

**A SAMPLE OF PUBLIC REVENUES AND ECONOMIC
IMPACTS OF VARIOUS LAND-USES ALONG THE
RICHMOND HIGHWAY CORRIDOR IN FAIRFAX
COUNTY, VIRGINIA: 2009, 2013 AND 2014**

Prepared for

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Executive Summary

In this report, the findings of a public revenues and economic impact analysis prepared to quantify the potential gross benefits to Fairfax County from various land uses located in and around the Richmond Highway Corridor are presented. The findings presented in this report indicate that these land-uses contribute to the vitality of the Fairfax County economy.

Public Revenues

In Fiscal Year 2013, Fairfax County collected almost \$3.5 billion in general fund operating revenues from various sources including taxes, non-tax revenues, and intergovernmental transfers. Of this \$3.5 billion in operating revenues, \$3.1 billion was generated from the nine categories listed in Table 1. An analysis of 1,410 housing units and 5,514,132 square feet of non-residential space in and along the Richmond Highway Corridor indicates that these land-uses generate \$30.9 million (or one percent of total County revenues) annually. These public revenues are summarized in Table 1.

Table 1
Public Revenues Summary (Fiscal Year 2013)
Residential and Non-residential Land-Uses¹
In and Around the Richmond Highway Corridor
Fairfax County, Virginia

<u>Public Revenue Category</u>	<u>Estimated Public Revenues Generated from:</u>				
	<u>Single-Family Units</u>	<u>Townhouse Units</u>	<u>Condominium Units</u>	<u>Non-residential Space</u>	<u>Total</u>
1 Real Estate	\$ 5,222,317	\$ 1,240,880	\$ 532,217	\$ 13,490,602	\$ 20,486,016
2 Personal Property	\$ 394,160	\$ 166,714	\$ 105,121	\$ 2,941,418	\$ 3,607,413
3 Sales and Use Taxes	\$ 429,377	\$ 181,609	\$ 114,513	\$ 1,058,237	\$ 1,783,736
4 Utilities (Consumer)	\$ 31,548	\$ 13,343	\$ 8,414	\$ 590,494	\$ 643,799
5 BPOL	\$ -	\$ -	\$ -	\$ 3,147,477	\$ 3,147,477
6 Other Local Taxes	\$ 42,073	\$ 17,795	\$ 11,221	\$ 264,776	\$ 335,865
7 Licenses, Fees, Permits	\$ 51,351	\$ 21,720	\$ 13,695	\$ 211,774	\$ 298,540
8 Fines & Forfeitures	\$ 22,588	\$ 9,554	\$ 6,024	\$ 71,045	\$ 109,211
9 Charges for Services	\$ 115,815	\$ 48,985	\$ 30,887	\$ 285,613	\$ 481,300
Total	\$ 6,309,229	\$ 1,700,600	\$ 822,092	\$ 22,061,436	\$ 30,893,357

Source:

Urban Analytics, Inc.

Note:

¹ See Tables 3 and 6 in the report (with accompanying text) for a complete discussion of land-uses analyzed.

The findings from the residential units in Table 1 is based on a sample of 1,410 housing units. If a public revenues analysis had been conducted for all 40,830 housing units in and around the Richmond Highway Corridor, the findings from the residential component would have been substantially higher.

Economic Impacts

In Table 2, the economic impact of household spending from the 1,410 housing units analyzed is shown. It is estimated that these households spent \$38.63 million in goods and services in Fairfax County in 2013. Total outlays to Fairfax County's economy was estimated to be \$57 million. In other words, for every \$1.00 in direct outlays (household spending), total outlays accrued to the Fairfax County economy is estimated to be \$1.48.

Table 2
Economic Impact Summary (2013)
Residential Land-Uses (Selected Sample)¹
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Fairfax County, Virginia

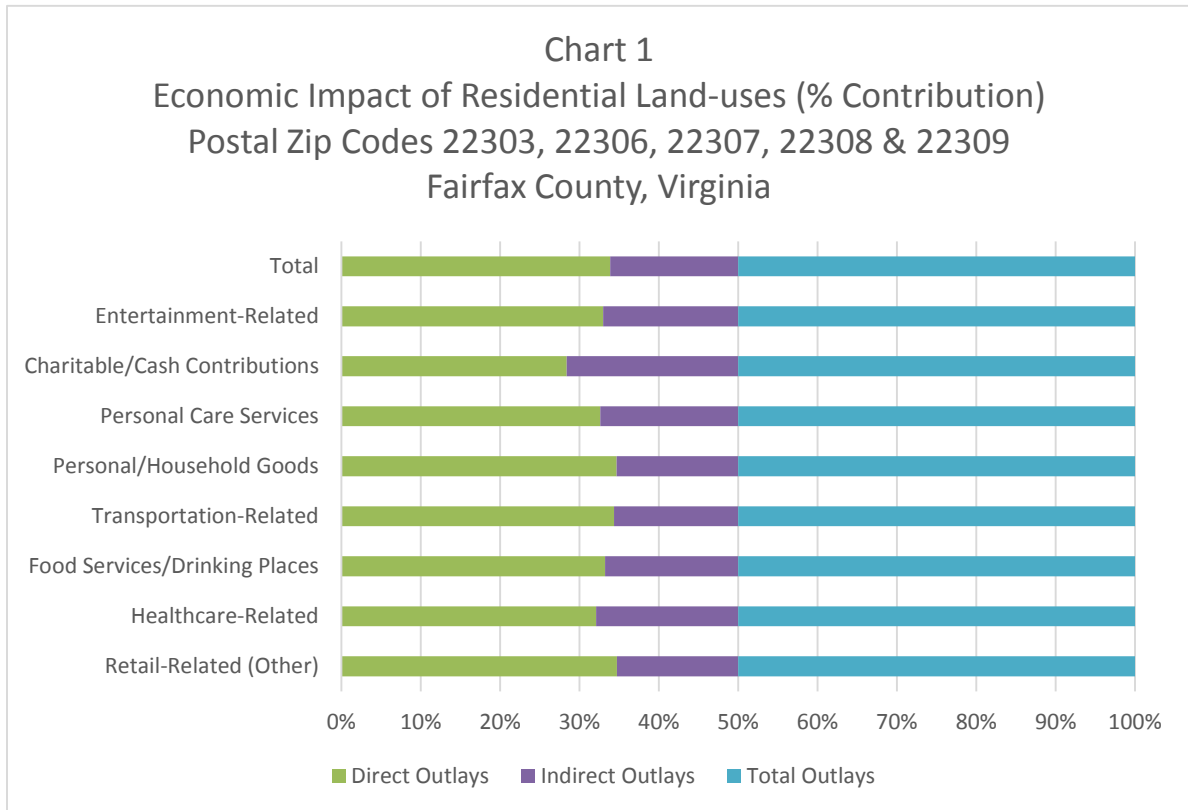
<u>Economic Impacts</u>	<u>Direct Outlays</u>	<u>Indirect Outlays</u>	<u>Total Outlays</u>
Annually			
From Residents			
Retail-Related (Other)	\$ 15,176,359	\$ 6,668,492	\$ 21,844,851
Healthcare-Related	\$ 2,207,470	\$ 1,231,327	\$ 3,438,797
Food Services/Drinking Places	\$ 5,256,539	\$ 2,655,603	\$ 7,912,142
Transportation-Related	\$ 6,939,735	\$ 3,159,661	\$ 10,099,396
Personal/Household Goods	\$ 5,187,555	\$ 2,287,712	\$ 7,475,267
Personal Care Services	\$ 469,087	\$ 249,367	\$ 718,454
Charitable/Cash Contributions	\$ 1,503,839	\$ 1,142,918	\$ 2,646,757
Entertainment-Related	\$ 1,890,147	\$ 975,505	\$ 2,865,651
Total	\$ 38,630,732	\$ 18,370,585	\$ 57,001,317

