fully designed into the site and not provided as an architectural or design afterthought.
- Site design, particularly where TOD is being used for redevelopment, must also ensure that the environment is secure, deters crime and, just as importantly, is perceived that way by investors, developers and those who live, work or shop at the TOD site. This means creating “defensible space” by providing direct and unobstructed views of major destinations, entrances and walkways; ensuring that plantings, landscaping and street furniture do not create secluded areas throughout the site; and by planning access and public space as an integrated and heavily traveled network of streets and walkways. The frequent activity and around-the-clock atmosphere created by mixing and intensifying uses near a transit facility also contributes to the sense and perception of greater safety in a TOD environment.



*Arlington County provides several award-winning examples of best TOD practices.*

**Best Practices**

Successful TOD projects elsewhere provide working premises about how the public sector can most effectively undertake TOD planning. Some of the more salient premises and the jurisdictions that have employed them are summarized. Other best practices are summarized in Appendix C.

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<sup>6</sup> Americans with Disabilities Act.

***Study the market and be prepared to “sell” TOD early and often.***

TOD is usually more expensive, and a riskier investment, than conventional suburban (“greenfields”) development. Often the market for high quality, mixed-use development at a transit facility has to be developed through careful market analyses and aggressive, consistent efforts to make the available investment opportunities appealing to developers and financial underwriters.

- **Puget Sound, Washington Regional Council** hired an economic consulting firm to undertake an extensive analysis of the TOD most likely to attract private sector interest in light rail transit corridors in Seattle.

***Clearly define the transit-oriented development you are trying to attract. Be very sensitive to the particular characteristics and opportunities of each individual site.***

TOD is very site-specific. Each transit station area has unique opportunities and each area presents unique or particular problems that require innovative solutions and policies. Successful TOD projects are usually very closely tailored to the physical, socioeconomic and demographic particulars of the station areas and their adjoining communities.

- **Arlington County, Virginia**, developed two Metrorail Corridor Development Plans while the Metrorail system was still under construction. Each of these plans contained detailed evaluations of the TOD potential of communities nearest Arlington’s future Blue and Orange Line rail stations and concept studies of the most suitable joint development near each station.
- **Portland, Oregon**, developed a Transit Station Area Planning Program to determine the market potential for TOD at each light rail station, including “. . . planning for the urban fit of each project and the rezoning needed in each station area” to make TOD an attractive and consistent option throughout its light rail system (Max).
- **Seattle, Washington**, followed Portland’s example and undertook a similar “lead planning” program that assessed the TOD potential of each proposed station in its light rail system. Seattle paid particular attention to the mixes and densities of transit-supporting land uses that were most appropriate for the communities around each station.

***Be willing to wait. Be willing to “front” some of the investment needed to attract transit-oriented development.***

Transit-oriented development not only has to find a market, it must sometimes wait for its market. Real estate investment cycles are approximately 7-11 years long in most major metropolitan markets. To obtain the optimum development potential for a TOD site, the stakeholders may have to be prepared to wait for the

market to improve before they see profit-making opportunities at that site. While some interim development may be possible, or even desirable, at a transit station, successful TOD often results from a conscious policy by the local government to wait for the market. Further, the public sector may have to assist with site assembly and provide initial financing or other assistance to make the project area really attractive to the development community. The Metrorail system in this area has been in operation for only two full real estate investment cycles.

- **Arlington County, Virginia**, bypassed or rejected numerous proffers and development proposals for stations in its Metrorail Development Corridors, preferring to wait for the market cycle to attract developers who were willing and able to provide the mix and densities of land uses that were envisioned in its development corridor plans.
- **Montgomery County, Maryland**, also denied or deferred development proposals for the Bethesda, Grosvenor and Silver Spring Stations on the Metrorail Red Line, until the projects being proposed were consistent with the TOD that was envisioned in its comprehensive and local area plans.
- **San Jose, California**, used financial assistance from its redevelopment authority to attract developer interest in the residential development the city wanted at the **Ryland Mews** project.
- **Contra Costa County, California**, assembled land and wrote down the site preparation costs for the **Park Regency** project near the Pleasant Hill station on the Bay Area Rapid Transit (BART) system in the Bay Area. Its redevelopment authority provided tax-exempt financing for infrastructure improvements and for 664 of the 892 residential units in the project. The government also granted a density bonus to the developer for meeting the affordable housing and parking reduction criteria that were established for this station area.
- **Pasadena, California**, used redevelopment agency money to subsidize the retail portions of the **Holly Street** station development on the Los Angeles Metrorail Blue Line. The retail tenants in the development—which included 374 units of market-rate housing—were subsequently successful and the subsidies have been either reduced or ended.

