

12 Washington D.C. Metro

OVERVIEW: TRANSIT SYSTEM CHARACTERISTICS

The Washington D.C. Metropolitan Area Transit Authority operates one of the most extensive and comprehensive commuter rail systems in North America. The Metro system currently extends 92 miles and includes 75 stations on five separate lines. It links key activity centers within the Washington D.C. area and provides suburban commuters with convenient access to downtown Washington.

The Metro system started operation in March 1976, and extensions have opened every 2-3 years ever since. Extensions are currently being constructed that will expand the system to 103 miles and 83 stations by 2003. Metro has an average daily ridership of more than 550,000 passengers as of May 1998.⁴⁶

The Metro system serves an area of approximately 1,500 square miles and covers several jurisdictions, including:

- District of Columbia;
- Montgomery County, Maryland;
- Prince George's County, Maryland;
- Arlington County, Virginia;
- Fairfax County, Virginia;
- Cities of Alexandria, Fairfax, and Falls Church, Virginia.

The proliferation of jurisdictions in the D.C. area has compelled WMATA to establish a comprehensive joint development program to work with local jurisdictions for station area planning. Although WMATA has the authority to develop land directly, unlike BART or most other commuter rail operators, it is still dependent on local jurisdictions for supportive land use policies.

Many Metro stations are located underground with little or no station parking; thus, many stations outside of downtown Washington D.C., such as Bethesda, Ballston, and Rosslyn, have a strong urban character. Stations farther outside of the center city have commuter parking lots.

Table 12-1.
SELECT WASHINGTON METRO STATION CHARACTERISTICS

⁴⁶ Washington Metropolitan Area Transit Authority, Office of Project and Technology Development, 5/5/98.

	<i>1996 Average Week-day Boardings</i>	<i>Week-</i>	<i>Type of Struc- ture</i>	<i>Parking Lot?</i>	<i>Surrounding Urban Form</i>
Bethesda	7,594		Tunnel	No	Urban Core
Silver Spring	10,354		Grade/Aerial	Yes	Urban Core/Transportation Cen-ter
Grosvenor	3,355		Aerial	Yes	Urban Residential
West					
Hyattsville	1,972		Grade	Yes	Suburban Commercial

STATION AREA PLANNING FRAMEWORK

The Washington D.C. area has had some of the most successful examples of transit-oriented development in the United States, particularly with regard to office development. This case study of the Washington Metro will focus on three stations that are in various stages of planning: Bethesda, Silver Spring, Grosvenor, and West Hyattsville. Bethesda and Ballston already have well developed transit villages that are the result of 25 years of comprehensive planning. Grosvenor is in the process of being developed, and West Hyattsville is still struggling to become a transit village, encountering community opposition and inconducive market and regulatory conditions.

BETHESDA

Bethesda provides an excellent of example of visionary master planning for a downtown area, centered around a transit station. Montgomery County started planning for the area around the Metro station in anticipation of station construction. The County approved the Bethesda-Chevy Chase Master Plan in 1970, which recommended the creation of a CBD boundary around the station area to contain and guide the expected growth impacts of the new station. In Maryland, an area Master Plan functions as an amendment to the County General Plan.

The subsequent Bethesda Central Business District Sector Plan of 1976 downzoned the area by replacing the existing C-2 zone with a new transit station area zone and CBD zones. As a re-sult, the previous FAR of 14 was eliminated in favor of an FAR range of 4 to 6. Also, the size of the CBD was reduced and surrounded by a Commercial Transition (C-T) Zone that would protect residential communities from the effects of major office development. The 1976 plan and subsequent amendments contained several key elements that helped transform Bethesda into a major office center:



Montgomery County started planning around the Bethesda Metrorail station before construction began. New zoning and strong parking management has helped make this station area a success.

- Development at Metro Core. The 1976 established “Stage Areas” that restricted development applications farther away from the station and focused development closer to the Metro Core. A 1982 amendment lifted the geographical restrictions, so that all areas with the CBD may now be developed simultaneously.
- Adequate Transportation Facilities. Overall development approvals are still linked to available transportation capacity. Since 1989, development expected to generate more than 50 peak-hour vehicle trips must meet public facilities requirements.⁴⁷

SILVER SPRING

The Silver Spring Central Business District, particularly the Metrorail station, was the focus of extensive office development during the 1980s, but little development has followed since then. The 1980s brought in nearly three million square feet of office space, 188,000 square feet of retail space, and 640 dwelling units within a quarter mile of the station. Development was attracted to the area by the strong economy and conducive commercial zoning near the station.

