

Fiscal Impacts of Transit-Oriented Development Projects

December 2016

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Report Author Dean D. Bellas, PhD, President, Urban Analytics, Inc.
Alexandria, Virginia (www.UrbanAnalytics.com)

Report Editor Kathleen McCormick, Principal, Fountainhead Communications, LLC

Thank you to the following individuals who provided project data

Brad Coker, The Bozzuto Group
Mark Franceski, The Bozzuto Group
Anthony Wolf Greenberg, The JBG Companies
Samantha Roser, The JBG Companies
Rebecca E. Snyder, Insight Property Group, LLC
Keith Corriveau, DOLBEN

TOD Product Council Leadership

James Palmer, Associate, EDSA, Inc. (ULI Baltimore)
Michele L. Whelley, Principal, M. L. Whelley Consulting, LLC (ULI Baltimore)
David Kitchens, Principal, Cooper Carry (ULI Washington)

District Council Leadership

Bob Youngentob, President, EYA and Chair, ULI Washington
Kimberly A. Clark, Executive Vice President, Baltimore Development Council and Chair,
ULI Baltimore

ULI District Council Staff

Lisa W. Rother, Executive Director, ULI Washington
Lisa Norris, Coordinator, ULI Baltimore

Graphic Design Kelly Annis, Owner, Branch Communications

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Introduction

Transit-oriented development (TOD) is a responsible fiscal choice for local governments and can actually save local governments money, as detailed in Fiscal Impacts of Transit-Oriented Development (TOD) Projects. This report, based on research undertaken by the Baltimore-Washington, D.C. Transit-Oriented Development (TOD) Product Council, was prepared by Dr. Dean Bellas, president of Urban Analytics and a member of the TOD product council. The analysis found that TOD not only “pays its own way” but also subsidizes nonTOD development in cities and counties.

Transit Oriented Development (TOD)

Transit-oriented development is a planning approach that calls for high-density, mixed-use business/neighborhood centers to be clustered around transit stations and corridors. TOD is considered a “smart growth” strategy because it provides a solution to the issue of where growth should occur from a regional sustainability perspective, and it coordinates land use and transportation so both land and infrastructure are used efficiently. TOD is designed to maximize access to public transit and often incorporates amenities to encourage ridership. A TOD neighborhood typically has a center with transit access such as a train, metro station, tram, or bus stop. A transit hub may have multiple modes. TOD neighborhoods typically are located within a radius of one-quarter to one-half mile (400 to 800 meters) from a station or stop, a distance that encourages transit users to walk or bike to transit. Locating the greatest density of housing within this radius provides a solution to “the last mile” problem as well as environmental and health benefits by reducing the need to drive to transit.

This report, based on a study of nearly 10,000 TOD and nonTOD apartment units located within the Baltimore-Washington, D.C. metropolitan region, shows that local governments reap substantial fiscal benefits from transit-oriented development, including higher net tax revenues and lower impacts on public services from people who live near transit. Three TOD case study projects were located in close-in suburbs in the region, and one was located in the City of Baltimore’s downtown core.

The Baltimore-Washington, D.C. TOD Product Council decided to undertake this research and fiscal analysis in response to often-stated opposition in the Baltimore-Washington, D.C. metro region to the development of multifamily apartments and condominiums projects near new transit stops. Opponents generally oppose the level of density these projects are permitted on the grounds that increased density will place a greater burden on public services such as public schools. This sentiment, also heard in other regions across the U.S., is directly opposite to ULI’s responsible development principles, which encourage greater housing density in transit-oriented development to achieve a variety of environmental, health, and social objectives.

TOD: ULI Best Practice

ULI promotes the close proximity and concentration near transit of multifamily housing, along with office and retail uses, as a best practice and a highest and best use of urban land and infrastructure. Building around transit hubs links people of all ages and abilities more directly with jobs, schools, and services, and reduces the number of cars on the road and resulting traffic congestion. Locating greater density of housing near transit reduces the impacts on local community services on a per-household basis while improving air quality and boosting net local and state tax revenues.