***Land uses at a TOD site can be mixed vertically as well as horizontally.***

Transit-supportive land uses can be mixed within the same structure or building complex. Often this is the best solution to site constraints or is the most appropriate way to introduce TOD without unduly disrupting the aesthetic or architectural “fabric” of the adjoining communities. Vertically mixed uses can also provide a successful first phase on which a longer term, more complex TOD project might depend. Horizontal mixes of uses, where different activities are on different parcels in the station area, often can

involve land assembly or site preparation costs that developers may consider prohibitive.

- **Pasadena, California**, located residential development over commercial and office uses within the same structure in the **Holly Street** station project. The light rail station itself is also physically integrated into the structure.

***Innovative parking management is necessary to achieve the transit-supportive densities that TOD needs to be successful.***

Successful TOD projects often depend on innovative parking management. Parking management is particularly important in marketing residential development at transit stations. Developers are sometimes reluctant to agree to a parking cap or shared parking requirements, since these are usually thought to detract from the marketability of what is often up-market housing. However, experience with some TOD projects suggests that equitable and aggressive parking management, when undertaken with a major effort to market transit-oriented development's proximity to transit service, can be successful.

- **Arlington County, Virginia**, concluded a joint development agreement at the **Clarendon** Metrorail station that did not add any additional parking to the mixed-use development envisioned at this site. The county, WMATA and the developers felt that proximity to Metrorail and feeder bus service alone will enable them to rent the office and retail space in this project.
- **Contra Costa County, California**, set a limit of one parking space per residential unit for the **Treat Commons** development near the **Pleasant Hill** BART station. The 510-unit market-rate residential development contains only 551 parking spaces. The developer initially felt the parking cap was too strict and would be detrimental to efforts to market the development. The project has been completed, however, and was fully rented out within 18 months. The developer now regards the project's proximity to the BART mass transit system to be a major selling point for the project.
- **Oakland, California**, allocated less than one parking space for each of 150 residential units built in the **Fruitvale** transit-oriented development. Another 265 parking spaces are shared among the retail and office tenants in the project. The parking cap was part of a conscious policy of attracting single-car and no-car renters and homebuyers to this project. The residential cap was also justified on the grounds that the Fruitvale station is in a predominantly Hispanic neighborhood, where levels of car ownership, even among first-time homebuyers, are significantly lower than they are elsewhere along this BART transit corridor in Oakland.

***Community involvement and “buy in” is essential if transit-oriented development projects are to successfully incorporate density increases.***

To be viable, transit must have a sufficient number of people living and working close to it. However, there can be considerable community opposition to increased densities. Increased densities often are associated with unattractive multifamily housing tracts that are incompatible with lower density, single-family housing patterns.

Successful TOD projects vary in the amount, level, character and density of residential development they contain. However, in almost all successful TOD projects, the residential development (1) respected the fabric of adjacent communities<sup>7</sup> and (2) grew out of a systematic community involvement program that engaged the public in all phases of planning and execution of TOD projects.

The methods used in successful community outreach and involvement are as varied as the projects and the communities in which they are located. However, almost all the TOD projects that contain significantly increased residential density require the “host jurisdiction” to engage the developer and the adjacent communities. This engagement includes incorporating the community’s vision of itself once the TOD project has been completed. And, as a rule, the local jurisdiction must make sure the community “buys into” the implementation strategies and design guidelines that will ensure that the project, especially the increased residential densities, will respect the existing community.

- **Arlington County, Virginia**, began work on sector concept plans that would govern development of the areas immediately adjacent to its future Metrorail stations. The concept plans, taken together, formed parts of two Metrorail Development Corridor plans that were the principal means of attracting and planning TOD in the county. Arlington also requested that its stations be constructed closer together than elsewhere in the regional rail transit system, to ensure that the level of rail service would support the mix and density of land uses envisioned in each development corridor.

The sector concept plans were the subjects of extensive community scrutiny and comment. A number of community concerns about the proposed increases in residential densities, and about architectural and design standards, had to be resolved before the plans were accepted. The county made a top priority of honoring its commitment that all transit-oriented

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<sup>7</sup> The exception to this rule is where the local jurisdiction makes a conscious policy choice to completely redevelop the area adjacent to a transit facility. In such cases, residential densities can be planned from the outset at sufficient levels to support transit.

development would respect the prevailing character of the neighborhoods near each station. County planning staff provided at least three development options for each station and invited public comment in a process that included a community development task force and two years of public hearings.

From the work in the public comment phase, the county produced a *Long-Range County Improvement Program* and a *Rosslyn-Ballston Corridor General Land Use Plan*. Both documents included numerical targets for the additional residential and office development and densities located in each station area in each corridor. The plans included strict guidelines for preserving the prevailing character of neighborhoods near each station. The detailed sector plans that county staff produced from this effort had to be approved by the affected communities before they could be adopted.

