

Arlington Analytics

Langston Boulevard Plan: Fiscal Analysis

Summary

[Plan Langston Boulevard](#) is a county-led process that “takes a closer look at the long-term goals for this important [corridor and its surrounding areas](#).” The plan focuses on land use in five potential areas of development, beginning with [area one](#) in the west near East Falls Church metro and finishing in the east with [area five](#) in North Highlands. In this section, we summarize the entire plan. In other sections, we analyze areas [one](#), [two](#), [three and four](#), and [five](#) separately.



Plan Langston Boulevard provides details on two scenarios for most of the areas: a less-dense Scenario A, and a higher-density Scenario B. Although any projected development would take place over decades, for analytical purposes, we evaluate the plan as if all development were completed in 2022. This approach will help us understand the long-run implications for student growth, resident growth, and the county operating budget. Compared to current development, we find that:

- The number of residents along Langston Boulevard will increase by about 9,695 (Scenario A) to 10,587 (Scenario B). This represents almost a 30% increase from the current population of about 35,000.¹
- Available commercial space will increase about 400,000 square feet in Scenario A and about 700,000 in Scenario B.
- Using our student generation factors (SGFs) and Arlington Public Schools (APS) SGFs, we estimate that the change in APS enrollment is between a loss of 18 students to a gain of 229 students.
- In the unified operating budget—including the county operating budget, APS’ operating budget, and anticipated school construction costs but excluding other capital expenditures—revenues increase more than spending by \$21 to \$29 million per year.
- In addition, we analyze long-term risks to school enrollment and the county operating budget by evaluating the scenarios using the highest APS SGFs observed for any Langston Boulevard area schools. Under this assumption, we find that anticipated enrollment grows by 805 to 846. Additional enrollment

¹ Total area population calculated by adding the population of all census block groups that overlap or are adjacent to Langston Boulevard. Population statistics are drawn from the 2018 American Community Survey.

increases spending; in this analysis, revenues increase more than spending by only \$3 to \$4 million per year.

It is important to note that this is a fiscal analysis of the county's operating budget, not of the county's capital budget or capital improvement plan. *We have not estimated the cost of such infrastructure improvements as flood control, transportation, or land acquisition that are proposed in Plan Langston Boulevard.* These costs could be quite substantial. Moreover, most of these investments would occur before or during the development, which will necessitate substantial borrowing before any additional revenues could be used to pay for them.

In this analysis, we focus on the county and school budgets. There may be other elements—such as additional traffic, construction issues, or environmental considerations—that are important components of a thorough cost-benefit analysis.

Background: Langston Boulevard Development

[Langston Boulevard](#) runs from East Falls Church into North Rosslyn. Development along the highway varies from high-rise apartments in Waverly Hills and North Highlands to detached single-family homes in Leeway Overlee and East Falls Church. There are few office buildings, but there is a substantial amount of retail. According to [Plan Langston Boulevard](#) documents, “The plan will describe what we want Langston Boulevard to be like 30 years in the future and outline how we’ll get there.”

Scenario A proposes buildings that are typically about five and seven stories abutting the boulevard. About a half-block back, the increased density transitions to buildings no more than four stories: we assume that all of these buildings are duplexes, with two units per existing parcel. Scenario B proposes buildings that are typically about seven stories closest to the highway and that step down to four stories a block away, although in some cases, buildings are allowed to be as tall as 15 stories. Scenario B also has a slightly greater emphasis on commercial space along the corridor. The growth anticipated in both scenarios will be supported by a significant investment in transportation infrastructure, flood control, and land acquisition, both along and near Langston Boulevard.

New Development

To estimate the number of apartment units in a prospective apartment building, we use a recent build in the Maywood neighborhood as a guide. The [Cherry Hill](#) apartment building on parcels 05052015, 05052016, and 05052017—roughly behind the Safeway at the corner of N. Monroe and Langston Boulevard—has 93 units on four floors, situated on 110,000 square feet of land. Therefore, we assume that for each floor, there is one apartment unit on each floor for each approximately 5,000 square feet of land. Although the apartments are much smaller than 5,000 square feet, a considerable amount of space is dedicated to common areas, maintenance facilities, exterior spaces, surface parking, and other uninhabited elements.