Transit users who live near transit stations also benefit from healthier lifestyles—they are significantly more likely to walk or bike to take a train or bus rather than drive, and this increased physical activity helps reduce the risk of obesity, diabetes, heart disease, and other chronic diseases. Residents who don't need to drive and maintain a car also benefit financially from more disposable income, and thus can spend more on housing, food, goods, and services.

This report presents the fiscal impact of four TOD case study projects on the cities, counties, and states in which these projects are located, as well as the socio-economic characteristics of TOD and nonTOD apartment units in the Baltimore-Washington, D.C. metropolitan region.

Key Findings:

TOD Housing Pays Its Own Way—and Subsidizes Other Residential Development

- The TOD projects analyzed generated between \$1.13 and \$2.20 in tax and nontax revenues for their respective jurisdictions for every \$1 in public services provided to their residents and employees.
- TOD development not only pays its own way, it also subsidizes city and county services for existing nonTOD residential development.



Research: Do TODs Cost More for Cities and Counties?

TOD opponents in the Baltimore-Washington D.C. metro region and nationwide claim that TOD projects pose a bigger fiscal burden on the budgets of local jurisdictions than nonTOD projects. TOD projects typically are designed to be higher-density to use urban land more efficiently. The argument against them holds that increasing the total population on a site with a TOD project causes a greater net fiscal burden or deficit for the jurisdiction's budget, compared to a traditional nonTOD project with lower total population density.

Opponents of TOD projects generally have three major concerns about TOD housing development:

1. they contain more units and will add more public-school-age students, thus creating a bigger fiscal burden for the local public school system;
2. they will increase demand for and thus increase the fiscal burden on local public safety departments, which provide police/sheriff, fire, and emergency medical services; and
3. they will pose larger fiscal burdens related to the overall costs of providing public services for people living in these projects.

Methodology

Urban Analytics collected data on 42 TOD and nonTOD projects comprising 9,546 apartments located in close-in urban-suburban areas in Arlington and Fairfax counties in Virginia and in Montgomery County, Maryland. The firm then selected four TOD projects for an in-depth fiscal impact analysis. The case study projects were located in Fairfax County, Virginia and in the cities of Baltimore and Rockville (Baltimore and Montgomery counties, respectively) as well as in suburban Anne Arundel County, Maryland.

Both the TOD and the nonTOD apartments analyzed reflected the full range of building classes (Class A, B, and C). All 42 TOD and nonTOD apartment buildings analyzed had at least 50 units per building.

Fiscal Snapshot of TOD Projects

The Virginia and Maryland counties selected for this report offer a “fiscal snapshot” of TOD projects in counties with similar revenue and expenditure categories but very different revenue and operating budgets. Residents and workers in these counties receive similar public services, though what they pay for these services in taxes and how much they actually receive in services can be quite different. This pattern is typical across all counties and cities in the United States. The counties analyzed all provide residents the same basic public services, with some minor technical differences in the way public revenues are collected. The costs of providing these services, however, vary among the counties.

The four case-study TOD projects each had between 235 and 275 apartments, and all were Class A buildings located within one-half mile of a transit station.

Urban Analytics had two objectives: 1) Measure the cost for public services that residents and workers in the TOD projects required from cities and counties' general fund operating accounts, and 2) measure the revenues generated for cities and counties by residents and workers of the selected TOD case study projects. The analysis estimated the type and dollar amount of new tax revenues the TOD development projects generated at full build-out and occupancy within the 2014 fiscal year. It also estimated expenditures required to provide public services to the TOD projects in fiscal year 2014.

Estimated Expenditures

Estimated expenditures for public services in most of the jurisdictions typically included, but were not limited to: general government administration, judicial administration, planning and zoning, public safety, public works, health and welfare, community development, parks, recreation, culture, and public school education.

Estimated Revenues

In most jurisdictions in the Baltimore-Washington, D.C. metro region, revenues may include but are not limited to: real estate, personal property, and sales taxes (either paid directly to the jurisdiction or received through intergovernmental transfers from the state); utilities or consumer taxes; transient occupancy taxes; revenues from licenses, fees, permits, fines, forfeitures, and charges for services; miscellaneous and other local taxes; and various intergovernmental transfers in the form of revenue sharing to the jurisdiction from the federal government and the state.