⁴⁷ Montgomery County Planning Department, Bethesda Central Business District Sector Plan, (July 1994), vi, 23-4.

Despite the strong office growth in the 1980s, development slowed to a virtual halt in the 1990s, with the exception of 1.3 million square foot office building for the National Oceanic and Atmospheric Administration (NOAA).⁴⁸ The area suffers from a depleted retail sector, a relatively weak market for commercial development, lack of street life, and poor urban design. The Maryland-National Capital Park and Planning Commission is currently preparing the Silver Spring CBD Sector Plan Update, expected in June 1998. The plan is intended to take advantage of the new economic boom in order to solve some of the area's ongoing problems. The Silver Springs station area provides an example of commercial downtown revitalization coordinated with transit-oriented development.

The updated Plan changes the focus of the previous plan. Instead of making Silver Spring a regional center for comparison retail shopping, the Plan recommends making the area a community-oriented downtown with housing, local-serving shops, and community facilities arranged along pedestrian-friendly streets. These uses and pedestrian facilities will be directly connected into the Silver Spring Metrorail intermodal station.⁴⁹ The intermodal station project is being coordinated by Montgomery County and will link D.C. Metro, MARC commuter rail, buses, park-and-ride lots, and pedestrians.⁵⁰ The NOAA building is part of the County's plan to link the old downtown area into the proposed transit hub.

GROSVENOR

Grosvenor Station provides an example of transit-oriented development for urban neighborhoods without an existing commercial or civic center. In 1992, Montgomery County approved the North Bethesda/Garrett Park Master Plan, which includes the Grosvenor Sector Plan. The 1992 Plan confirms the recommendations of the 1978 Sector Plan, creating special land use provisions and zoning provisions for the station area. High-density residential towers and surrounding townhouses are planned for the surrounding areas, and convenience retail and cultural or community facilities, like a day care center, are planned for the Metro site itself. However, the Plan includes no provisions for urban design, pedestrian access, or other standards that would create a fully transit-supportive environment.⁵¹

Efforts to make the Grosvenor station area into a transit village have come from the private sector. In 1993, Potomac Investment Properties approached WMATA with an unsolicited proposal for development. WMATA initially did not pursue development at the station, because preliminary market studies showed little market for high-density residential units in the station area. After persistent urging from the development company, however, WMATA issued an RFP, and Potomac Investment Properties was awarded development rights.

⁴⁸ Transportation Research Board, National Research Council, Transit Cooperative Research Program Report 16: *Transit and Urban Form*, v.2, part 4 (1996), 63-4.

⁴⁹ John Matthias, *Silver Spring Transit Center: Its Role in Local Revitalization* (1998).

⁵⁰ Montgomery County Park and Planning Department, *Silver Spring Transit Center Status Report*, (February 1997).

⁵¹ Maryland-National Capital Park and Planning Commission, *North Bethesda/Garrett Park Master Plan* (1992) 69-73.

The Potomac plan proposes a phased residential development of 1403 dwelling units in low, mid, and high-rise residential structures. Connected open spaces and day care facilities are also proposed.⁵² Consistent with the Sector Plan, the development proposed higher density residential towers with ground-floor retail near the station, with townhouses farther out. The development will create a new neighborhood focal point at the station and would improve pedestrian access to the station, which is now surrounded by a park-and-ride facilities and is bordered by a six-lane arterial road.

WEST HYATTSVILLE

The West Hyattsville station area is located in a strip retail district, surrounded by low-density housing. The Metrorail extension to West Hyattsville in Prince George's County, Maryland, prompted County efforts for transit-supportive development, though with little success. In 1989, in anticipation of the Metro, the County Council designated the proposed West Hyattsville station area as a Transit District Overlay Zone. Market studies were conducted in 1992 and updated in 1998, which showed little market for office or retail.