Source: U.S. Department of Commerce; Long & Foster; Burke & Herbert Bank; Urban Analytics, Inc.

Note:

¹ See Appendix A-2 in the report (with accompanying text) for a complete discussion of land-uses analyzed.

The economic impacts shown in Table 2 are presented graphically in Chart 1.



Source: Urban Analytics, Inc.

Just as a rising tide lifts all boats, future economic development strategies for the Richmond Highway Corridor should encompass a wide range of programs and efforts to bolster aggregate income across all land uses, both residential and non-residential. While the Retail sector has remained steady at about 71 percent of the non-residential land-use base from 2009 – 2014, economic development efforts to diversify this base are strongly encouraged. In addition to new office and hotel space, market-rate residential land uses (single-family, town houses, condominiums, and apartments) in and around the Richmond Highway Corridor can be a significant source of new aggregate income to this area of Fairfax County.

Analysis of Various Residential and Non-residential Land-Uses

Residential land-uses in postal zip codes 22303, 22306, 22307, 22308, and 22309 were analyzed for the years 2009, 2013 and 2014. Residential land-uses analyzed were limited to transactional (re-sale) data only. Although there was new residential construction in these zip codes, the data available for analysis were limited both in number (14 units in 2009, 15 units in 2013, and 3 units in 2014) and in price point (all new residential construction was priced between \$1,000,000 and \$1,500,000). These newly constructed units did not reflect the overall market characteristics of housing in the five zip codes. Additionally, while new apartment building construction occurred during this time period (as well as renovations of existing apartment buildings), the data were limited in terms of number, value, unit size, and

rental rates; thus, limiting the ability to draw statistically significant conclusions.¹

In Table 3, there were 1,597 residential unit sales in 2009 across all five zip codes with a weighted average value of \$334,607 per unit.

Table 3
Residential Land-Use Data (Transactional Only¹)
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Fairfax County, Virginia
For the Years 2009, 2013 and 2014²

	<u>Total Units</u>	<u>Average Real Estate Market Value³</u>	<u>Total Real Estate Market Value³</u>	<u>Average Imputed HH Income³</u>	<u>Aggregate Imputed HH Income³</u>
2009					
Single Family	807	\$479,000	\$ 386,553,103	\$ 108,200	\$ 87,317,400
Town House	498	\$198,567	\$ 98,886,556	\$ 48,600	\$ 24,202,800
Condominiums	<u>292</u>	\$167,561	<u>\$ 48,927,870</u>	\$ 41,300	<u>\$ 12,059,600</u>
Total	1,597		\$ 534,367,529		\$123,579,800
<i>Weighted Average</i>		\$334,607		\$ 77,382	
2013					
Single Family	827	\$587,421	\$ 485,796,889	\$ 122,400	\$101,224,800
Town House	355	\$325,157	\$ 115,430,648	\$ 71,900	\$ 25,524,500
Condominiums	<u>228</u>	\$217,143	<u>\$ 49,508,544</u>	\$ 49,200	<u>\$ 11,217,600</u>
Total	1,410		\$ 650,736,081		\$137,966,900
<i>Weighted Average</i>		\$461,515		\$ 97,849	
2014					
Single Family	572	\$647,110	\$ 370,146,818	\$ 137,900	\$ 78,878,800
Town House	302	\$342,828	\$ 103,534,128	\$ 77,600	\$ 23,435,200
Condominiums	<u>169</u>	\$230,939	<u>\$ 39,028,614</u>	\$ 53,600	<u>\$ 9,058,400</u>
Total²	1,043		\$ 512,709,560		\$111,372,400
<i>Weighted Average</i>		\$491,572		\$ 106,781	

Source:

County of Fairfax, VA; Long & Foster; Burke & Herbert Bank; Urban Analytics, Inc.

Note:

¹ Reflects actual units sold. Does not include units not for-sale or units listed for-sale.

² Through October 14, 2014.

³ In current year dollars.

¹ It is interesting to note that there is a healthy rental market within these five zip codes for privately rented single-family houses, town houses and duplexes, and condominium units. There are many reasons for this including (*but not limited to*) the lack of newly built, affordably priced *and* market-rate apartment buildings. An analysis of the privately rented housing units was not conducted due to the lack of sufficient data in this submarket.

By 2013, sales had declined to 1,410 units but the weighted average value increased to \$461,515. For the first ten months of 2014, there were 1,043 recorded transactions at a weighted average value of \$491,572 per unit.

In Table 4, the median household income across all five zip codes during the 2008-2012 period was estimated to be \$86,831 (in 2012 dollars). When adjusted for inflation to constant 2014 dollars, the median household income across all five zip codes was \$89,582 (see Table 5). As the recession ended in 2009, the weighted average imputed household income needed to purchase housing in 2009 was \$84,630 (inflation-adjusted to 2014 dollars), slightly less than the weighted average income of \$89,582 across these five zip codes (see Table 5). This reflected lower pricing opportunities for housing (as well as declining 30-year fixed-rate mortgage interest rates) in the five zip codes immediately after the 2007-2009 national recession.