- **Oakland, California.** The Spanish-Speaking Unity Council (SSUC) initiated talks with community representatives and organizations, prospective developers and local business owners about proposing a transit area redevelopment plan for the **Fruitvale** station in the BART system. The Council facilitated start-up talks involving the community, local developers and investors, the City of Oakland and the transit authority.

A public-private partnership was eventually formed to oversee the actual planning of the project. In effect, SSUC and BART acted as developers, and subcontracted site preparation and construction to private sector entities. Community representatives were involved in the leadership from the beginning. The community was also regularly consulted and asked to “buy into” the vision for the project as that vision evolved, and to review and approve the design and implementation details for the project.

The project covers 15 acres and eventually included 150 rental and condominium units, 120,000 square feet of ground floor retail space and 75,000 square feet of office/commercial space. Parking was kept to less than one space per residential unit as part of a conscious policy, proposed by the community, to market the residential units principally to individuals for whom “BART would be their first car, if not their only car.”

This policy was received with some skepticism at first by the developers and investors. They were eventually persuaded to accept the policy by a proposal to share parking, if necessary, with the retail and commercial (office) development. They were also given assurances that BART would maintain transit service frequencies at levels that would make proximity to rail service a positive in marketing the residential units.

## Transit and Transit-oriented Development in Prince George's County

Transit-oriented development is one of the principal strategies for implementing the growth and development policies of the General Plan.

### Transit

#### *Metrorail*

Planning, building and operating the regional rapid transit (heavy rail) system—**Metrorail**—is the principal function of the Washington Metropolitan Area Transit Authority (**WMATA**), which was created by interstate compact<sup>8</sup> in November 1966. (Congress subsequently ratified an amendment that permitted WMATA to acquire four area bus companies and establish what is now a regional **Metrorail** system.)

The WMATA Compact envisioned a regionwide rail system—the Adopted Regional System (**ARS**)—that covered 103 miles and included 83 stations. The system serves a 1,500-square-mile area containing a population of 3.5 million. Approximately 16 percent of Metrorail system mileage and stations<sup>9</sup> are located in Prince George's County. One of every six Metrorail riders board or alight in Prince George's County.

Metrorail service was inaugurated in Prince George's County on November 20, 1978, with the Orange Line extension to **New Carrollton**. The Blue Line opened to **Addison Road** in November 1980; the Green Line opened to the **Greenbelt** terminal in December 1993. The extension of the Green Line to the **Branch Avenue** terminal in January 2001 marked the completion of the **ARS**.

Metrorail's first extension of the Blue Line will open to the public in late 2004 and is located in this county.<sup>10</sup> All 13 currently active Metrorail stations are located inside the Capital Beltway, in the part

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<sup>8</sup> Compact Signatories: The **District of Columbia**, and the **State of Maryland** and **Commonwealth of Virginia**, whose Governors signed on behalf of their local jurisdictions in the Metropolitan Washington area.

<sup>9</sup> County percentages of the system mileage and stations increase slightly, to 19 percent and 17 percent respectively, in 2004 when the extended Blue Line stations—**Morgan Boulevard** and **Largo Town Center**—open in the county.

<sup>10</sup> The county could also be home to half of the first **light rail** system in the Metropolitan Washington region. WMATA and the **Maryland Department of Transportation** (MDOT) are jointly conducting the alignment analysis, design and engineering for the proposed **Bi-County Transitway** (formerly the **Purple Line**) from New Carrollton to Bethesda.

of the county designated as the **Developed Tier** by the General Plan.<sup>11</sup>

Ridership at 9 of the 13 county Metrorail stations does not yet exceed station operating capacity.<sup>12</sup> The transit authority estimates that the county segments of the system can absorb approximately 31 percent of Metrorail's remaining ridership capacity (core capacity constraint<sup>13</sup>). Transit-oriented development in Prince George's County will therefore have greater potential for increasing Metrorail ridership—a principal objective of TOD—than would similar projects located at other suburban Metrorail stations that are already operating at capacity.

Further, the Blue Line extension to **Morgan Boulevard and Largo Town Center** Stations provides opportunities to incorporate into TOD planning some of what has already been learned elsewhere about integrating transit service and system design with land use planning.

### ***Metrobus and THE BUS***

The Metrorail system is supported and complemented by two principal bus systems: the regional—Metrobus—system and the county—THE BUS—service.<sup>14</sup> Metrobus operates 34 routes, using 215 buses from 3 operating facilities in the county, and transports approximately 64,922 passengers annually. Most longer distance rail feeder and commuter bus service is operated for the county by Metrobus. The **Department of Public Works and Transportation** (DPW&T) operates the county's transit system, **THE BUS**. THE BUS provides community circulator and shorter distance rail feeder service on 14 routes and transports approximately 11,000 passengers annually.