A required Transit District Development Plan was completed for the station in 1992, after completion of the market study. The original 1992 plan was quite visionary and restrictive. The plan envisioned enhanced retail, high-density housing, and streetscape improvements. Despite gloomy market indications, the plan assumed that station construction would result in strong market forces, leading to the formation of a small urban node around the station.⁵³

Assuming a strong market, prescriptive regulations determined land uses for the station area down to the parcel. In one instance, for example, a hotel was required on the site of an existing drive-in bank. In order to obtain approval of a site plan for demolition or major reconstruction on the site, the developer would be required to proposed hotel uses for the site. This approach proved unrealistic for the local real estate market and overly restrictive for land owners and developers.⁵⁴

The 1998 update eliminated many such restrictions, allowing for more choice and variation in uses. However, partly in response to the restrictiveness of the overlay zones, the County Council recently changed the base mixed use zones around the station to allow excessive flexibility in land use mixtures. Formerly, the mixed use zone required a mixture of use on the same property. Now, a single use may be provided as long as the adjacent property has a different use, defeating the original intent of the mixed use zones.⁵⁵

⁵² Roberto Cervero, *Transit Villages in the 21st Century* (1997), 231-33.

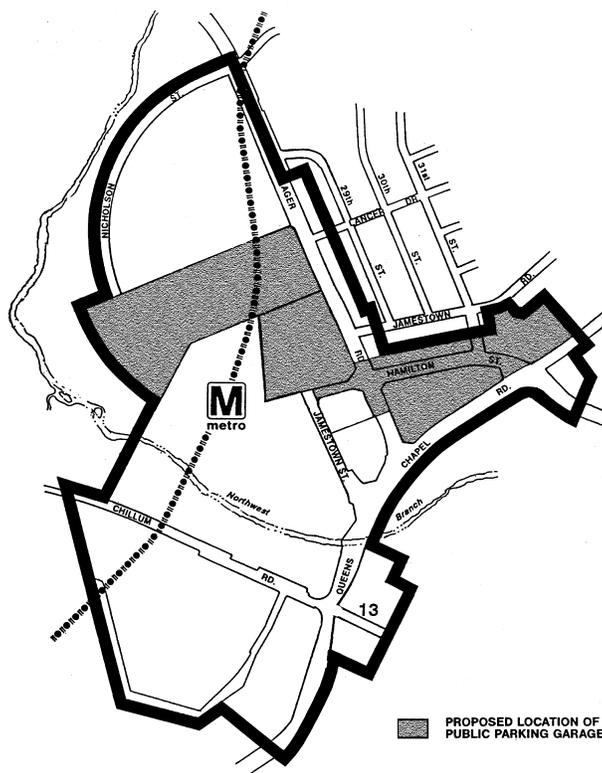
⁵³ Interview with John Funk, Prince George's County, 5/6/98.

⁵⁴ Interview with Steven Fisher, Prince George's County, 5/7/98.

⁵⁵ Interview with John Funk, Prince George's County, 5/6/98.

The transit overlay zones have not provided a strong framework for station area development. According to planners in Prince George’s County, the mixed use and transit overlay zones have been more effective in places with more intensive existing development. The County is currently considering the use of incentives or public funding to bolster the overlay zones. Traffic level of service standards may be reduced to E for projects within the overlay zone; funding for public infrastructure may be channeled to the station area through the County’s growth management strategy that is currently pending approval.⁵⁶ Some street and pedestrian trail improvements have already been done at the West Hyattsville station, but not as part of a comprehensive program.

The West Hyattsville Transit District Development Plan has a number of innovative parking management tools. First, it establishes maximum surface parking ratios within 2,640 feet of the station (2 spaces per 1,000 square feet for offices and 1.1 spaces per 1,000 square feet for residential uses), which are approximately one-third lower than ratios beyond the half mile circle. On-street parking controls are also imposed. Trip caps for individual uses are also imposed. When new development would cause these parking ratios and trip caps to be exceeded, parking enterprise district, with structure parking facilities must be created. Public parking garages then would provide opportunities for shared parking and promote more efficient land use.



_____ The West Hyattsville Transit District Development Plan proposes specific locations for public parking garages, which are to be built when surface parking ratios and trip caps are met.