Table 4
Selected Population, Housing and Income Characteristics
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Selected Years

<i>Selected Characteristics</i>	22303	22306	22307	22308	22309	Total
¹ Total Population	12,601	32,326	9,581	12,737	33,220	100,465
¹ Total Population in Households (HH)	12,601	32,130	9,561	12,640	33,185	100,117
¹ Total Housing Units	6,858	12,312	4,655	4,741	12,264	40,830
¹ Total Occupied Housing Units	6,234	11,734	4,417	4,610	11,614	38,609
Average HH Size	2.0213	2.7382	2.1646	2.7419	2.8573	2.5931
Percent of Total Population in HH	12.59%	32.09%	9.55%	12.63%	33.15%	100.00%
² Median Household Income (MHI) ^{3,4}	\$76,950	\$59,243	\$103,026	\$161,953	\$83,092	\$86,831
² Total Household Base for MHI	6,360	11,644	4,514	4,683	10,917	38,118
Aggregate HH Income ³	\$489,402,000	\$689,825,492	\$465,059,364	\$758,425,899	\$907,115,364	\$3,309,828,119
Percent of Aggregate HH Income	14.79%	20.84%	14.05%	22.91%	27.41%	100.00%

Source - Data:

¹ U.S. Census. DP-1 Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data.

² U.S. Census. DP03 Selected Economic Characteristics. 2008-2012 American Community Survey 5-Year Estimates (in 2012 inflation-adjusted dollars).

Source - Table Construction and Data Analysis:
Urban Analytics, Inc.

Note:

³ In constant 2012 dollars.

⁴ Total reflects weighted-average median household income.

However, by 2013, housing values had increased at a rate greater than the rate of inflation in these zip codes and newcomers to the area required a minimum weighted average household income of \$99,766 (in 2014 dollars) to purchase housing in 2013 (see Table 5). By 2014, the minimum weighted average household income needed to purchase housing in the five zip codes increased to \$106,781.

As can be seen in Table 4, aggregate household income in the five zip codes was estimated to be \$3.31 billion (in 2012 inflation-adjusted dollars). Of this \$3.31 billion in aggregate household income, \$907 million (or 27.41 percent) was generated by the residents living within the postal zip code area 22309, followed by residents living within zip code 22308 (22.91 percent), and residents living within zip code 22306 (20.84 percent). While the residents living within postal zip code 22308 had the highest median household income at \$161,953 and residents living within postal zip code 22307 had the second highest median household income (\$103,026), the residents in these two zip codes only accounted for slightly under 37 percent of aggregate household income in the five zip codes. Alternatively stated, residents living within postal zip codes 22303, 22306 and 22309 generated slightly more than 63 percent of the \$3.31 billion in aggregate household income in and around the Richmond Highway Corridor. The data shown in Table 4 help to explain the current mix and type of retail land-uses currently existing along the Richmond Highway Corridor.²

² The findings presented in Table 4 do not reflect or explain current spatial (geographical) household spending patterns for retail goods and services. The concept of “if you build it, they will come” is not applicable. The findings in this table simply suggest the relationship between the current mix in number and type of national and regional retailers located along the Richmond Highway Corridor and the quantity of household income (“rooftops”) in and around the Richmond Highway Corridor. As the level of aggregate household income changes in the future (up or down), so will the mix in the number and type of retail establishments, goods and services along the Corridor.

Table 5

Household Income Characteristics Inflation-Adjusted to 2014 dollars
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Selected Years

<i>Selected Characteristics</i>	<u>22303</u>	<u>22306</u>	<u>22307</u>	<u>22308</u>	<u>22309</u>	<u>Total</u>
<i>Reported in 2012 dollars</i>						
¹ Median Household Income (MHI) ²	\$76,950	\$59,243	\$103,026	\$161,953	\$83,092	\$86,831
¹ Total Household Base for MHI	6,360	11,644	4,514	4,683	10,917	38,118
Aggregate HH Income	\$489,402,000	\$689,825,492	\$465,059,364	\$758,425,899	\$907,115,364	\$3,309,828,119
Percent of Aggregate HH Income	14.79%	20.84%	14.05%	22.91%	27.41%	100.00%
<i>Adjusted to 2014 dollars</i>						
Median Household Income (MHI) ²	\$79,388	\$61,120	\$106,290	\$167,083	\$85,724	\$89,582
Total Household Base for MHI	6,360	11,644	4,514	4,683	10,917	38,118
Aggregate HH Income	\$504,904,570	\$711,676,788	\$479,790,843	\$782,450,219	\$935,849,654	\$3,414,672,074
Percent of Aggregate HH Income	14.79%	20.84%	14.05%	22.91%	27.41%	100.00%
Inflation-Adjusted³ Weighted-Average HH Income Needed to Purchase Housing across all Zip Codes (From Table 3)						
	2009 dollars	\$77,382	→	2014 dollars	\$84,630	
	2013 dollars	\$97,849	→	2014 dollars	\$99,766	
	2014 dollars	\$106,781	→	2014 dollars	\$106,781	

Source - Data:

¹ U.S. Census. DP03 Selected Economic Characteristics. 2008-2012 American Community Survey 5-Year Estimates (in 2012 inflation-adjusted dollars).