### ***Bus Rapid Transit (BRT)***

While the public sector can most effectively attract transit-oriented development by investing in either light or heavy rail transit,

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<sup>11</sup> After it opens in 2004, **Largo Town Center Station** will be in the **Developing Tier**.

<sup>12</sup> The number of riders that can safely wait, board and alight the maximum number of trains stopping at a station.

<sup>13</sup> The limit on the number of trains that can safely enter a station, board and alight passengers and exit without interfering with other trains ahead of and behind it. WMATA is presently limited to operating trains with a maximum of six cars at intervals of at least two minutes.

<sup>14</sup> The Greenbelt and Branch Avenue Stations on the Green Line and New Carrollton on the Orange Line are also served during the rush hour by long distance commuter bus service operated by the **Maryland Mass Transit Administration** (MTA).



Example of a bus rapid transit vehicle.

WMATA and most area jurisdictions are investigating the feasibility of bus rapid transit (BRT) service lines. The Maryland Department of Transportation (MDOT) is evaluating BRT as an initial mode of operation for both the Bi-County Transitway (formerly Purple Line) and on MD 5 from the Branch Avenue Metrorail Station into Charles County. Bus rapid transit is a lower capital cost transit mode that consists of high capacity, purpose-built<sup>15</sup> buses that, because they operate on dedicated rights-of-way<sup>16</sup> can provide reliable service at frequencies that are often identical to those of light rail.

Because developers regard any form of dedicated right-of-way transit service as a significant long-term public commitment to a transit corridor, bus rapid transit is usually treated in land use planning as a precursor to light rail. It is usually introduced in transit service corridors where the ridership that can create TOD opportunities is still developing to levels that eventually justify the capital costs of light rail transit.<sup>17</sup> The Seattle light rail system, for example, is being built in transit corridors that were operated for 20 years as bus rapid transit. The BRT rights-of-way were designed for cost-effective conversion to light rail once ridership increased sufficiently to justify the capital costs, and station area planning in Seattle assumed a light rail in their TOD planning.

### Transit-Oriented Development

Transit-oriented development (TOD) is one of the principal strategies for implementing the growth and development policies in the General Plan. However, transit-oriented development is not new to Prince George's County, nor did it begin when Metrorail opened to the public a quarter century ago.

At the turn of the nineteenth century, urban streetcar lines—particularly those of the Capitol Traction (later DC Transit) Company—were extended beyond the neighborhoods nearest downtown. For the first time, the then-sparsely developed

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<sup>15</sup> BRT buses are larger than conventional transit buses, more mechanically durable and physically resemble light rail vehicles. They have low, wheelchair-accessible floors and often use electric or hybrid gas-electric engines.

<sup>16</sup> Physically separate lanes reserved for BRT vehicles, in which regular automobiles and traffic are not permitted to operate.

<sup>17</sup> The Maryland Department of Transportation is considering BRT as the initial mode of operation for the **Bi-County Transitway** (formerly the **Purple Line**.) Arlington, Fairfax, Frederick, Loudon and Montgomery Counties are investigating BRT options. WMATA has been contracted to investigate several BRT options for the District of Columbia. BRT systems are in operation in Pittsburgh, Seattle and Ottawa, Canada.

residential areas just outside the city limits came within a reasonable commute of the jobs and shopping concentrated in the city center.

The growth and development of the first tier of suburban communities in the metropolitan area was made possible, or was heavily influenced, by the greater accessibility afforded by expanding transit service. Arlington, Bethesda, **Brentwood**, Cabin John, **Capitol Heights**, Chevy Chase, **Mount Rainier**, Silver Spring and some areas of **Suitland** all illustrate a type of largely market-driven transit-oriented development.

Subsequent suburban development, however, was increasingly influenced by the market's response to the growth of private automobile ownership, the expansion of the highway system and—after World War II—federal housing policies that encouraged single-use residential development on the fringes of the metropolitan core.

The inauguration of Metrorail service in March 1976 provided the region with the next opportunity to systematically capitalize on transit to attract major development. The relationship between Metrorail and transit-oriented development has been defined by the timing and geography of Metrorail expansion as well as by local land use policies and goals.

### **Timing**

There have been approximately three real estate and development market cycles in the Metropolitan Washington area since Metrorail opened.<sup>18</sup> In Prince George's County, the most important segments of Metrorail opened later than in other parts of the Metropolitan region. For example, the Green Line, which is the only Metrorail line with both terminals and all of its suburban stations in Prince George's County, was not completed until early 2001. There was no rail service in the county during the first real estate and development cycle after Metrorail opened to the public. Moreover, only a comparatively small part of the Blue and Orange Lines was open during the second cycle.