⁵⁶ Interview with Steve Fisher, Prince George’s County, 5/7/98.

STATION AREA DEVELOPMENT TRENDS

The Metropolitan Washington Council of Governments conducted a study in 1983 that took an initial survey of land use and development around Metrorail stations.⁵⁷ The study did not include statistical analysis, but organized profiles of planning efforts, joint development projects, and surrounding development at existing Metrorail stations. The report made the following summary conclusions:

- Stations within the District of Columbia all experienced changes in surrounding land use plans and policies, but development actually occurred only around the downtown stations, including Farragut North, Farragut West, Gallery Place, and Metro Center.
- The Rosslyn-Ballston corridor in Arlington County, Virginia, experienced the most intensive development. Between 1978 and 1983, the corridor acquired 1.8 million square feet of office space, as well as 370 residential units. Also in Arlington County, the Jefferson Davis corridor (including the Pentagon City and Crystal City stations) accumulated 1.5 million square feet of offices and 1,200 residential units.
- The City of Alexandria experienced some office development around the station area prior to completion of the study, as did the New Carrollton station area in Prince George's County.
- Other stations experienced little development.

The 1983 Council of Governments study has not been updated, and no comprehensive analysis of land values or construction around the D.C. stations has been conducted. Some evidence of development exists, however, from local planning documents, other transportation documents, case study reports, or interviews. Available information is listed below.

- *Bethesda*. By 1995, Bethesda's downtown area contained 7 million square feet of office space, 2.3 million square feet of retail space, and 5,000 dwelling units. Prior to Metro's arrival, Bethesda had a few high-rise office and residential buildings, with predominantly one- and two-story buildings located on or near Wisconsin Avenue.
- *Silver Spring*. After the arrival of Metro, the Silver Spring CBD gained almost 3 million square feet of office space, 188,000 square feet of retail space, and 640 dwelling units, all within one quarter mile of the station. As of 1995, three additional mixed retail and office development projects were planned.⁵⁸

⁵⁷ Metropolitan Washington Council of Governments. Metrorail Station Area Planning: A Metrorail Before-and-After Study Report (August 1983), 125-131.

⁵⁸ Transportation Research Board, National Research Council. Transit Cooperative Research Program Report 16: Transit and Urban Form, v. 2, ch. 4 (1996) 55-64.

- *Grosvenor*. Most residential units in the vicinity of the Grosvenor station were built prior to the arrival of Metro, and development immediately around the station has been minimal since the station opened. There are current plans for high-rise residential development that will add more than 1,400 dwelling units and supporting retail space to the area.
- *West Hyattsville*. Since the station was completed in 1992, the West Hyattsville station area has experienced no development or changes in land use.⁵⁹

FACTORS INFLUENCING STATION AREA DEVELOPMENT

Similar to other metropolitan regions, station area development in the Washington D.C. area has been made possible by the strength of the regional economy. However, because the Washington D.C. area covers such a large area and has so many distinct jurisdictions, the success of transit-oriented development around a particular station has been more strongly shaped by localized market forces and planning policies.

Development at Ballston and Bethesda stations was made possible by anticipatory, long-range master plans that promoted high-density, mixed-use, and pedestrian-friendly development. Also, County governments in both places extended public funding to encourage development around the station cores.

West Hyattsville, in contrast, has not started to evolve into a true transit village, because the local market forces have been weak. Moreover, transit overlay provisions have not been strong enough to lure developers or transform station areas into transit-oriented communities.

COMPREHENSIVE, LONG-RANGE MASTER PLANS

Of the four stations reviewed in this case study, Ballston and Bethesda have been planned through comprehensive, long-range master plans. The plans were initiated in anticipation of the Metrorail extension, and they have provided the structural framework through which all station-area development has occurred.

The master plans not only establish allowable uses and development standards, but create comprehensive site and infrastructure programs, definitive implementation strategies for development, and phasing for both private development and provision of public services. The comprehensive nature of these master plans have helped coordinate public and private participants. They establish specific actions intended to reach an end-state vision for the station area.