Fiscal Impact Analysis



A fiscal impact analysis estimates the type and dollar amount of new tax revenues generated by a new or existing development project at full build-out and occupancy and the estimated expenditures required to provide public services to the existing or new community.

TOD Case-Study Project Profiles

The four TOD case study projects selected for analysis all were Class-A buildings located within one-half mile of a transit station. Each had between 235 and 275 apartments. The analysis used average assessed real estate values per unit and average household incomes per unit, so lower household incomes from any moderately priced dwelling units (MPUDs) were offset by higher household incomes in market-rate units. In multifamily buildings, only one real estate tax bill is assessed for all units in the building, regardless of whether they are rented as market-rate or as MPUDs.

The Shelby, Fairfax County, Virginia

- Size of apartment building: 240 units
- Location: one-half mile from the Huntington Metrorail station
- Location: within TOD neighborhood that encourages walking to the station and public buses
- Average assessed real estate value per apartment: \$250,000
- Average household size: 1.56 people or 42 percent less than the average household size of 2.68 people for renter-occupied housing units in Fairfax County (2010 Census)
- Average school-age children per unit: 0.07 or 85 percent fewer than the average 0.45 per housing unit across all housing in Fairfax County for school year 2013-2014
- Mean average household income: \$88,955 per unit
- Retail space: None
- Revenues generated from tax and nontax sources: \$1,117,400
- Cost to Fairfax County for services for the project's residents: \$752,454
- Total estimated net annual fiscal benefit for the county: \$364,946





The Alaire in FY 2014 generated an estimated \$1.13 in tax and nontax revenues for the City of Rockville for every \$1 the city spent on public services for the project's residents and employees.

The Alaire, City of Rockville, Maryland

- Size of apartment building: 279 units
- Location: one-quarter mile from the Twinbrook Metrorail station
- Average assessed real estate value per apartment: \$241,000
- Average household size: 1.54 people or 33 percent less than the average household of 2.31 people for renter-occupied housing in Rockville (2010 Census)
- Average number of school-age children per unit: 0.06 or 86 percent fewer than the average 0.42 students per household across all housing in Montgomery County for school year 2013-2014
- Average household income: Not available
- Retail space: 14,800 square feet, supporting 33 full-time equivalent jobs
- Revenues generated from tax and nontax sources: \$388,817
- Cost to City of Rockville for services for the project's residents and employees: \$342,949
- Total estimated net annual fiscal benefit for the city: \$45,868

The Fitzgerald, City of Baltimore, Maryland

- Size of apartment building: 275 units
- Location: next to the Mt. Royal Avenue Light Rail Station and 0.4 miles from Penn Station/ Amtrak
- Average assessed real estate value per apartment: \$169,000
- Average household size: 1.25 people or 46 percent less than the average household size of 2.31 people per unit for renter-occupied housing in the city (2010 Census)
- Average number of school-age children per unit: 0.06 or 81 percent fewer than the average 0.32 for all housing in the city for school year 2012-2013
- Average household income: Not available
- Retail space: 23,728 square feet, supporting 53 full-time equivalent jobs
- Revenues generated from tax and nontax sources: \$1,726,045
- Cost the City of Baltimore for services for the project's residents and employees: \$784,992
- Total estimated net annual fiscal benefit: \$941,053

The Fitzgerald in FY 2013 generated an estimated \$2.20 in tax and nontax city revenues for the City of Baltimore for every \$1 the city spent on public services for the project's residents and employees.





The Village at Odenton Station in FY 2014 generated an estimated \$1.24 in tax and nontax revenues for Anne Arundel County for every \$1 in public services the county spent on public services for the project’s residents and employees.