To be successful in Prince George's County, TOD planning will have to reflect the current, more mature market for development at Metrorail stations. For example, most available land has already been developed at other suburban Metrorail stations. Most future opportunities for almost any Metrorail station area development will, therefore, be in Prince George's County, which has *approximately 34 percent of the remaining developable land near the stations*. The county will also be able to capitalize on entirely new

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<sup>18</sup> National and local experience suggests that transit-oriented development follows an investment cycle of approximately 7–11 years. Market interest peaks during the third to the fifth years and projects come to closure (commitment, application and approval) during the seventh or eighth year of the cycle.

transit-oriented development opportunities, when the **Morgan Boulevard** and **Largo Town Center**<sup>19</sup> stations open in 2004.

### **Geography**

Geography also poses both opportunities and challenges to TOD planning in Prince George's County. For example, the Metrorail Green and Orange Lines were constructed along railroad rights-of-way. This reduced construction costs, but it also produced station sites—such as **College Park-University of Maryland** and **Greenbelt** stations on the Green Line and **Cheverly**, **Landover** and **New Carrollton** on the Orange Line—that are somewhat isolated, both from the surrounding communities and from adjoining land uses that might otherwise have been used or redeveloped to attract transit-oriented development.

The transit-oriented development potential of the two Green Line terminals—**Greenbelt** and **Branch Avenue**—is also influenced by its location next to the Capital Beltway. This should increase the long-term development potential—and marketability—of both stations, since good vehicular access is important to successful TOD projects, particularly those that include residential in their land use mix. However the Beltway exits at both of these Green Line stations are still incomplete, which adversely affects the ability of the adjoining roads to efficiently feed the station areas. If the full transit-oriented development potential of either station is to be realized, it will be necessary to correct these operational deficiencies in station access.

Finally, all but one of the county's 15 Metrorail stations are in the Developed Tier, which contains the mature communities of Prince George's County. Transit-oriented development will be one of the most important strategies for implementing the General Plan goals of attracting quality redevelopment, particularly infill, in this part of the county.

### **Compatibility**

Nationally and locally, some of the more successful examples of what is referred to as transit-oriented development are actually transit-oriented **infill** development projects (see Best Practices and Appendix C.) While there is considerable overlap between these two approaches, infill TOD in Prince George's County may present additional challenges. Particularly along the Blue and southern Green Lines, much of the county's TOD potential is in station area sites where infill TOD may be the most appropriate. In these station areas, transit-oriented development has to be integrated into existing communities that do not require widespread redevelopment. (Infill TOD is an option for implementing the

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<sup>19</sup> The Morgan Boulevard-Largo Town Center Sector Plan will be completed in spring 2004.

General Plan goal of enhancing the quality and character of neighborhoods, particularly in the Developed Tier.)

Where TOD will include residential development, the design, location and density of such development will have to reflect, and respect, the prevailing character of adjacent communities. Achieving this integration is one of the most difficult challenges to transit-oriented development planning, because to capitalize on the proximity of transit, residential TOD usually should be at densities that are higher than those prevailing in the neighboring communities. In fact, when TOD is also infill, the success of the project can depend on whether, and how well, the housing in the project is integrated into the character of the existing community.

### **Decision-making Framework**

Decisions and programs of both the public and private sectors influence development near transit stations. Most development will be undertaken by the private sector, influenced by a project's feasibility (whether a project can efficiently be approved, constructed and operated). Public sector programs, processes and policies can provide incentives for, and help shape, desirable, successful projects. The public sector can also discourage and even prevent desirable, as well as undesirable, development. It is important to understand how each sector approaches development (the factors, policies and tools through which decisions are made).

### **Private Sector**

In Prince George's County, as elsewhere, developers and lenders provide the private capital and resources required to build transit-oriented development projects. Decisions by real estate developers and investors are primarily market-based real estate decisions, not transit or community-building decisions. They include a rigorous analysis of market supply and market demand, project costs and project returns.

- **Developers**

While developers in Prince George's County may share the public sector's focus on the character of development or transit support, they do not have a mandate to promote the public good. Their most basic criterion is to meet the financial requirements of their investors and lenders. Thus, in addition to project type and design, the private sector focuses on phasing, costs, revenues, income, marketability, property values, and overall return numbers. How a new project contributes to the desired character of the transit area is significantly influenced by these financial criteria.

The developer's assessment of risk to successfully navigate the steps above is key to decisions about whether to proceed or not. In general, developers are not innovators; they tend to find a comfortably successful product line and repeat it over and over as a strategy to ensure their success and survival as a company. Mixing development product lines and uses, as is desirable in

TOD, is a more complicated and more risky endeavor. Recent experience demonstrates that even some developers who have successfully dealt with the complexity of mixed-use development may not feel that the effort required is worth the return.<sup>20</sup>

- **Lenders**

Lenders are critical to development around transit stations, but they are less involved in the design process than other parties. They focus primarily on how a loan fits into their portfolio and its marketability in the secondary lending market. Detailed market studies of a proposed project are now standard. If the projected value of a completed project is not perceived to exceed the project cost, solely private market forces will not finance it.