Figure 1: Example of scenarios A and Scenario B in area two. Source: [Plan Langston Blvd. Highway](#).

For commercial properties, both retail and office, we assume that half of the land space is taxable commercial space, per floor. For example, a new building with ground-floor retail located on parcels totaling 25,000 square feet, we would assume that there is about 12,500 square feet of taxable commercial space. A four-story office building on the same parcels would yield 50,000 square feet of taxable commercial space. These estimates are broadly in line with or slightly smaller than select commercial properties in the Clarendon area.

For residential development under four stories, which are more prevalent in Scenario A, we assume that duplexes will replace existing development.² In most cases, we assume two residential units will occupy each parcel already sized like a typical [R-6](#) parcel.

Although there is nothing explicitly barring redevelopment for condominiums, the ownership structure presents additional obstacles to redevelopment. The governing documents typically require a very high level of agreement within the community; therefore, we assume that only townhome communities could be redeveloped because the profit from redevelopment may be high enough to persuade membership to redevelop.³



In each of the papers for the individual areas along Langston Boulevard, we include an Appendix listing our assumptions for new buildings, their locations, the number of apartment units, the amount of new commercial space, the gross number of new students, and the gross number of new

residents. In this appendix, we include the gross change in number of residents and students; although not listed in the appendix, the loss in students and residents from the redeveloped properties is included in the total budget, student enrollment, and resident population analysis.

In some cases, the buildings straddle boundaries on height limits, in which case we typically report an average building height across the entire parcel.

We compare the new development from Scenarios A and B to the current state of development on Langston Boulevard. It is possible that without zoning changes to the Langston Boulevard corridor that these properties would continue to develop, particularly for parcels zoned [C-2](#), nonetheless this development would be difficult to predict and more limited than proposed in the Plan Langston Boulevard initiative.

² Alternate development could include townhomes or small, garden-style apartments. Townhomes have a slightly higher density, they generate slightly higher student enrollment, and generate somewhat higher real estate tax revenues. Garden style apartments may have slightly higher enrollment than duplexes, and bring generally similar or slightly higher tax revenue. Using alternate assumption for these properties did not yield large changes to the overall estimates of the fiscal effects of this new development.

³ We assume that townhomes can be redeveloped, with one exception. The area one plan for the recently-built townhome development near Charles A. Stewart Park, however, does not provide a large density increase; therefore, we assume that it will not be redeveloped. It is possible that a few of the garden-style condominiums, concentrated in area five, could be redeveloped into more dense options. Proposed density allowances, particularly in area five, may make redevelopment valuable enough to incentivize membership to agree to redevelopment.

Students and Residents

Table 1 shows our estimates for the number of new residents. We anticipate that a fully-developed Scenario A would bring in about 10,000 new residents relative to current development. Scenario B, which proposes some larger, more dense residential construction, will likely bring slightly fewer than 11,000 new residents.⁴

Table 1: Estimates of Changes in Residents and Commercial Space in Scenarios A and B

Changes in Residents (A)	9,695
Changes in Residents (B)	10,587
Change in Business Floorspace (A)	389,369
Change in Business Floorspace (B)	704,232

Sources: Author's calculations.

Also shown in Table 1, commercial real estate will increase. We anticipate that Scenario A will result in the gain of about 400,000 square feet of commercial space and Scenario B will result in the gain of about 700,000 square feet. The growth of commercial space is concentrated in area five near North Highlands and Lyon Village. Langston Boulevard would lose some commercial space elsewhere along the corridor as [C-1](#) properties, particularly around the Garden City Shopping Center, are rezoned to emphasize residential uses.