The Village at Odenton Station, Anne Arundel County, Maryland

- Size of apartment building: 235 units
- Location: next to the Odenton MARC Rail Station
- Average assessed real estate value per apartment: \$147,500
- Average household size: 1.70 people or 32 percent less than the average household size of 2.49 people for renter-occupied housing units in Anne Arundel County (2010 Census)
- Average number of school-age children: 0.14 or 64 percent fewer than the average 0.39 for all housing units in the county for school year 2013-2014
- Average household income: \$105,053
- Retail space: 57,995 square feet, supporting 129 full-time equivalent jobs
- Revenues generated from tax and nontax sources: \$816,912
- Cost to Anne Arundel County for services for residents and employees: \$659,456
- Total estimated net annual fiscal benefit: \$157,456



[Table 4-1] Residential and Nonresidential Building Program Data: Four TOD Projects, Selected Virginia and Maryland

Table 4-1
Residential and Non-Residential Building Program Data
Four TOD Projects Selected
Virginia and Maryland

Residential Uses		Total Units⁷	Average Real Estate Assessed Value⁵	Total Real Estate Assessed Value⁵	Estimated Population⁷	Estimated Children⁷
¹ The Shelby		240	\$250,000	\$ 60,000,000	374	17
² The Alaire		279	\$241,000	\$ 67,239,000	431	18
³ The Fitzgerald		275	\$169,000	\$ 46,475,000	345	16
⁴ The Village at Odenton Station		235	\$147,500	\$ 34,662,500	398	33
Non-Residential Uses		Total Sq. Ft.	Avg. Real Estate Assessed Value⁵ per Sq. Ft.	Total Real Estate Assessed Value⁵	Estimated FTE Jobs^{6,7} Supported	
<i>Retail Space</i>						
	The Shelby	0	n/a	n/a	0	
	The Alaire	14,800	\$225.00	\$ 3,330,000	33	
	The Fitzgerald	23,728	\$265.00	\$ 6,287,920	53	
	The Village at Odenton Station	57,995	\$150.00	\$ 8,699,250	129	

Source:

Building Program Data: Insight Property Group; JBG; The Bozzuto Group; DOLBEN; Urban Analytics, Inc.

Assessed and Market Value Data - Retail Space: Review of third-party market research reports and assessment data from LoopNet.com; CBRE; Lipman Frizzell & Mitchell, LLC; Valbridge Property Advisors, Municipal & Financial Services Group, LLC; and the Maryland State Department of Assessments & Taxation (MD SDAT).

Note:

¹ Location: Fairfax County, Virginia. Developer: Insight Property Group

² Location: City of Rockville, Maryland. Developer: JBG

³ Location: City of Baltimore, Maryland. Developer: The Bozzuto Group

⁴ Location: Anne Arundel County, Maryland. Developer: DOLBEN

⁵ Current dollars.

⁶ FTE = full-time equivalent jobs

⁷ At full build-out and occupancy.

TOD Projects Produce More Revenue for Cities and Counties

Urban Analytics analyzed the general socio-economic characteristics of nearly 10,000 apartments in 42 TOD and nonTOD projects in Virginia and Maryland and found that TOD units generated a lower demand for public services per unit on local governments and schools than nonTOD apartment units. In FY 2014, TOD project apartments generated between \$1.13 and \$2.20 in tax and nontax revenues for their respective jurisdictions for every \$1 spent on public services for the residents and employees.

If the four TOD case-study projects had not been located at or near transit rail stations but instead had been located in typical suburban residential locations, they either would have produced significantly fewer revenues or cost local jurisdictions more than they paid for services for residents and employees. At the low end, apartment buildings located in nonTOD areas would have produced only \$0.77 in public revenues for every \$1 they paid for public services for residents and employees, imposing a cost for local governments and school systems of \$0.23 for every \$1 of public revenues received. At the upper end, they would have generated \$1.35 in tax and nontax revenues, producing a surplus of \$0.35 for every \$1 spent providing public services, including school services, to residents and workers in these local jurisdictions.

[Table 1-2] Fiscal Impact Summary: Residential and Nonresidential Land Uses – If the Four Projects Selected Were NonTOD Projects, Virginia and Maryland

Table 1-2
Fiscal Impact Summary¹
Residential and Non-residential Land Uses
If the Four Projects Selected were non-TOD Projects
Virginia and Maryland