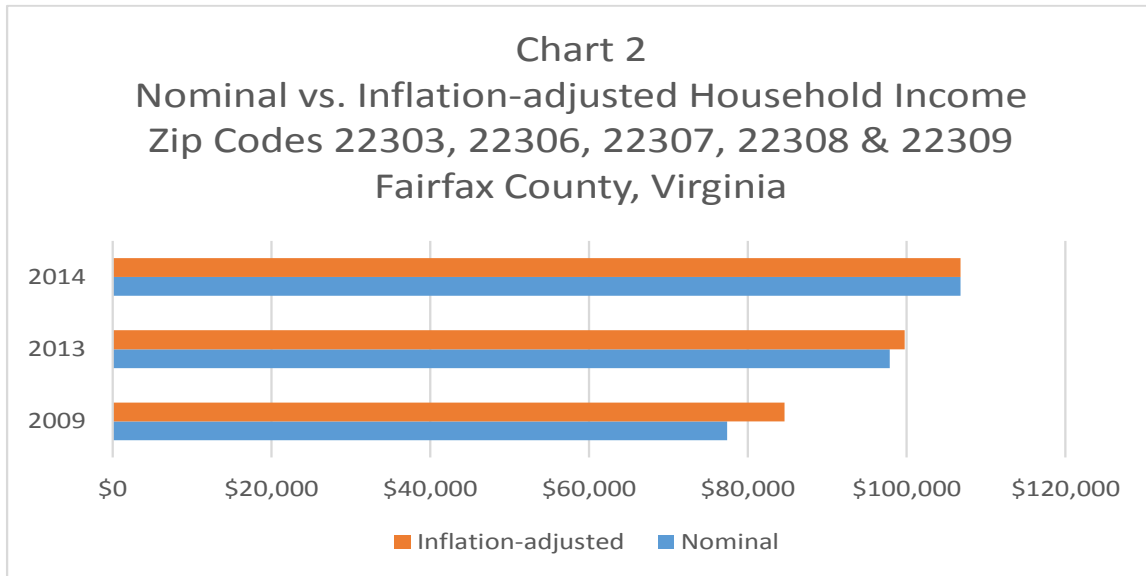
Source - Table Construction and Data Analysis:
Urban Analytics, Inc.

Note:

² Total reflects weighted-average median household income.

³ See Appendix Table A-4 for Personal Consumption Expenditure (PCE) Price Index.

Nominal and inflation-adjusted weighted average household incomes needed to purchase housing across all postal zip codes are graphically shown in Chart 2. Weighted average housing values for all transactional sales for the years 2009, 2013 and 2014 are shown in Table 3. Nominal weighted average household incomes are estimated for each year and are subject to mortgage financing conditions such as rate, term, debt-to-income ratio, real estate taxes, and hazard insurance.



Source: Urban Analytics, Inc. Note: Inflation-adjusted to constant 2014 dollars.

Non-residential land-use data along the Richmond Highway Corridor are presented in Table 6. In 2009, there was 5,555,506 square feet of existing office, retail and hotel space along the Corridor.³ Of the 5,555,506 square feet of non-residential space, 1,044,644 square feet (or 18.8 percent) consisted of office space, 3,915,008 square feet (or 70.47 percent) consisted of retail space, and the remaining 595,854 square feet (or 10.73 percent) consisted of hotel space.

By 2014, total non-residential space decreased by a net 41,374 square feet to 5,514,132 square feet. Office space decreased to 936,799 square feet (a decrease of 107,845 square feet from 2009) while hotel space increased to 662,325 square feet (an increase of 66,471 square feet from 2009). Overall, the total real estate assessed value of all non-residential space increased 7.29 percent from \$1.18 billion in 2009 to \$1.27 billion in 2014. On a per square foot basis, the weighted average assessed value increased from \$212.76 per square foot in 2009 to \$229.97 per square foot in 2014.

³ There are data inconsistencies among the various data sources reviewed, including the CoStar database, the Fairfax County Economic Development Authority and Department of Tax Administration databases. There are also definitional and classification issues in the databases. Within the office and retail space are land-uses designated as commercial and these land-uses may include light-industrial land uses.

Table 6
Non-Residential Land-Use Data
Richmond Highway Corridor
Fairfax County, Virginia
For the Years 2009, 2013 and 2014

	Total Sq. Ft.	% of Total	Total Real Estate Market Value¹	Average Assessed Value/Sq. Ft.¹
2009				
Office	1,044,644	18.80%		
Retail	3,915,008	70.47%		
Hotel	<u>595,854</u>	<u>10.73%</u>		
Total	5,555,506	100.00%	\$ 1,181,987,530	\$ 212.76
2013				
Office	936,799	16.99%		
Retail	3,915,008	71.00%		
Hotel	<u>662,325</u>	<u>12.01%</u>		
Total	5,514,132	100.00%	\$ 1,254,939,720	\$ 227.59
2014				
Office	936,799	16.99%		
Retail	3,915,008	71.00%		
Hotel	<u>662,325</u>	<u>12.01%</u>		
Total	5,514,132	100.00%	\$ 1,268,104,450	\$ 229.97

Source:

County of Fairfax, Virginia [Department of Tax Administration](#) and [Economic Development Authority](#); CoStar; Southeast Fairfax Development Corporation; Urban Analytics, Inc.

Note:

¹ In current year dollars.

When current year dollar assessments are adjusted to constant year dollar assessments (the value of the assessments are adjusted for inflation), a different trend emerges. In Table 7, inflation-adjusted non-residential data are presented. In 2014 inflation-adjusted dollars, the total assessed value of the non-residential space analyzed decreased 1.9 percent from \$1.29 billion in 2009 to \$1.27 billion in 2014.

Table 7

Non-residential Assessment Data
 Richmond Highway Corridor
 2009, 2013 and 2014

<u>By Year</u>	<u>Total Assessed Value</u>	<u>% Change</u>
<i>Assessed Value (current year dollars)</i>		
¹ Year 2009 in 2009 dollars	\$1,181,987,530	
¹ Year 2013 in 2013 dollars	\$1,254,939,720	6.17%
¹ Year 2014 in 2014 dollars	\$1,268,104,450	1.05%
<i>Assessed Value (constant year dollars)</i>		
² Year 2009 in 2014 dollars	\$1,292,704,302	
² Year 2013 in 2014 dollars	\$1,279,531,929	-1.02%
² Year 2014 in 2014 dollars	\$1,268,104,450	-0.89%

Source:

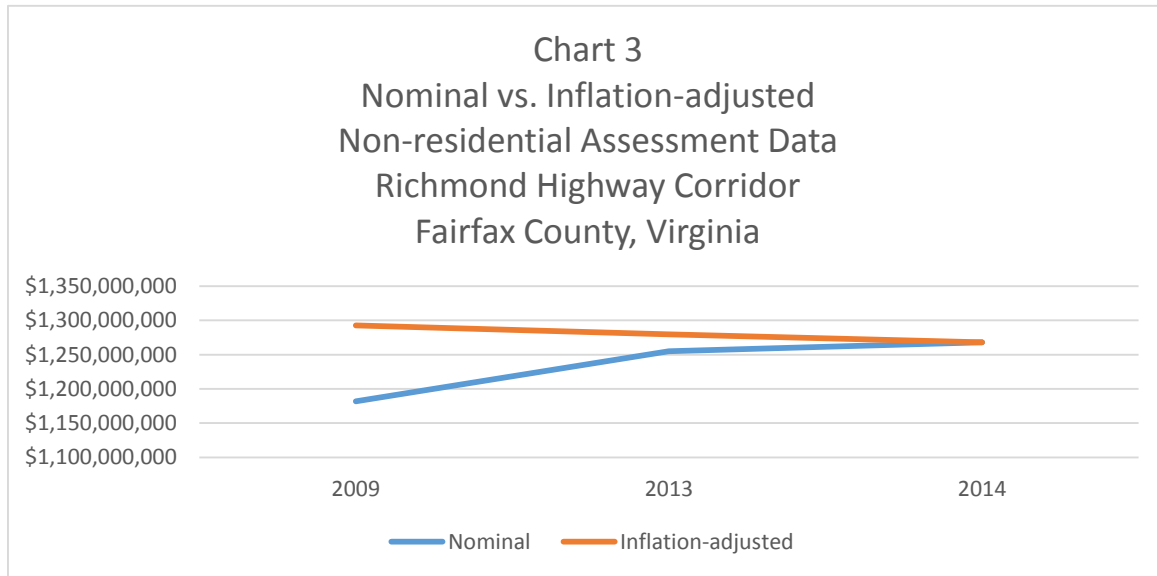
Fairfax County, Virginia Department of Tax Administration; Urban Analytics, Inc.

Note:

¹ Raw data smoothed by Urban Analytics to eliminate duplicative tax map number and assessed value entries in the database.

² See Appendix Table A-4 for Personal Consumption Expenditure (PCE) Price Index.

Nominal and inflation-adjusted non-residential assessment trends for properties along the Richmond Highway Corridor are graphically shown in Chart 3. The numbers behind the trend lines come from Table 7. Current year dollars are inflation-adjusted to constant year 2014 dollars.



Source: Urban Analytics, Inc. *Note:* Inflation-adjusted to constant 2014 dollars.

Further research needs to be conducted to explain the causative reasons behind the decline in non-residential assessed values when adjusted for inflation. While the national economic recovery from the 2007-2009 U.S. recession has been uneven and this can explain, in part, the overall slower than expected growth rates across the country, differences in intra-county growth rates (e.g., Tysons Corner versus Richmond Highway, Bailey’s Crossroads versus Seven Corners) are subject to a number of local economic variables.

The data shown in Table 7 (and the trend lines shown in Chart 3), however, underscore the need for continued public-private partnerships in the field of local economic development. While Fairfax County’s Economic Development Authority is one of the top economic development agencies in the country, local counties cannot be solely responsible for business expansion and business retention strategies and implementation. Quasi-public entities (such as the Southeast Fairfax Development Corporation) and private-sector entities (such as the Mt. Vernon-Lee Chamber of Commerce) play a vital and important role in the on-the-ground, day-to-day operations of local economic development.

Public Revenues to Fairfax County, Virginia

A review of various existing databases at the time that this report was prepared determined that there were insufficient or inconsistent data on new residential and non-residential construction projects in and around the Richmond Highway Corridor. Furthermore, the characteristics of existing office, retail and hotel land uses along the Richmond Highway Corridor are sufficiently differentiated in terms of age, quality, use and function, type, mix, number, and value as to make a comparative analysis of public revenue of selected projects problematic. Therefore, a sample of potential public revenues that would be generated to Fairfax County from the 1,410 new households moving into existing housing (re-sale housing) in 2013 as well as a public revenues sample of aggregate non-residential square feet

was prepared.⁴

Public revenue flows are different for each type of land use in the County. Thus, the revenue analysis of a single-family house will be different than a revenue analysis of a town house which would be different than a revenue analysis of a retail establishment, and so forth. Additionally, the inputs (the financial and socio-economic variables) employed in the revenue analysis model are based on local, jurisdiction-specific data. The revenue analysis findings presented in this report are specific to Fairfax County only. These revenue benefits are not transferable to other jurisdictions. That is, if this public revenues analysis were conducted for the same housing and household characteristics but located in the City of Alexandria or in Arlington County, then the revenue findings on the budget of those jurisdictions would be different than the revenue findings for Fairfax County.

Public Revenue Analysis Model

In order to accurately measure these distinct fiscal flows, a revenue analysis model was developed that allocates local revenues by land use type including distributions across different types of residential and non-residential land uses. The County's actual operating revenues for FY 2013 as well as the allocation factors used to distribute actual operating revenues for each budget category are shown in Appendix Table B-1. The allocation factors calculated for Fairfax County are based on a detailed analysis of County data provided by the County's various departments and agencies. For example, in Appendix Table B-1, a detailed analysis of revenues from Other Local Taxes indicated that 60.7 percent of these revenues were generated by the occupants of residential land uses while the remaining 39.3 percent was generated by workers and visitors associated with non-residential land uses.

This revenue analysis model has been calibrated to reflect the schedule of tax rates and revenue sources, as reflected in the Fairfax County Comprehensive Annual Financial Report (CAFR) for fiscal year 2013. This analysis, therefore, reflects 2013 real dollar values and provides an accurate measurement of revenues reflecting these 2013 tax rates. If tax rates are changed in future years, then respective revenue estimates would also change. Similarly, if assessments change at a rate exceeding the rate of inflation, then the value base for calculating revenues would also change. For the purposes of this analysis, all of these values are held constant and this provides an accurate portrayal of the estimated revenues of residential land uses in the County as they existed as part of the tax base in 2013.

In Appendix Table B-1, operating revenues by source, land-use allocation factors, and the revenue contribution margin by land-use type and by revenue category for Fairfax County as of fiscal year-end 2013 are presented. At the end of fiscal year 2013, Fairfax County reported total operating revenues of \$3.5 billion (specifically, \$3,498,853,809). Land-use allocation factors were developed to estimate the contribution of revenues within each operating revenue category by land use type. The categories of land uses in the revenue analysis model are as follows: single-family; town house, multifamily, retail, office, industrial, and other (which includes government and non-profit land uses). For ease of

⁴ Please see the section on Data Limitations for a more complete discussion.

presentation, these land uses are bifurcated into two land use classifications: residential and non-residential.

To the extent that the data were available as of the date of this report, the land-use allocation factors (and the revenue analysis multipliers calculated by the revenue model) were localized to Fairfax County, Virginia. Of the \$3,498,853,809 in total operating revenues reported as of fiscal year end 2013, it was estimated that \$2,679,550,777 (or 76.58 percent) in revenues were generated by the residential sector of the County while \$819,303,032 (or 23.42 percent) were generated by the non-residential sector of the County.