The Bethesda Central Business District Sector Plan includes several key elements: 1) Land Use and Zoning Plan; 2) Transportation Plan; 3) Streetscape Plan; 4) Environmental Resources

⁵⁹ Interview with Senior Planner, John Funk, Prince George's County, 5/6/98.

Plan; 5) Community Facilities Plan; 6) Historic Resources Plan; 7) Implementation Measures. Each section contains a description of objectives and recommendations for improvement. Where relevant, existing conditions are also described. By compiling all the necessary information and plans for the station area, the master plan provides a coordinated program for focusing development at the station.

SUPPORTIVE ZONING

At Bethesda, zoning is used to implement plans for station-area development and to provide developers with incentives for appropriate uses and amenities. The Bethesda Central Business District plan includes several different zoning designations, but the area immediately around the station is designated as TS-R, or Transit Station Residential. The Montgomery County Code states that the TS-R zone is intended to provide multiple-family residential densities for use at locations within walking distance of the transit stations. The zoning ordinance establishes basic use and development standards for the zone, and additional regulations for subareas and certain sites are specified in the district plan.⁶⁰ CBD zones are used for areas immediately beyond the station, and help to establish downtown office uses and urban environments.

In Silver Spring, zoning has also been used to implement the Central Business District Sector Plan, which focuses on the Metrorail intermodal station. In response to the original 1975 Sector Plan for Silver Spring, Montgomery County rezoned most of the CBD area for CBD zones like those used in Bethesda. While minor zoning adjustments were made over time, the upcoming 1998 amendment to the Sector undertook an analysis of the existing zoning to determine deficiencies. The analysis found several ways in which zoning inhibited redevelopment efforts or other goals of the Sector Plan. In some cases, zoning did not permit the type of urban design or character envisioned in the plan, particularly in the vicinity of the station. In other cases, zoning requirements increased the cost of development in blighted areas beyond feasibility, or were inconsistent with market trends. The 1998 update of the Sector Plan will take the findings of the working paper into account.⁶¹

In West Hyattsville, the creation of a transit overlay zone has been used less successfully to establish station-area uses and standards, because the overlay zone is used outside of an overall development plan. The rezoning alone was not enough to catalyze development.⁶²

PUBLIC FUNDING

In comparison to other metropolitan rail stations throughout the county, such as L.A. Metro or BART, the Washington Metro stations show fewer cases of large-scale public financing.

⁶⁰ Montgomery County, Zoning Ordinance, Chapter 59, Volume 4 of the Montgomery County Code (1993), 260-6; Montgomery County Planning Department, The Bethesda Central Business District Sector Plan (1994), 72-89.

⁶¹ Montgomery County, Zoning Working Paper for Silver Spring Central Business District Sector Plan (1998).

⁶² Interview with John Funk, Prince George's County, 5/6/98.

However, Ballston has had public funding components that have bolstered commercial office and station area development. At Ballston public funding was used to reduce development costs, particularly associated with parking garages.

- In Ballston, the County issued industrial development bonds that co-financed a 3,200-car parking garage for Ballston Common, a major regional mall that sparked nearby office and supportive commercial development. The County also built the Stuart Street pedestrian mall to connect the Metrorail station with the mall.⁶³
- The Federal government also indirectly helped support office development at Ballston. After establishing the policy that all new government offices would be located at Metrorail stops, Ballston became home to the National Science Foundation, the National Pollution Control Center, the U.S. Army Legal Services Agency, the Federal Deposit Insurance Corporation, the Applied Research Planning Agency, and the National Rural Electric Cooperative Association.

JOINT DEVELOPMENT

The Washington Metropolitan Area Transportation Authority (WMATA) has emerged as the national leader in joint development. Initial ad hoc attempts at joint development were successful and led to the creation of official policies and staff positions for joint development.⁶⁴ Currently, WMATA has an Office of Real Estate with 35 professional staff members, 10 of which are dedicated to joint development functions.⁶⁵ Rather than reacting to initiatives of private developers, WMATA actively seeks joint-development opportunities. WMATA has completed more than twenty joint development projects, selections of which are listed in Table 12-2.

Generally, WMATA has had two major elements in its joint development program, transfer of development rights and system interface, which the Authority defines as follows:

- Transfer of Development Rights is the disposition, by lease or by sale, of excess WMATA-owned or controlled real property interests, including air rights, at or near a station area.