Student enrollment growth is the single largest category of operating budget spending affected by new development. There is a significant amount of uncertainty around how many students are going to come from each new residence. Therefore, we use three different estimates of SGFs to estimate student growth:

- Countywide SGFs estimated by [Arlington Analytics](#) developed with statistical analysis of data from the APS [elementary school boundary process](#),
- APS school-by-school estimates of SGFs reported in the [Fall 2019 APS Enrollment Report](#)⁵, and
- A “worst-case” risk analysis using APS’ highest SGFs from any school serving the Langston Boulevard corridor.

One reason we use these different approaches is because APS finds that elevator apartments assigned to Glebe generate nearly eight times as many students as elevator apartments assigned to Taylor, and about three times as many students as the countywide average. Most of this discrepancy is owed to the exceptionally large number of students in the planning unit encompassing the Avalon Arlington North, an apartment complex near the corner of Glebe Road and Langston Boulevard. Nonetheless, it is possible that the large enrollments from Avalon Arlington North represent what Arlington should expect from new residential development, which is why we include those SGFs in our “worst-case” risk analysis in addition to the two more standard estimates.

None of the other elementary schools serving the Langston Boulevard corridor have similarly high SGFs. For example, the high-rise developments in North Highlands, north of Langston Boulevard but south of I-66, have very low student enrollment. The newest property in that area, Verde Point, has only seven students enrolled in APS elementary schools from about 200 units. For this reason, we do not expect that the “worst-case scenario”

⁴ We use Arlington Analytics [population generation factors](#). Factors are based on 2018 American Community Survey data by census block group; we anticipate that these factors will change slightly when all of the 2020 Census data is available at much more granular level.

⁵ APS also does not report elevator apartment SGFs for Discovery, Nottingham, or Tuckahoe; we use the APS countywide average SGFs.

is a likely outcome, although some intermediate student enrollment between our estimates and the “worst-case scenario” appears to be quite possible.

In Table 2, we show the expected changes in student enrollment. Although there are large numbers of new residences, in both cases, the new construction is concentrated in large, elevator apartments, which house comparatively few students per unit. Moreover, a number of garden apartments and some committed affordable housing, which have higher student enrollment per unit, will be redeveloped. Using either APS factors or Arlington Analytics estimates leads to similar anticipated losses in student enrollment. In all cases, we calculate slightly under 500 students would be displaced from redevelopment.

Table 2: APS Enrollment Changes

	Arlington Analytics	APS Factors*	“Worst-Case” Factors**
New Construction (A)	594	670	1,302
New Construction (B)	458	726	1,343
Expected Enrollment Loss from Redeveloped Residences	476	497	497
Total Change in Enrollment (A)	118	173	805
Total Change in Enrollment (B)	(18)	229	846

*APS SGFs from the [Fall 2019 APS Enrollment Report](#). Countywide averages used in place of missing values.

** “Worst-Case” Factors are APS factors for multi-family elevator residences from Glebe, Swanson, and Yorktown. SGFs used to compute expected enrollment loss are from respective schools. “Worst-Case” Factors are unchanged when computing student loss from redeveloped properties.

Even though we anticipate a large increase in the number of residential units, we expect net student enrollment for APS elementary, middle, and high schools to **increase** by a net 118 students in Scenario A and **decrease** by 18 students Scenario B. Using APS SGFs, we find similar results; net student enrollment increases by 173 students under Scenario A and by 229 students under Scenario B.⁶ In the “worst-case” risk analysis, we anticipate that student enrollment would increase by a just over 800 students in Scenario A and a just under 850 students in Scenario B.

⁶ Although a difference of 250 students seems large, in the context of development that adds over 10,000 new residents, we interpret the results as broadly similar.

Fiscal Effects of New Development

Using the Arlington Analytics' [budget model](#), we calculate the fiscal effects of the new construction, residents, and students. *We do not estimate the cost of the infrastructure improvements such as flood control, transportation, and land acquisition that are proposed in Plan Langston Boulevard*; these costs could be quite substantial. In Table 3, we show the effects in six different cases: Scenarios A and B, each with Arlington Analytics' SGFs, APS' SGFs, and APS' SGFs in the "worst-case" scenario. Although the model can project revenues and operating expenses across dozens of categories, we distill the results in Table 3 into a few key broad categories.