Public Revenue Analysis Findings

Based on an examination of all potential local revenue sources generated by the residential and non-residential land uses currently existing in the County, the total annual operating revenues to Fairfax County from the residential and non-residential land-uses analyzed was found to equal an estimated \$30,893,357 annually (see Table 1). Of this estimated \$30,893,357 annual public revenue contribution, it was estimated that \$8,831,921 in revenues were generated by the 1,410 residential units and \$22,061,436 by the non-residential land-uses annually (see Table 1).

Economic Impacts to Fairfax County

Due to the data limitations previously discussed, the economic impact findings presented in this report are limited to an analysis of the estimated annual household spending from 1,410 households. *Direct outlays* are defined in this report as the estimated outlays incurred (captured) within Fairfax County from annual household spending. *Indirect outlays* are defined in this report as the net increase in direct outlays (in Fairfax County) that deliver a dollar of output to its final use. For example, the multiplier for direct “food services and drinking places” outlays in Fairfax County is 1.5052. For every \$1.00 spent on food services and drinking places captured in Fairfax County, a total of \$1.51 is generated (captured) in the local economy. The direct impact is 1.0. The indirect impact is 0.5052. The total economic impact of household spending from various housing units within the five zip codes for the years 2009, 2013 and 2014 are shown in Appendix Tables A-1, A-2, and A-3.

Annual Economic Impacts from Household Spending

The economic impact of household spending from the 1,410 households in 2013 in the five zip codes is shown both in Table 2 and in Appendix Table A-2. These households were estimated to have an estimated median household income of \$97,849 for a total of \$137.97 million in gross household income.⁵ Approximately 28 percent of this household income (or \$38.63 million) is estimated to be captured within the local Fairfax County economy. It is estimated that direct spending from these households will generate an additional \$18.37

⁵ This is the estimated weighted-average median household income required to obtain a mortgage subject to mortgage financing terms (or to rent a multifamily unit) in 2013. Actual median household incomes may be higher or lower.

million in indirect outlays for a total of \$57 million annually in Fairfax County. Direct household income captured locally includes spending for goods and services such as retail and other personal services, local health care services, entertainment (including restaurants), transportation costs, and home maintenance expenditures.

Data Limitations

The findings presented in this report are limited by both the type and amount of data available at the time this report was prepared. Data did not exist on whether buyers purchasing housing within the five zip codes were coming from outside Fairfax County or whether they were existing homeowners within the five zip codes that were simply trading up (or down) from one house to the next. Data on down payment size by wealth and asset categories were not available. A review of various existing databases at the time that this report was prepared determined that there were insufficient or inconsistent data on new residential and non-residential construction projects in and around the Richmond Highway Corridor. Furthermore, the characteristics of existing office, retail and hotel land uses along the Richmond Highway Corridor are sufficiently differentiated in terms of age, quality, use and function, type, mix, number, and value as to make a comparative analysis of public revenues of a selected project problematic. Data provided in the Fairfax County Department of Taxation database on assessed values were (in some instances) duplicative with the appearance of the same tax map number and assessed value entries. These data were smoothed to eliminate potential double-counting. As with any county in the United States, there are issues concerning economic activity and the measurement of cross-border leakage for county residents who live in close proximity to the county's geographic borders. At the time of this report, data were not available on spatial spending patterns for the residents within the five zip codes analyzed. The reader is cautioned that the findings in this report might change if the data limitations identified are resolved.

Appendix

Contact Information

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Dean D. Bellas, Ph.D., is president of Urban Analytics, Inc., an Alexandria, Virginia-based real estate and urban planning consulting firm providing urban development analytical services to public, private, and institutional-sector clients. Consulting services include fiscal and economic impact studies, market research and economic base analyses, real estate asset management, real estate development economics, and project feasibility studies. Since 1996, Dr. Bellas has provided consulting services in Arizona, California, Illinois, Indiana, Kansas, Maryland, Michigan, Virginia, West Virginia, Wisconsin, and the District of Columbia. Dr. Bellas has analyzed the fiscal impact on over 16,000 residential units and over 38.7 million square feet of non-residential space. The total estimated value of all land-uses analyzed is over \$5 billion. In addition, Dr. Bellas has authored or co-authored over sixty research reports on the fiscal and economic impact of real estate development. Dr. Bellas has been a consultant to the Department of the Treasury and to the State Department.

In addition to Urban Analytics, Dr. Bellas is also an adjunct faculty member in the Real Estate Development concentration within the School of Architecture and Planning at the Catholic University of America where he teaches Real Estate Finance, Real Estate Investment, Urban Economics, and Asset Management and Strategy. Previously, he has been an adjunct faculty member in the School of Professional Studies in Business and Education at the Johns Hopkins University, and an adjunct faculty member in the School of Management at George Mason University. Dr. Bellas has also taught candidates for the CFA designation on behalf of the Washington Society of Investment Analysts.

Dr. Bellas received a Bachelor of Science in Business Administration from Western New England University with a concentration in Finance (1982), a Master of Urban and Regional Planning from the George Washington University (1993), and his

Doctorate in Public Policy with a concentration in regional economic development policy at George Mason University (2005). His doctoral dissertation was entitled, *“Fiscal Impact Simulation Modeling: Calculating the Fiscal Impact of Development.”* His research interests include regional and local developmental growth patterns, economic and fiscal impact effects of real estate development on municipal government, and economic development policy. Dr. Bellas is a member of Lambda Alpha International, an honorary society for the advancement of land economics. He is a full member of the Urban Land Institute. Dr. Bellas sits on ULI’s national *Public Development and Infrastructure Council*, regionally on the ULI Washington, DC/Baltimore *Transportation Oriented Development (TOD) Council*, and locally on ULI’s Washington District *Regionalism Initiatives Council*.

Dr. Bellas was the economic advisor to the Southeast Fairfax Development Corporation Board of Directors in calendar year 2012. He was appointed to the Board of Directors for the 2013 – 2014 term by Supervisor Jeffrey C. McKay (Lee District). His term on the Board of SFDC expires on December 31, 2014. Both Dr. Bellas and Urban Analytics, Inc., were not compensated for this report. The analyses conducted and the findings presented in this report were independently conducted by Urban Analytics, Inc., and Dr. Bellas.