<i>Aggregate</i>	The	The	The	The Village at
Residential	Shelby²	Alaire³	Fitzgerald⁴	Odenton Station⁵
Annual Revenues Generated	\$ 1,136,105	\$ 458,304	\$ 1,933,565	\$ 881,998
Annual Expenditures Demanded	\$ 952,961	\$ 498,590	\$ 1,502,500	\$ 1,224,047
Annual Revenue Surplus (Deficit)	\$ 183,144	\$ (40,286)	\$ 431,065	\$ (342,049)
<i>Aggregate</i>				
Non-residential				
Annual Revenues Generated	\$ -	\$ 17,157	\$ 194,147	\$ 111,591
Annual Expenditures Demanded	\$ -	\$ 9,265	\$ 77,101	\$ 69,271
Annual Revenue Surplus (Deficit)	\$ -	\$ 7,892	\$ 117,046	\$ 42,320
Total - All Land Uses				
Annual Revenues Generated	\$ 1,136,105	\$ 475,461	\$ 2,127,712	\$ 993,589
Annual Expenditures Demanded	\$ 952,961	\$ 507,855	\$ 1,579,601	\$ 1,293,318
Annual Revenue Surplus (Deficit)	\$ 183,144	\$ (32,394)	\$ 548,111	\$ (299,729)
<i>Per-Unit</i>				
Residential only	The	The	The	The Village at
	Shelby	Alaire	Fitzgerald	Odenton Station
Annual Revenues Generated	\$ 4,734	\$ 1,643	\$ 7,031	\$ 3,753
Annual Expenditures Demanded	\$ 3,971	\$ 1,787	\$ 5,464	\$ 5,208
Annual Revenue Surplus (Deficit)	\$ 763	\$ (144)	\$ 1,567	\$ (1,455)

Source: Urban Analytics, Inc.

Note:

¹ These are the revenue and expenditure figures that are estimated to have been generated (*on an annual basis*) if the four projects selected for analysis were non-TOD projects and had been fully built-out and occupied in FY 2014. Revenues and expenditures are based on each jurisdiction's Comprehensive Annual Financial Report (CAFR). ²Fairfax County, VA. ³City of Rockville, MD. ⁴City of Baltimore, MD. ⁵Anne Arundel County, MD.



Figure 1-1: Net Fiscal Impact per Unit of Residential Units: TOD vs. nonTOD Projects

Table 1-1
Fiscal Impact Summary¹
Residential and Non-residential Land Uses
Four TOD Projects Selected
Virginia and Maryland

<i>Aggregate</i>	The	The	The	The Village at
Residential	Shelby²	Alaire³	Fitzgerald⁴	Odenton Station⁵
Annual Revenues Generated	\$ 1,117,400	\$ 371,660	\$ 1,531,898	\$ 705,321
Annual Expenditures Demanded	\$ 752,454	\$ 333,684	\$ 707,891	\$ 590,185
Annual Revenue Surplus (Deficit)	\$ 364,946	\$ 37,976	\$ 824,007	\$ 115,136
<i>Aggregate</i>				
Non-residential				
Annual Revenues Generated	\$ -	\$ 17,157	\$ 194,147	\$ 111,591
Annual Expenditures Demanded	\$ -	\$ 9,265	\$ 77,101	\$ 69,271
Annual Revenue Surplus (Deficit)	\$ -	\$ 7,892	\$ 117,046	\$ 42,320
Total - All Land Uses				
Annual Revenues Generated	\$ 1,117,400	\$ 388,817	\$ 1,726,045	\$ 816,912
Annual Expenditures Demanded	\$ 752,454	\$ 342,949	\$ 784,992	\$ 659,456
Annual Revenue Surplus (Deficit)	\$ 364,946	\$ 45,868	\$ 941,053	\$ 157,456
<i>Per-Unit</i>				
Residential only	The	The	The	The Village at
	Shelby	Alaire	Fitzgerald	Odenton Station
Annual Revenues Generated	\$ 4,656	\$ 1,332	\$ 5,571	\$ 3,001
Annual Expenditures Demanded	\$ 3,135	\$ 1,196	\$ 2,574	\$ 2,511
Annual Revenue Surplus (Deficit)	\$ 1,521	\$ 136	\$ 2,997	\$ 490

Source: Urban Analytics, Inc.

Note:

¹ These are the revenue and expenditure figures that are estimated to have been generated (*on an annual basis*) had the four TOD projects selected for analysis been fully built-out and occupied in FY 2014. Revenues and expenditures are based on each jurisdiction's Comprehensive Annual Financial Report (CAFR). ²Fairfax County, VA. ³City of Rockville, MD. ⁴City of Baltimore, MD. ⁵Anne Arundel County, MD.