The lenders assessment or perception of risk, and how to minimize it, are key factors in determining which projects to finance. Minimizing risk frequently means staying with standard formulas that have proven successful in the past. Complicated or unconventional development proposals or unpredictable review procedures can lengthen the development process, increase costs, decrease the certainty of successful returns on investment, and increase the risk.

Experience nationally and locally indicates that mixed-use, infill and transit-oriented development and redevelopment in urban areas are more difficult to achieve than conventional single-use development in suburban or greenfield areas. It is more expensive to coordinate, design and build. There are more, and more complex, markets to understand and in which to sell the end product. Fragmented land and property ownership may require lengthy and expensive land assembly. Multiple systems have to be integrated. More construction oversight is required. Development regulations often have to be changed. Overcoming obstacles resulting from previous development patterns or practices can add time and unpredictability. Multiple stakeholders with conflicting agendas may present obstacles that are not found in traditional suburban development proposals. These factors combine to increase the perception of significantly greater risks that could delay, or even prevent, a timely or satisfactory return on investment. Simpler, more predictable real estate investments tend to be preferred by many lenders.

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<sup>20</sup> Federal REIT, a major developer of transit-oriented projects, recently withdrew from this market, citing the time, uncertainty and added costs of bringing TOD projects to closure, even in regulatory environments that promote TOD and make provisions to expedite such projects.

- **Encouraging and attracting the development that the county wants**

Some developers and lenders specialize in skills required to successfully accomplish mixed-use and transit-oriented development. However, these skills do not substitute for meeting the basic financial requirements of predictable positive project cash flow and returns. To date, the developers in this market niche have been more active in other parts of the metropolitan area than in Prince George's County.

The reasons include perceived or actual market strengths as well as some developers' perceptions that other area jurisdictions are more willing to assist with the financial or regulatory challenges of bringing TOD projects to closure. Only in the very strongest of markets can new developers correct significant on-site or off-site deficiencies that have resulted from previous development or community neglect. Even with such projects, there is often significant government involvement to assure the success of the project.

In order to get new development that conforms to county plans and policies for transit areas, e.g., mixed use and transit-oriented development, developers and lenders both need to perceive that such development can be approved and financed more competitively than alternatives which are not desired, e.g., single-use, automobile-oriented projects. The county may need to become partners with developers on several fronts to achieve these public policies. These are the same items that the developer confronts in deciding whether to pursue a project: project design, feasibility, financing, risk assessment, regulatory review and community relations. When developers and lenders perceive that TOD projects in Prince George's County can be financed and built with predictability and certainty, they will be built. The following section describes strategies and approaches available to the public sector to help developers and lenders reach this vital conclusion.

### **Public Sector**

In Prince George's County, policies set at the local (regional, county and municipal), state, and federal levels influence the feasibility, type and location of development. All levels may exercise regulatory approvals; construct or provide funding for infrastructure; provide incentives for desirable development such as state economic development grants and loans or county acquisition and assembly of land; and, in some instances, build facilities that can reinforce desired development within and near transit centers.

Government planning, implementation, and programming decisions should be based on clearly defined policies intended to work together to achieve overall development goals. The following sections describe some of the major policies (at the local, state and federal level) that may impact development around the county's Metrorail and MARC transit stations.

### ***Prince George's County***

- As discussed in the Introduction, the primary policy document guiding future growth in the county is the 2002 General Plan, with area master plans, small area plans and functional plans offering detailed recommendations concerning specific parcels. The General Plan emphasizes development at designated Centers, most of which are located at Metrorail or MARC stations. The General Plan recommends that each transit station area be developed as intensive, mixed-use centerpieces of county economic development.

Each Center is classified as **Metropolitan, Regional or Community** in decreasing order of planned intensities and densities. The General Plan provides guidelines for desirable mixes of use as well as the optimum densities and intensities for future development. It also recommends future planning and regulatory efforts within Centers; proposes incentives to encourage desirable development in Centers; emphasizes the importance of TOD; and describes priorities for, and the function of, transportation and other public facilities in Centers.

### ***State of Maryland***

- The State of Maryland helps provide infrastructure and assists economic development through grants and loans to jurisdictions and the development community. The state limits the areas where certain growth-inducing programs for infrastructure can be used; and state economic development assistance may be limited to designated **Priority Funding Areas** (PFA). These areas are defined by law (municipalities, Enterprise Zones, state-designated revitalization areas, land within the Capital Beltway) or are designated by local governments in accordance with state criteria.

