

Survey of Smart City Trends in the West: Transit-oriented Development and Mobility-as-a-Service Part 5: Case Study – Washington DC (2)

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1. Transit Oriented Development (TOD) Best Practice: Specific Details of Development Along the Rosslyn-Ballston Line

In my previous report, I delved into the development of the Rosslyn-Ballston subway line in the Greater Washington, D.C. area as a good example of TOD in the United States and provided an overview. This time, I would like to introduce specific details of this project, such as its organizational structure, funding, and transportation plans.

1.1 Structure/ Financing

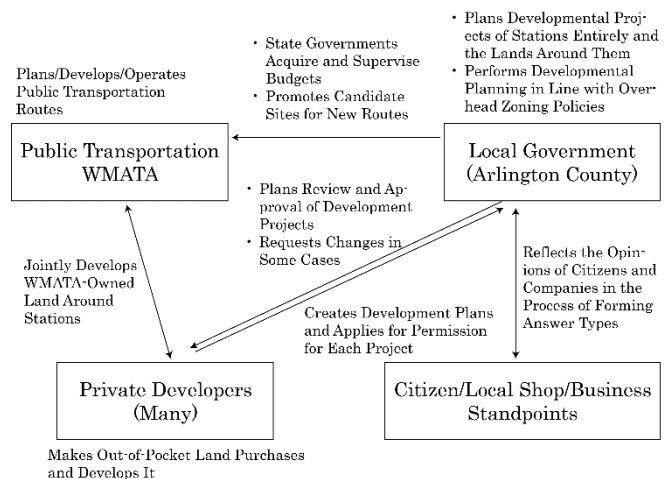
TOD has been led by the municipality of Arlington County, Virginia, which has managed city planning based on the Smart Growth Initiative for roughly 40 years. ※1

A variety of stakeholders, including the Arlington County Board, County Housing and Development, Economic Development, Public Works, citizen advisory boards, community representatives, developers, and business owners participated in the planning of Arlington County, but individual land development projects were drafted by private developers, and Arlington County proceeded with review and approval.

In addition, a subway system based on TOD was planned for development by the Washington Metropolitan Area Transit Authority (WMATA) with cooperation from local and federal governments. Although WMATA still owns and operates the subway, they did not finance the development, and Arlington County issued more than \$100 million in

Capital Bonds. Furthermore, Virginia's transportation bureau, the Northern Virginia Transportation Authority (NVTA), in addition to contributing approximately \$4 million annually to the Subway Subsidy Fund, has used a portion of the \$1 million annual railway subsidy provided by the federal government for subway projects. ※2 In this way, while WMATA, as the operating body, was in a dire financial situation where they couldn't afford to contribute monetarily, federal and local governments have led in fundraising.

Moreover, WMATA's finances remain troubled, and most of its operating costs are currently covered by government subsidies.



Source) Created by referencing various published materials [Figure-1] Correlation chart of major players involved in development along the Rosslyn-Ballston line

1.2 Process/Value Capture of TOD Promotion

In accordance with the General Land Use Plan (GLUP), the county's urban development guidelines, Arlington County implemented zoning revisions to encourage high-density commercial and multi-purpose development on approximately 11% of the land it owns.^{※3} In addition, with approval from the county's city planning committee, it was devised that by setting up a system that can manage flexible land use corresponding to the needs of TOD, those involved (mainly private developers) could adapt as regulations were enacted.

While individual land development plans drawn up by developers are screened for high-density development that meet the requirements of the guidelines (GLUP), it is also distinctive that a system called Negotiated Exactions (NE) is also incorporated in the screening process. NE is an alternative for developers to obtain approval from the local government by promising to establish public facilities such as parks, with the local government and developers consulting together to decide each individual project. It is recognized as an effective process for improving the surrounding environment (value capture), and is mainly used for public transportation projects, such as the construction of WMATA's NoMa-Gallaudet U station and Potomac Yard station.^{※4}

Due to TOD between Rosslyn and Ballston, land values across Arlington County rose 81 percent from 1972 to 2002. In addition, the vacancy rate is lower than any other sector in the vicinity, and the rental rate has also grown high.^{※5} According to a land appraisal conducted in 2018, land value appreciation in this TOD area accounted for about half of the overall increase in Arlington County, and as a matter of course, tax revenue in Arlington County increased with the rising land value.^{※3} Developers also benefited from higher real estate values and an increase in the number of customers at restaurants and accommodation establishments.

1.3 Transportation Planning

The top priority of the project's transportation plan was to improve the convenience of traveling, which includes the metro's public transportation, as well as walking and cycling. The Washington, D.C. metro system has six lines

that extend from its inner DC wards to nearby commuter towns, and the east-to-west running Orange Line and the Silver Line, which opened in 2014, pass through the Rosslyn-Ballston Corridor. Lines operate at roughly 5 minute intervals during peak hours, which is short compared to other cities in the United States.^{Note)} The Blue Line, which passes through the Pentagon and Ronald Reagan Washington National Airport, also runs through Rosslyn station, making it one of the busiest stations in the Washington, D.C. metro system.

In addition, as about 50% of the residents of this TOD area are aged 22-34 and can be said to be young, Arlington County's local government promotes efforts encouraging bicycle use, and in 2010 partnered with Washington D.C. and other neighboring municipalities to launch Capital Bikeshare, a bike-sharing system.

Presently, bike-share stations are installed mainly in areas with high population density, such as where offices are clustered.