The four TOD projects analyzed clearly “pay their own way” compared to nonTOD projects that contain higher resident adult and school-age children populations, as shown in Figure 1-1.

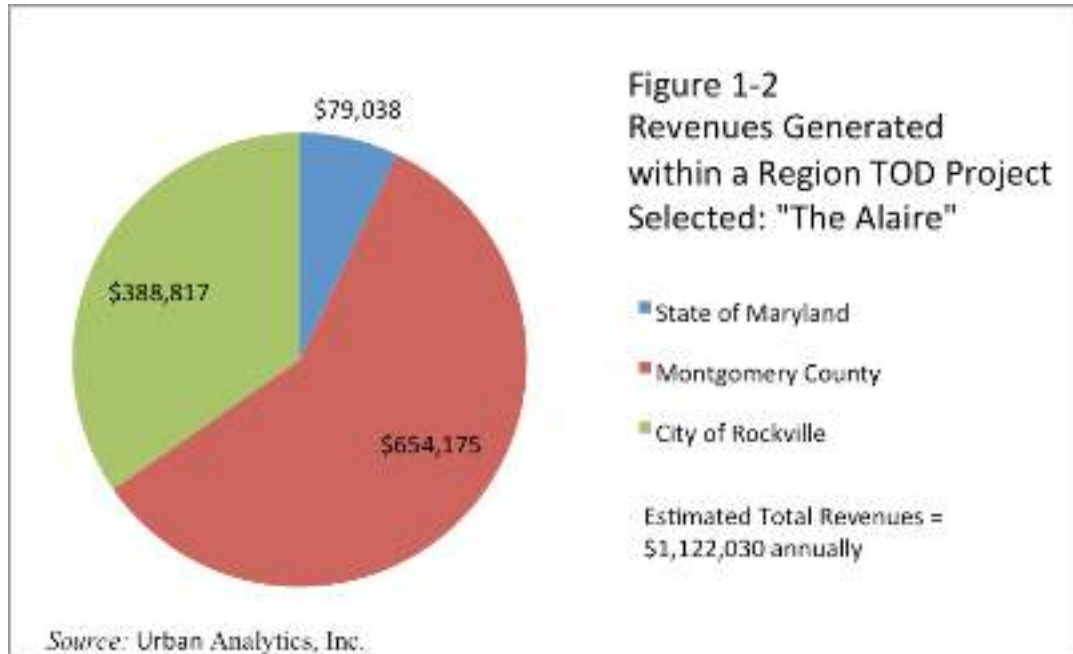
Regionwide Impacts

The four TOD case study projects had a positive impact on local city and county revenues and across jurisdictions. In Virginia, cities are independent of counties. In Maryland, cities and towns typically receive some level of public services directly from their counties and some directly from the state. These services are supported, in part, by real estate taxes collected from real property in the cities and towns.

Are the fiscal impact findings of a TOD project in one jurisdiction the same as in other jurisdictions? A proposed or existing TOD project would generate different fiscal impacts in other jurisdictions because jurisdictions provide different types and levels of public services, relative to the amount of tax and nontax fee revenues they collect annually.

The Alaire in Rockville, Maryland, for example, generated an estimated \$1,122,030 annually, including \$388,817 in gross revenues for the City of Rockville and an additional \$654,175 for Montgomery County, as well as \$79,038 for the State of Maryland. The estimated annual revenues generated in FY 2014 for the city, county, and state for residential and nonresidential land uses are presented in Figure 1-2 and also in Table 6-1.