Table 3: Projected Revenues, Expenditures, and Deficit

(Change in current [nominal] USD, millions; last line is nominal USD)

	Scenario A (AA SGFs)	Scenario B (AA SGFs)	Scenario A (APS SGFs)	Scenario B (APS SGFs)	Scenario A ("Worst-Case" SGFs)	Scenario B ("Worst-Case" SGFs)
Real Estate Taxes	\$46.7	\$51.3	\$46.7	\$51.3	\$46.7	\$51.3
Property Taxes	\$4.0	\$4.8	\$4.0	\$4.8	\$4.0	\$4.8
BPOL	\$0.6	\$1.0	\$0.6	\$1.0	\$0.6	\$1.0
APS	\$0.2	\$0.0	\$0.4	\$0.5	\$1.5	\$1.5
Other Local	\$7.8	\$8.7	\$7.8	\$8.7	\$7.8	\$8.7
External, Misc.	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Revenue	\$59.3	\$65.8	\$59.5	\$66.3	\$60.6	\$67.3
County Operating	\$32.4	\$37.0	\$32.4	\$37.0	\$32.4	\$37.0
APS Spending	\$2.7	(\$0.4)	\$4.1	\$5.5	\$19.2	\$20.2
APS Debt Service	\$1.3	\$0.0	\$1.7	\$2.1	\$5.7	\$6.0
Total Spending	\$36.4	\$36.6	\$38.2	\$44.6	\$57.3	\$63.2
Change in Balance (Negative is deficit)	\$22.9	\$29.2	\$21.3	\$21.7	\$3.3	\$4.1
Fiscal Change for Each New Resident	\$2,362	\$2,758	\$2,197	\$2,050	\$340	\$387

In both Scenarios A and B, real estate taxes increase substantially. We estimate that the county will bring in just under \$47 million in new real estate taxes in Scenario A, and just over \$51 million in Scenario B. New construction in the area is likely to fall at the high end of the assessment spectrum. We typically estimate that new construction will assess higher than 90 percent of similar existing construction. Therefore, not only is new construction denser—increasing real estate tax revenues—but it is also more valuable than most existing facilities.

Personal and business property taxes increase significantly as new residents register their cars and new businesses register their property. We project that this category will generate about \$4 million to almost \$5 million per year for Scenarios A and B respectively. As shown in Table 2 and the Plan Langston Boulevard documentation, we expect that business space will increase in both scenarios, leading to an increase in the BPOL tax by \$600,000 to \$1 million. APS revenues will increase slightly as the increase in enrollment increases

generates revenues from aftercare programs, aid from the commonwealth, and more. We project other local taxes—including the meals tax, sales tax, and many other small forms of revenue—will bring in about \$8 million from Scenario A and \$9 million from Scenario B. In summary, Scenario A, were the vision in the plan realized today, would increase revenues about \$59 million, and Scenario B about \$66 million.

New residents require additional spending to maintain the same level of service. We estimate effects on the county operating budget, the APS operating budget, and APS debt service from new school construction.

We expect that the county operating budget—which goes toward environmental services, transit operating expenses, human services, parks and recreation, police, fire, and much more—would need to go up by about \$32 million in Scenario A and \$37 million in Scenario B. APS spending goes down by \$400,000 in one scenario, and up by as much as \$20 million depending on the SGFs. Debt service over 20 years could increase by as much as \$6 million per year in the “worst-case” scenario to support the additional enrollment.

Overall, the budget balance—excluding non-school capital improvements—changes by between \$3 million and \$29 million per year. We find that Scenarios A and B typically generate surpluses (excluding new infrastructure costs) between \$340 and \$2,758 per resident. Much of the increasing surplus is owed to the relatively low SGFs for the types of development favored by this plan and the growth of commercial space over the entire Langston Boulevard corridor.

Without considering the effects of the infrastructure investments needed to support the growth along Langston Boulevard, anticipated development generates additional surpluses that can be used to pay for some of the improvements. Nonetheless, the infrastructure investments may run into the hundreds of millions of dollars, which may exceed the resources generated by the additional development.

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