Source) Bike Arlington

[Figure-2] Capital Bikeshare

As a result of these efforts, one of the characteristics of this TOD area is that it is relatively less dependent on privately-owned cars (Car-Light). 18% of households do not own a car, the highest figure in the United States. (In addition, the percentage for Arlington County as a whole (including the TOD area) is 12%, so it can be said that the ratio for non-car owners is high even compared nationally.)

^{※3}

1.4 Residential/Office Development

For residential and office development, Arlington County

has a development project called "Bullseye" (the center circle of a target for firing or throwing darts) that concentrates the establishment of housing, office hotels, etc. within a radius of about 800 meters of the subway station. After there was a consensus for an overall plan between Rosslyn-Ballston, a sector plan was created to guide future development around five subway stations (Rosslyn, Courthouse, Clarendon, Virginia Square and Ballston). This plan set goals and guidelines for urban design, development of public facilities, and locations of commercial facilities, and at the same time is defined by a development concept for maintaining and improving the characteristics of each station. (e.g., Rosslyn Station: "First-Class Office and Business Center;" Courthouse Station: "Arlington's Government Center"). It is extremely rare in the United States to develop a concept for each successive station like this, and it is said to be the most unique aspect of this TOD.

Between 1990 and 2000, the population increased by nearly 107 percent within a 400-meter radius of the Rosslyn-Ballston metro stations, accounting for 28 percent of Arlington County's overall growth. Since then, the population of the TOD area has continued to grow, and from 2000 to 2010, boasted a higher growth rate than the entire Washington, D.C. Metropolitan Area in terms of population, employment, and average household income .^{*6}



Source) Arlington County

[Figure-3] Aerial view of the development area

2. Future Prospects

For many years, the Washington, D.C. Metropolitan Area has been a model case for TOD in the United States,

and various lessons and recommendations have been demonstrated through best practices. Regarding TOD in the Rosslyn-Ballston area introduced this time, "Transit investments can be used as a catalyst to reshape communities" and "Multimodal transportation strategies can result in substantial benefits – allowing continued growth with less reliance on autos, " as well as announcing a recommendation to "Develop public-private partnerships to continue consensus building and assist in implementation [of the TOD vision]." On the other hand, the introduction of MaaS has not honestly yet been fully established, and by way of lessons learned from TOD and public-private partnerships, efforts to integrate TOD and MaaS are ongoing.

In addition, the TOD redevelopment plan for the area around the 5 stations between Rosslyn and Ballston, sloganed "'Complete Streets' designed to enable safe, attractive and comfortable access and travel for all users: those who walk, bike, ride transit and drive," is still underway and is expected to be completed by 2025.^{*3} Specifically, in addition to the construction of new entrances and exits to subway stations, the installation and renovation of elevators, the improvement and expansion of sidewalks and bicycle lanes, the expansion of the route bus network, and railroad car updates (IC card payment device replacements), etc. are underway (In addition to contributions from the federal and state governments, funds are supplemented by the county's own tax revenue).^{*7}

One example is the progress of transitioning on-street parking spaces to secure bike lanes as roads are re-paved. The plan calls for a mesh network of existing bike-sharing docks with bicycle lanes and trails, which is expected to improve the last-first mile movement around subway stations.



Source) Arlington County

[Figure-4] Design example of bicycle lanes to be installed in the vicinity of Rosslyn-Ballston

In addition to the long-established Arlington County TOD, many new TODs are planned for the Washington D.C. Metropolitan Area, with these cases reflecting lessons learned and recommendations from past achievements. One specific location is Union Station, which is a major urban metro station, and TODs are being heavily promoted by municipalities in the suburbs of Virginia and Maryland. These TODs break away from the traditional model of building a large multi-story car park next to the station, with instead some proposals promoting movement to the station in different ways, expanding the profit generated by the development of the station area.

In addition, construction of new public transit, in the manner of the Light Rail Purple Line, is progressing. The project connects two existing TODs (Bethesda and Silver Spring) in Montgomery County, Maryland, and builds a light rail line (16.2 miles, 21 stations) to neighboring Prince George's County. As a result, this is expected to bring newly into fruition TOD/MaaS that is hypothesized to produce foot and bicycle traffic on the Maryland side of the Washington DC Metropolitan Area.

- 2) <https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/18/2018/06/7-FY18A-Transportation-Capital-Fund-331.pdf> (Accessed: 2023/1/5)
- 3) <https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2018/09/Smart-Growth-R-B-Corridor-Presentation-Sept-2018.pdf> (Accessed: 2023/1/5)
- 4) https://www.fhwa.dot.gov/ipd/project_profiles/va_potomac_metro_rail_station.aspx (Accessed: 2023/1/5)
- 5) Dittmar, Hank and Gloria Ohland. (Dec 1, 2003). The New Transit Town: Best Practices in Transit-Oriented Development. Island Press.
- 6) <https://www.arlingtonva.us/Government/Projects/Planning/Smart-Growth/Rosslyn-Ballston-Corridor> (Accessed: 2023/1/5)
- 7) http://arlington.granicus.com/Viewer.php?view_id=43&clip_id=3157&meta_id=145949 (Accessed: 2023/1/5)
- 8) <https://www.purplelinemd.com/about-the-project/project-maps> (Accessed: 2023/1/5)



Source) MARYLAND DEPARTMENT OF TRANSPORTATION

Figure-5] Purple Line route map^{*8}

Note

Note: Operating intervals are from before the spread of the coronavirus

Citations/References/Source Materials

- 1) https://www.jittri.or.jp/document/2022_report_May_Okabe.pdf (アクセス : 2023/1/5)