[Figure 1-2] Revenues Generated within a Region: "The Alaire" TOD Project



[Table 6-1] Revenues Generated within a Region: Residential and Nonresidential Land Uses: "The Alaire" TOD Project

Table 6-1
Revenues Generated within a Region¹
Residential and Non-residential Land Uses
TOD Project Selected: "The Alaire"
Virginia and Maryland

<i>Aggregate</i>	City of Rockville, MD	Montgomery County, MD	State of Maryland	Total
Residential				
Annual Revenues Generated				
Real Estate Revenues	\$ 196,338	\$ 623,306	\$ 75,308	\$ 894,952
All other Revenues	\$ 175,322	\$ -	\$ -	\$ 175,322
Total	\$ 371,660	\$ 623,306	\$ 75,308	\$ 1,070,274
<i>Aggregate</i>				
Non-residential				
Annual Revenues Generated				
Real Estate Revenues	\$ 9,724	\$ 30,869	\$ 3,730	\$ 44,323
All other Revenues	\$ 7,433	\$ -	\$ -	\$ 7,433
Total	\$ 17,157	\$ 30,869	\$ 3,730	\$ 51,756
Grand Total	\$ 388,817	\$ 654,175	\$ 79,038	\$ 1,122,030

Source: Urban Analytics, Inc.

Note:

¹ These are the revenue figures that are estimated to have been generated (on an annual basis) had "The Alaire" TOD project been fully built-out and occupied in FY 2014 based on the City of Rockville's Comprehensive Annual Financial Report (CAFR).

Cross Jurisdictional Impacts

The Alaire in Rockville, Maryland, illustrates the additional fiscal benefits and cross-jurisdictional revenues for one TOD project, as shown in Figure 1-2.:

- Estimated gross revenues generated for the City of Rockville: \$388,817
- Estimated gross revenues generated for Montgomery County: \$654,175
- Estimated gross revenues generated annually for the State of Maryland: \$79,038
- Estimated total gross revenues generated annually: \$1,122,030

General Characteristics of TOD versus nonTOD Projects

The characteristics of TOD versus nonTOD projects are based on analysis of 42 projects comprising 9,546 existing TOD and nonTOD apartment units in Virginia's Arlington and Fairfax counties and in Montgomery County, Maryland. The four TOD case study projects were located in Fairfax County, Virginia, and Anne Arundel, Baltimore, and Montgomery counties in Maryland.

Number of Units: A total of 5,388 (56.4 percent) of the 9,546 apartment units were located in Virginia, and 4,158 units (43.6 percent) were located in Maryland. Some 45 percent of the Virginia units were identified as TOD projects and were located at or near nine Metrorail stations, while 34 percent of the Maryland units were identified as TOD projects and were located at or near three Metrorail stations.

Average Household Size: Average TOD household size varied by location, and ranged from 1.6 people, or 16.2 percent smaller than the average nonTOD households in Montgomery County, to 1.75 people, or 8 percent larger than average nonTOD households in Fairfax County.

Average Number of School-age Children per Unit: Both TOD and nonTOD apartments generally had fewer school-age children in Fairfax County (0.12 per TOD unit and 0.14 children per nonTOD unit) compared to Montgomery County, where 0.14 children lived in each TOD unit and 0.35 children lived in each nonTOD unit. The cost of providing public education in the Baltimore-Washington, D.C. metro region usually ranks either first or second among all public services. The lower average students per unit in TOD projects results in a lower per-unit public education cost in the fiscal impact analysis.

Median Household Income per Unit: The median household income per unit for the TOD projects was substantially higher (greater than 10 percent) than the nonTOD units. In Fairfax County,

the median TOD household income was \$106,631 or 12.7 percent higher than the nonTOD incomes. In Montgomery County, the median TOD household income was \$116,892 or 39.7 percent higher than nonTOD incomes.

Median Age Range of Residents: All projects in all counties, except for the Fairfax County TOD units, reported a median age range of 31 to 40 years. In Fairfax County, the median age range of residents in the TOD units was 26 to 30 years. It is not clear whether the higher median age range of 31 to 40 years reflects a lifestyle choice or a housing affordability issue. Nor is it clear from the data why the median age of households in TOD units in Fairfax County was younger. The reasons for this age difference could include but are not limited to the following factors:

1. housing choices in Fairfax County could be different than in the other counties;
2. housing options in Fairfax County could be more diverse, drawing in younger residents;
3. recent college graduates moving to the Washington, DC metropolitan area from outside the region could be choosing to live in Fairfax County and northern Virginia over counties in suburban Maryland; and
4. employment opportunities for younger workers are more prevalent in Fairfax County and in northern Virginia than in suburban Maryland.