Appendix Table A-1
Annual Economic Impact of Household Spending
Residential Land-Use Data (Transactional Only)¹
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Fairfax County, Virginia
2009

<i>Calculation of HH Income</i>		Average Per Unit	Estimated	Estimated Minimum	Estimated
	Units	Real Estate	Purchase	Per Unit HH	Minimum
		Market Value	Down Payment	Income Required	Total HH
				for Purchase²	Income³
Single Family	807	\$479,000	20%	\$108,200	\$87,317,400
Town House	498	\$198,567	15%	\$48,600	\$24,202,800
Condominiums	292	\$167,561	10%	\$41,300	\$12,059,600
Total	1,597	\$334,607		\$77,382	\$123,579,800
<i>Local HH Income Captured</i>		Average Per Unit	HH Income	Estimated Per Unit	Estimated Total
	Units	HH Income	Captured	HH Income	HH Income
			Locally	Captured Locally	Captured Locally
All Housing Units	1,597	\$77,382	28%	\$21,667	\$34,602,344
<i>Local Direct & Indirect Outlays</i>		Estimated Total	Regional Data	Estimated Total	Estimated Total
	HH Income	HH Income	RIMS II	HH Income	HH Income
	Captured	Captured Locally	Multiplier	Captured Locally	Captured Locally
	Locally	Direct Outlays		Indirect Outlays	Total Outlays
Retail-Related (Other)	11.00%	\$13,593,778	1.4394	\$5,973,106	\$19,566,884
Healthcare-Related	1.60%	\$1,977,277	1.5578	\$1,102,925	\$3,080,202
Food Services/Drinking Places	3.81%	\$4,708,390	1.5052	\$2,378,679	\$7,087,069
Transportation-Related	5.03%	\$6,216,064	1.4553	\$2,830,174	\$9,046,238
Personal/Household Goods	3.76%	\$4,646,600	1.4410	\$2,049,151	\$6,695,751
Personal Care Services	0.34%	\$420,171	1.5316	\$223,363	\$643,534
Charitable/Cash Contributions	1.09%	\$1,347,020	1.7600	\$1,023,735	\$2,370,755
Entertainment-Related	1.37%	\$1,693,043	1.5161	\$873,780	\$2,566,823
Total	28.00%	\$34,602,344		\$16,454,912	\$51,057,256

Source:

U.S. Department of Commerce, Bureau of Economic Analysis [Regional Multipliers-RIMS II](#) (2010); County of Fairfax, VA; Long & Foster; Burke & Herbert Bank; Urban Analytics, Inc.

Note:

¹ Reflects actual units sold. Does not include units not-for-sale or units listed for-sale.

² Subject to mortgage financing terms such as: rate, term, debt-to-income ratio, real estate taxes, and hazard insurance.

³ In current (2009) dollars.

Appendix Table A-2
Annual Economic Impact of Household Spending
Residential Land-Use Data (Transactional Only)¹
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Fairfax County, Virginia
2013

<u>Calculation of HH Income</u>		<u>Average Per Unit</u>	<u>Estimated</u>	<u>Estimated Minimum</u>	<u>Estimated</u>
	<u>Units</u>	<u>Real Estate</u>	<u>Purchase</u>	<u>Per Unit HH</u>	<u>Minimum</u>
		<u>Market Value</u>	<u>Down Payment</u>	<u>Income Required</u>	<u>Total HH</u>
				<u>for Purchase</u> ²	<u>Income</u> ³
Single Family	827	\$587,421	20%	\$122,400	\$101,224,800
Town House	355	\$325,157	15%	\$71,900	\$25,524,500
Condominiums	228	\$217,143	10%	\$49,200	\$11,217,600
Total	1,410	\$461,515		\$97,849	\$137,966,900

<u>Local HH Income Captured</u>		<u>Average Per Unit</u>	<u>HH Income</u>	<u>Estimated Per Unit</u>	<u>Estimated Total</u>
	<u>Units</u>	<u>HH Income</u>	<u>Captured</u>	<u>HH Income</u>	<u>HH Income</u>
			<u>Locally</u>	<u>Captured Locally</u>	<u>Captured Locally</u>
All Housing Units	1,410	\$97,849	28%	\$27,398	\$38,630,732

<u>Local Direct & Indirect Outlays</u>		<u>Estimated Total</u>	<u>Regional Data</u>	<u>Estimated Total</u>	<u>Estimated Total</u>
	<u>HH Income</u>	<u>HH Income</u>	<u>RIMS II</u>	<u>HH Income</u>	<u>HH Income</u>
	<u>Captured</u>	<u>Captured Locally</u>	<u>Multiplier</u>	<u>Captured Locally</u>	<u>Captured Locally</u>
	<u>Locally</u>	<u>Direct Outlays</u>		<u>Indirect Outlays</u>	<u>Total Outlays</u>
Retail-Related (Other)	11.00%	\$15,176,359	1.4394	\$6,668,492	\$21,844,851
Healthcare-Related	1.60%	\$2,207,470	1.5578	\$1,231,327	\$3,438,797
Food Services/Drinking Places	3.81%	\$5,256,539	1.5052	\$2,655,603	\$7,912,142
Transportation-Related	5.03%	\$6,939,735	1.4553	\$3,159,661	\$10,099,396
Personal/Household Goods	3.76%	\$5,187,555	1.4410	\$2,287,712	\$7,475,267
Personal Care Services	0.34%	\$469,087	1.5316	\$249,367	\$718,454
Charitable/Cash Contributions	1.09%	\$1,503,839	1.7600	\$1,142,918	\$2,646,757
Entertainment-Related	1.37%	\$1,890,147	1.5161	\$975,505	\$2,865,651
Total	28.00%	\$38,630,732		\$18,370,585	\$57,001,317

Source:

U.S. Department of Commerce, Bureau of Economic Analysis [Regional Multipliers-RIMS II](#) (2010); County of Fairfax, VA; Long & Foster; Burke & Herbert Bank; Urban Analytics, Inc.

Note:

¹ Reflects actual units sold. Does not include units not-for-sale or units listed for-sale.

² Subject to mortgage financing terms such as: rate, term, debt-to-income ratio, real estate taxes, and hazard insurance.

³ In current (2013) dollars.