⁶³ U.S. Department of Transportation, *Metrorail Station Area Planning: A Metrorail Before-and-After Study Report* (August 1983), 77.

⁶⁴ In 1969, at the Metro Center Station, WMATA obtained easements, as well as ground and underground development rights at 50 percent of fair market value, from the Woodward & Lothrop Department Store, who was allowed to connect its planned underground mezzanine directly into the Metro Center Station. In 1975, at the Farragut North Station, WMATA leased the development rights above the Farragut North Station in exchange for ground rent, a percentage of net operating income, and rights to locate cooling equipment atop the 11-story office building. (Robert Cervero; Peter Hall; and John Landis, *Transit Joint Development in the United States* (Berkeley: Institute of Urban and Regional Development, August 1992).

⁶⁵ Interview with Alvin McNeal, Washington Metropolitan Area Transportation Authority, 5/11/98.

- System Interface is the direct, physical connection of pedestrian, vehicular, or visual access to WMATA facilities from adjoining private or public development. Connecting facilities could include station mezzanines or entrances, kiss & ride, parking, or bus areas.

Table 12-2.

SELECT WMATA JOINT DEVELOPMENT PROJECTS

	Project Description	Joint Development Agreement	Status
Ballston Metro Center	28-story mixed uses, including hotel, condominium, office, and retail; parking.	Air Rights/Land Lease/Sale/Exchange at Station.	Completed 1989
Bethesda Metro Center	17-story office bldg; 12-story hotel; 3-story retail arcade; public plaza; parking.	Air Rights/Land Lease/Sale/Exchange at Station.	Completed 1985
Chevy Chase Pavilion/ Friendship Heights	Pedestrian connection to pavilion.	System Interface/Connection Fees.	Completed 1988
Hetch's Metro Center	Pedestrian connection to shops.	System Interface/Cost Sharing Agreement.	Completed 1986
International Square/ Farragut West	Pedestrian connection to office center.	System Interface/Joint Use of Facilities.	Completed 1983
McPherson Square Station	11-story office bldg over 2-story retail.	Air Rights/Land Lease/Sale/Exchange-System Interface.	Completed 1983
Pentagon City	Pedestrian connection to office bldg.	System Interface/Connection Fees.	Completed 1989
Rosslyn Metro Center	19-story office bldg over 3-story retail.	Air Rights/Land Lease/Sale/Exchange at Station.	Completed 1979
Union Station	Pedestrian connection to station and shops.	System Interface/Connection Fees.	Completed 1988
Woodward & Lothrop Metro Center	Pedestrian connection to shops.	System Interface/Cost Sharing Agreement.	Completed 1977

Source: Washington Metropolitan Area Transit Authority, *WMATA Joint Development Program: Project Summaries (February 1990)*; Robert Cervero; Peter Hall; John Landis; *Transit Joint Development in the United States (Berkeley: Institute of Urban and Regional Development, August 1992)*, 61.

In preparing for joint development, WMATA typically conducts preliminary market studies to determine the feasibility of development at station sites. Visioning and community planning processes are typically handled by local jurisdictions. Provisions of master plans, urban

design standards, access needs, infrastructure, or other local policies are sometimes negotiated with local jurisdictions in the early stages of joint development, often before a private developer is selected. This approach helps make the joint development deal more alluring to the private partner, because preparations for the site are done ahead of time. In selecting private developers, WMATA has formal guidelines to evaluate projects; they want to increase in ridership for stations and buses, to increase revenue for the Authority, to implement local master plans, and to promote economic development.

IMPLEMENTATION TOOLS

The more successful station-area planning in the Washington D.C. area has had a solid planning framework based upon an area-wide master plan that encompasses not only the immediate station area, but the surrounding neighborhoods as well. Zoning was used as an effective implementation tool at Bethesda, Silver Spring, and Grosvenor, by removing barriers to development around the station. At West Hyattsville, the transit overlay zoning failed to serve as an effective planning framework, and as an implementation tool, it was used too restrictively.