All of the county's transit stations are located within its PFA. Some state funding is more narrowly targeted, to areas such as Enterprise Zones or other designated neighborhoods. State decisions are also guided by eight visions established through the **1992 Maryland Economic Growth, Resource Protection and Planning Act**. These visions reinforce the desirability of development around transit stations and provide a basis for state involvement in financing and encouraging new development.

### ***Federal Government***

- The federal government provides funding for infrastructure, community and economic development. Two significant federal policies that can provide funding and encourage development around Metrorail stations are the **Clean Air Act** and **TEA-21**. The Clean Air Act may limit federal spending in areas that do not attain air quality standards. Intensive mixed use, transit-oriented development at the county's transit stations can help attain regional air quality goals. TEA-21 provides a source of transportation infrastructure funding including transit and pedestrian facilities.

- The **National Capital Planning Commission (NCPC)**, a federal planning agency with the authority to review plans for federal facilities in the Washington region, gives priority to transit stations as the location of federal offices located outside of the District of Columbia. Within Prince George’s County, the Food and Drug Administration has constructed a facility across from the College Park Metrorail Station, the Internal Revenue Service Headquarters is located at the New Carrollton Metrorail Station, and the Suitland Metrorail Station has been constructed at the Suitland Federal Center. NCPC policies guide not only the location but also the design of federal facilities and installations.

### ***Public Sector Tools***

The policies and programs cited above do not, by themselves, result in suitable development around the county’s transit stations. Implementation tools must be in place to regulate the development, build the needed infrastructure or provide development incentives. If the defining characteristics cited in “Transit-oriented development in the United States” at the beginning of this chapter and the lessons learned from other jurisdictions are examined, it is evident that the following types of tools may, if properly implemented, contribute to a successful TOD program:

- **Development Regulations.** The use of land, the design of development, and the timing of development are controlled by the permitted uses, guidelines and requirements of the county’s Zoning Ordinance and other development regulations. The county has tools that reflect the requirements of successful TOD: for instance, mixed uses are permitted and site and building design can be controlled through site plan review or the provisions of Transit District and/or Development District Overlay Zones. What may be questioned, however, is how well TOD concepts are implemented through the tools that the county uses. For instance, the county has zones that permit the TOD development envisioned by the General Plan. However, the specific requirements of the zone may also be satisfied by development that is less desirable and, in some instances, contrary to the goals and purposes of TOD.

Further, the manner in which development regulations are applied may actually discourage or even prevent desired development. Multiple review procedures; requirements for waivers, departures and development plan amendments; and lengthy review can make projects expensive and the outcome uncertain.

- **Public Investment.** In many cases, the private sector cannot bear all of the costs of a successful TOD development. Infrastructure such as road and pedestrian improvements, parking, and water and sewer facilities may be needed. A well-designed, strategically placed public building such as a

government office building or a county-funded parking garage<sup>21</sup> may help improve the marketability of an area or provide a focus for complementary development. Loans, grants and tax credits to help fund construction may be needed to make a project feasible.

At the county level, the primary document for determining the timing and location of public facilities is the Capital Improvement Program. This document lists, by agency, all infrastructure investments within the county for a six-year period. The program describes the location, cost and funding sources for facilities such as schools, roads, and parking structures. The state has similar program documents such as the Maryland Department of Transportation's Consolidated Transportation Program. To a great extent, these programs are guided by the county's plans that identify facilities needs and potential locations. In addition, the 2002 General Plan also established priorities for the public investments. Centers, including the areas around all of the county's Metrorail stations, have a high priority for public investment.

Funding for public investments in transit areas, whether for infrastructure projects described in county and state programs, or for grants and loans available to the private sector, comes from multiple sources. Frequently, funding comes from the sale of general obligation bonds. Other sources include programs that are specifically targeted toward transit areas or economic development initiatives. The **West Hyattsville TOD Planning Study** cites public investment programs that are available for TOD development.

- **Land Acquisition and Assembly.** Many of the county's transit stations are located in older, already developed parts of the county. Large parcels of undeveloped land do not surround these stations. Instead, previous development has sometimes resulted in small properties (developed, underdeveloped or vacant) under multiple, scattered ownership. Successful TOD development may depend on the public sector's ability to assemble such properties in order to provide for a cohesive coordinated development. For the private sector, such assembly can be time consuming and, in some instances, impossible. In other jurisdictions, government agencies have used their power of eminent domain to assemble land for successful projects. Both the Prince George's County government and the Redevelopment Authority have the ability to use eminent domain to acquire land for public purposes. The Revenue Authority can also acquire land but does not have the power of eminent domain.

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<sup>21</sup> The county already uses a parking surcharge to help fund commuter parking garage construction at **New Carrollton** Metrorail Station.