Appendix Table A-3
Annual Economic Impact of Household Spending
Residential Land-Use Data (Transactional Only)¹
Postal Zip Codes 22303, 22306, 22307, 22308, and 22309
Fairfax County, Virginia
2014⁴

Calculation of HH Income		Average Per Unit Real Estate Market Value	Estimated Purchase Down Payment	Estimated Minimum Per Unit HH Income Required for Purchase²	Estimated Minimum Total HH Income³
	Units				
Single Family	572	\$647,110	20%	\$137,900	\$78,878,800
Town House	302	\$342,828	15%	\$77,600	\$23,435,200
Condominiums	169	\$230,939	10%	\$53,600	\$9,058,400
Total	1,043	\$491,572		\$106,781	\$111,372,400
Local HH Income Captured		Average Per Unit HH Income	HH Income Captured Locally	Estimated Per Unit HH Income Captured Locally	Estimated Total HH Income Captured Locally
	Units				
All Housing Units	1,043	\$106,781	28%	\$29,899	\$31,184,272
Local Direct & Indirect Outlays					
	HH Income Captured Locally	Estimated Total HH Income Captured Locally Direct Outlays	Regional Data RIMS II Multiplier	Estimated Total HH Income Captured Locally Indirect Outlays	Estimated Total HH Income Captured Locally Total Outlays
Retail-Related (Other)	11.00%	\$12,250,964	1.4394	\$5,383,074	\$17,634,038
Healthcare-Related	1.60%	\$1,781,958	1.5578	\$993,976	\$2,775,935
Food Services/Drinking Places	3.81%	\$4,243,288	1.5052	\$2,143,709	\$6,386,998
Transportation-Related	5.03%	\$5,602,032	1.4553	\$2,550,605	\$8,152,637
Personal/Household Goods	3.76%	\$4,187,602	1.4410	\$1,846,733	\$6,034,335
Personal Care Services	0.34%	\$378,666	1.5316	\$201,299	\$579,965
Charitable/Cash Contributions	1.09%	\$1,213,959	1.7600	\$922,609	\$2,136,568
Entertainment-Related	1.37%	\$1,525,802	1.5161	\$787,466	\$2,313,268
Total	28.00%	\$31,184,272		\$14,829,471	\$46,013,743

Source:

U.S. Department of Commerce, Bureau of Economic Analysis [Regional Multipliers-RIMS II](#) (2010); County of Fairfax, VA; Long & Foster; Burke & Herbert Bank; Urban Analytics, Inc.

Note:

- ¹ Reflects actual units sold. Does not include units not-for-sale or units listed for-sale.
- ² Subject to mortgage financing terms such as: rate, term, debt-to-income ratio, real estate taxes, and hazard insurance.
- ³ In current (2014) dollars.
- ⁴ Through October 14, 2014.

Appendix Table A-4

Personal Consumption Expenditure Price Index (2009 = 100)

Year	Index	Year	Index
2009	100.000	2024	146.098
2010	101.654	2025	151.197
2011	104.086	2026	156.489
2012	106.009	2027	161.982
2013	107.265	2028	167.700
2014	109.367	2029	173.620
2015	111.686	2030	179.766
2016	114.311	2031	186.147
2017	117.180	2032	192.774
2018	120.426	2033	199.656
2019	123.966	2034	206.804
2020	127.983	2035	214.228
2021	132.193	2036	221.919
2022	136.609	2037	229.886
2023	141.240	2038	238.139

Source:

U.S. Department of Commerce; Woods & Poole Economics, Inc.

Note:

1969 -2012: Chain-type price index, historical data, U.S. Dept. of Commerce

2013-2040: Projected, from Woods & Poole Economics, Inc.

A Sample of Public Revenues and Economic Impacts of Various Land-Uses along the Richmond Highway Corridor in Fairfax County, Virginia: 2009, 2013 and 2014 (December 9, 2014)

**Appendix Table B-1
Revenue by Source Multipliers
Fairfax County, Virginia
FYE June 30, 2013**

Category	2013 Revenues ¹	Allocation Factor		Contribution Margin			
		Resident	Non-Res.	Residential		Non-Residential	
1 Real Estate							
Residential	\$1,768,024,389	100.0%	0.0%	\$1,768,024,389	65.98%		
Non-Residential	\$371,404,929	0.0%	100.0%			\$371,404,929	45.33%
2 Personal Property	\$340,539,570	56.6%	43.4%	\$192,677,289	7.19%	\$147,862,281	18.05%
3 Sales Tax	\$263,088,819	79.8%	20.2%	\$209,892,260	7.83%	\$53,196,559	6.49%
4 Utilities (Consumer)	\$45,104,967	34.2%	65.8%	\$15,421,388	0.58%	\$29,683,579	3.62%
5 BPOL	\$158,220,681	0.0%	100.0%	\$0	0.00%	\$158,220,681	19.31%
6 Other Local Taxes	\$33,876,414 ²	60.7%	39.3%	\$20,566,371	0.77%	\$13,310,043	1.62%
7 Licenses, Fees, Permits	\$35,747,734	70.2%	29.8%	\$25,102,059	0.94%	\$10,645,675	1.30%
8 Fines & Forfeitures	\$14,612,835	75.6%	24.4%	\$11,041,458	0.41%	\$3,571,377	0.44%
9 Use of Money	\$18,160,015	65.3%	34.7%	\$11,854,858	0.44%	\$6,305,157	0.77%
10 Charges for Services	\$70,971,358	79.8%	20.2%	\$56,613,852	2.11%	\$14,357,506	1.75%
11 Miscellaneous	\$32,044,332 ³	94.9%	5.1%	\$30,422,889	1.14%	\$1,621,443	0.20%
12 Recovered Costs	\$14,858,461	98.3%	1.7%	\$14,604,381	0.55%	\$254,080	0.03%
13 Intergovernmental	\$332,199,305	97.3%	2.7%	\$323,329,584	12.07%	\$8,869,721	1.08%
Total	\$3,498,853,809			\$2,679,550,777	100.00%	\$819,303,032	100.00%
				Contribution Margin:	76.58%		23.42%

Note:

1 Operating revenues (General Fund) only. Does not include Nonmajor Governmental Funds.

2 Includes Occupancy, Tobacco, Other.

3 Includes Recovered Costs, Gifts, Donations, Contributions, Developers' Contributions, and Other.

Source:

Fairfax County Comprehensive Annual Financial Report (CAFR) for the FYE June 30, 2013

Urban Analytics, Inc.

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