Overall, the WMATA joint development program also used effective implementation tools. The exchange of development rights and system interface for mixed-use office, retail and hotel uses maximized pedestrian traffic for developers, attracted additional transit ridership, and helped generate development interest around stations. WMATA capitalized on the success of initial, ad hoc joint development agreements to establish a permanent joint development staff and to seek development opportunities proactively.

SUMMARY ASSESSMENT: IMPLICATIONS FOR SEATTLE

The experience of transit-oriented development along the D.C. Metro can offer Seattle several lessons:

- **Local Lead.** Despite that Metro has played a strong role in station-area development, local jurisdictions have typically lead projects for station-area development. This approach had preserved a local emphasis and coordination with local land use planning efforts.
- **Master Plan.** Ballston and Bethesda, two of the D.C. area's most successful station-area projects, used master plans for coordinating long-term development around the station. The master plans coordinated public and private investments, linked station-area planning with planning efforts for other areas, harnessed existing implementation tools for the station area, and committed public resources to the station area over time in coordination with private development. Stations without Master Plans, like West Hyattsville, have evolved in a much more piecemeal way.

Table 12-3.
IMPLEMENTATION TOOLS FOR TOD AT WMATA METRO STATIONS

	Bethesda	Silver Spring	Grosvenor	West Hyattsville
Station Area Market Development Strategies	Preliminary market studies.	Market studies for 1998 Sector Plan update.	WMATA Preliminary market studies.	Preliminary market studies.
Non-rail Infrastructure Investments	Sector Plan for streetscape and transportation; phasing for APF.	Planned pedestrian improvements in 1998 update.	Planned pedestrian improvements for private site development.	Improved streetscapes, walking/ biking trails.
Shared Parking/ Parking Management	Long-term parking permits for Metro users in County parking lots.	No.	No.	Retail center owners not interested in shared parking.
Expedited Permits and Reviews	No.	No.	No.	Conformance with TDDP expedites process.
Rezoning	Sector Plan creates Transit Station-Residential; CBD zones.	Sector Plan creates CBD zones.	Sector Plan creates high-density residential zones.	Transit District Overlay Zone; Development Plan.
Land Assembly	County assembled station-area sites.	No.	No.	Some private sector land assembly.
Direct Public Investments in Projects	WMATA joint development; Sector Plan includes community facilities.	NOAA office building.	WMATA joint development	No.
Local Transit Service Design	No.	Intermodal station to link MARC, Metro, buses, cars.	No.	Bus service increased.

- *Supportive Zoning.* Transit overlay zones may not create the appropriate land uses around station areas, because overlay zones typically change development standards. Such measures may be inadequate for encouraging station-area development. Special base zones for transit areas may be more effective in creating the appropriate land uses and pedestrian environment. High-density office or residential zones may add enough development to the area to support transit. Such zoning may be adequate if a master plan contains additional design or pedestrian standards. West Hyattsville

shows, zoning alone can accomplish little; rather, zoning is effective in the context of a more comprehensive plan for development.

- *Public Funding.* Few of the stations in the D.C. area received direct public funding for station-area development or public amenities. Infrastructure investments were typically provided by developers incrementally. Fairfax County provided funding for parking and pedestrian amenities upfront at Ballston station, but only in coordination with approved private projects. The federal government provided indirect assistance, however, by locating federal office buildings at Metro stations. This suggests that the right type of market conditions, master planning, and supportive zoning can attract developers without large, upfront public expenditures.
- *Joint Development.* WMATA's joint development initiatives at both the Bethesda and Grosvenor stations helped entice development. WMATA prepared land use provisions, conducted initial environmental review, and provided system interface and development rights to private developers. These initiatives made station-linked joint development attractive for the private sector. An initial successful demonstration project established the precedent for effective joint development and showcased the benefits of joint development for both surrounding businesses and transit ridership.

REFERENCES; ADDITIONAL SOURCES OF INFORMATION

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TELEPHONE INTERVIEWS

Montgomery County

Glenn Kreger, (301) 495-4653, 4/27/98.

John Carter, (301) 495-4575, 5/20/98.

Prince George's County

Steve Fisher, (301) 952-3571, 5/7/98.

John Funk, (301) 952-3671, 5/6/98.

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Alvin McNeal, (202) 962-1234, 5/11/98.