Another opportunity to provide land for development around transit stations is through the sale or joint development of publicly owned property. The Washington Metropolitan Area Transit Authority (WMATA) has a program to enter into agreements with private developers for development on WMATA-owned land near or on Metrorail stations. Both the state and the county own land near some of the stations in the county. These properties could be developed or redeveloped for TOD after sale to a private developer or through a joint development agreement. As an example, The Boulevard At Capital Centre, a commercial project to be located next to the Largo Town Center Metrorail station, is now being constructed on property formerly owned by M-NCPPC and now owned by the county's Revenue Authority.

- **Sector Plans.** In some instances, development regulations that are revised to reflect General Plan recommendations may be successful in fostering desirable transit-oriented development. In other instances (see Recommendations) a more site-specific conceptual plan may be effective in attracting the preferred development.

However, a sector plan that is closely tied to implementation measures may be needed in other locations, such as areas where development is likely to be undertaken by multiple parties, where there is a need to coordinate development with the surrounding community or fully define the type of development that should be encouraged through public actions, or where the General Plan or other planning considerations make a broader area plan necessary or desirable.

These plans can recommend the types of development that are both desirable and feasible, coordinate the planning and provision of infrastructure, and create a unifying design scheme. When prepared with the full participation of the community, landowners and affected municipalities, a sector plan can increase community buy-in and make the ensuing development of the property easier.

Prince George's County has approved sector plans for six Metrorail station areas.<sup>22</sup> Plans or planning studies are underway for three others.<sup>23</sup> A new sector plan for the West Hyattsville station area is included in the FY 2004 Planning Department work program. As these plans have evolved, the county has learned the importance of tying the plan's proposals to specific measures that implement the proposals, the need to ground the plans in realistic evaluations of both physical and market

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<sup>22</sup> New Carrollton, Prince George's Plaza, West Hyattsville, Addison Road, College Park – University of Maryland, and Greenbelt.

<sup>23</sup> Morgan Boulevard, Largo Town Center and Cheverly.

opportunities and constraints, and the importance of ensuring broad and continual public participation.

The public sector tools can be used to help create the defining characteristics of transit-oriented development described above in this report. (See Table 1.) For instance, development regulations help define the character of TOD by prescribing minimum and maximum criteria for the types, combinations, densities, and intensities of land uses. Public investments, such as construction of needed infrastructure, site assembly or write-downs of land acquisition costs, can provide catalysts for transit-oriented development.

Further, it is important that the use of the public sector tools be guided by the lessons learned from other jurisdictions (see Best Practices). As an example, plans and the regulatory tools used to implement those plans should be clear as to the type of development to be permitted; if appropriate development is not on the horizon, the county should be prepared to wait until market and development conditions change. When the tools are used efficiently, and are coordinated, the county can encourage desired economic development in the vicinity of its transit stations. Table 2 provides a summary of these critical relationships.

**Table 1: Relationship Between Public Sector Tools and TOD Defining Characteristics**

TOD Defining Characteristics	Public Sector Tools			
	Development Regulations	Public Investment	Land Acquisition and Assembly	Sector Plans
Land use and density	✓			✓
Site design	✓		✓	✓
Parking	✓	✓		✓
Accessibility	✓		✓	✓

**Table 2: Relationship Between Public Sector Tools and TOD Lessons Learned**

TOD Lessons Learned	Public Sector Tools			
	Development Regulations	Public Investment	Land Acquisition and Assembly	Sector Plans
Study the market and be prepared to “sell” TOD early and often.				✓
Clearly define the TOD you are trying to attract. Be very sensitive to the particular characteristics and opportunities of each individual site.	✓			✓
Be willing to wait. Be willing to “front” some of the investment needed to attract TOD.	✓	✓	✓	
Land uses at a TOD site can be mixed vertically as well as horizontally.	✓			✓
Innovative parking management is sometimes necessary to achieve the transit-supportive densities that TOD needs to be successful.	✓	✓	✓	✓
Community involvement and “buy in” is essential if TOD projects are to successfully incorporate density increases.	✓			✓
Streamline (“green tape”) the regulatory, review and permitting procedures for TOD projects.	✓			✓
Zoning and any other long-term land use controls should be consistent with the ultimate vision for the entire project.	✓			✓

TOD Lessons Learned	Public Sector Tools			
	Development Regulations	Public Investment	Land Acquisition and Assembly	Sector Plans
TOD can help “break” a jurisdiction out of a market “niche.” That, however, should be one of the principal goals of TOD from the outset of the project.				✓
Site assembly can be the most significant single public commitment to make a TOD project worth the risk to developers and investors.			✓	
The local redevelopment agency often plays an important role in successful TOD projects.		✓	✓	