Average Number of Cars: On average, the ratio of cars per unit was 1.30 for nonTOD units compared to 1.04 for the TOD units. The fact that TOD residents owned slightly more than one car per unit could indicate the need for more amenities around TOD projects that people can walk to or that many employment centers in the region are located outside of the public transportation network, resulting in the need for at least one member of the household to use a car to get to work.

Transportation to Work: People who lived in TOD apartments commuted by public transit at a rate five times greater than nonTOD residents (20.2 percent versus 4.2 percent).

Average Commute Time: The average commute time for all nonTOD residents was about evenly split between 1 to 15 minutes (26.8 percent) and 16 to 30 minutes (27.06 percent) for all modes (public transit, driving, walking, carpooling, other). A third (33.92 percent) of the TOD residents estimated that it took 16 to 30 minutes to travel to work, and one-quarter (26.51 percent) reported a 1 to 15-minute commute.

Previous Residence: For both nonTOD and TOD projects, slightly more than two-thirds of residents (68.73 percent) moved to their current apartment building from another apartment building. About one-quarter of residents (23.88 percent) moved to their current apartment building from a house. Six percent of residents moved directly to their current apartment building from their parents' house, and the remaining residents (about 1.4 percent) moved to their current residence straight from college.



Conclusions

- The four TOD projects analyzed clearly “pay their own way,” while nonTOD projects, which have larger average household sizes in both adult and school-age children populations, generally pose a higher fiscal burden for cities and counties.
- TOD project apartments generated between \$1.13 and \$2.20 in tax and nontax revenues for their respective jurisdictions for every \$1 spent on public services for the residents and employees.
- If the TOD projects were not located at or near a transit rail station, they would have generated fewer revenues--between \$0.77 and \$1.35 in tax and nontax revenues for every \$1 spent on public services for the project’s residents and employees.
- The population and school-age children characteristics of TOD and nonTOD projects are quite different. Fewer families with school-age children live in the TOD apartments, so there is less need from those projects for educational services from local school systems.
- The data does not support the major concerns of TOD opponents:
- TODs do not place a greater burden on local public school systems because they generally have fewer school-age children.
- TODs do not place a greater burden on overall costs for services such as public safety, public works, and parks and recreation, because average household size generally is smaller.

Future Research

The fiscal analysis discussed in this report prompts some questions for future research:

- Are the research and findings unique to the Baltimore-Washington, D.C. region, or can they be replicated in other large urban areas?
- If findings from similar studies do not confirm this report, why is the Baltimore-Washington, D.C. region unique, and what factors might contribute to the differences?
- Three of these projects are in close-in suburban locations. Do the fiscal returns of suburban TODs differ from the returns of TOD projects in the downtown core?
- Are the lower average school-age numbers in the TOD projects unique to the Baltimore-Washington, D.C. region, or does this also occur in TOD projects in other large urban areas?
- Does the median age range of 31 to 40 years for TOD residents reflect a generational or lifestyle choice, or does it reflect a housing affordability issue in the Baltimore-Washington, D.C. region?
- Is this median age range an indicator of a future trend or an anomaly?
- Do specific TOD factors contribute larger revenues by attracting a specific tenant profile? For example:
 - » urban attractiveness for young (age 25 to 40) singles or couples without children?
 - » proximity to the transit station, encouraging walking and biking?
 - » generally smaller residences with more affordable rents, allowing more disposable income?
 - » newer construction, modern architectural styles, and higher-end amenities drawing higher incomes?
- How does the cost of parking, especially structured parking, as well as zoning that requires fewer parking spaces per unit to encourage public transit use, affect the average number of cars per unit in TOD projects?
- What effect would a percentage of affordable and workforce TOD housing units have on the overall fiscal impact to a jurisdiction when those units are priced at market-rate and below-market rate?
- Is there a fiscal break-even point at which TOD housing units priced below the fiscal break-even point generate a net fiscal burden (deficit) to the municipality, while TOD housing units priced above the fiscal break-even point generate a net fiscal benefit (surplus) to the municipality?





2001 L Street, NW, Suite 200, Washington, DC 20036
240.497.0550 | washington.uli.org



26 Alderman Court, Timonium, MD 21093
410.844.0410 | baltimore.uli.org