Spending Growth and Real Estate Taxes

Summary

According to projections published by both Arlington Public Schools (APS) and Arlington County, spending in both the county and the school system is going to increase over the next few years. We extend county and APS projections through to 2031 to determine how much real estate tax revenue will be needed to balance the budget in each year of the projection period.

We base our analysis on Arlington's 2019 Multi-Year Financial Forecast, development projections that include anticipated revenues from Amazon-related growth, APS' 2022 proposed budget, APS' Fall 2019 APS enrollment projections, and historical real estate assessment growth across different categories of properties. Arlington's own projections of spending and revenues—which we extend to 2031 and combine with both assessment projections based on recent history and estimates of revenues from newly-built properties—show that homeowner and business taxes are going to increase faster than inflation through 2031.

Specifically, we anticipate that:

- By 2031, real estate revenues will need to increase by $255 million compared to 2022 to meet county and APS spending needs.[1]
- $100 million will come from residential property owners of townhomes, duplexes, condos, and detached single-family homes.
- $155 million will come from taxes on business real estate, which includes commercial properties, apartment buildings, hotels, office buildings, and more.

Regardless of whether property tax rates go up or assessments continue to rise faster than inflation (as they have historically), most county homeowners are likely to see an increase in their inflation-adjusted real estate taxes to cover the $100 million needed to balance the budget. We show how higher real estate tax revenues will affect the individual liabilities of 10 illustrative homeowners covering a variety of residence types, geography, and prices. Based on historical growth in assessments, we find that:

- The largest inflation-adjusted real estate tax increases, from several hundred to more than $2,000, will be shouldered by owners of detached single-family homes, duplexes, and side-by-sides.
- Owners of townhomes and condominiums will see much smaller increases, or even decreases.
- These increases are strongly dependent on school enrollment growth. Higher-than-anticipated student enrollment growth will lead to significant increases in real estate taxes paid by Arlington homeowners for all types of properties.

[1] This amount excludes real estate taxes used for other funds such as Tax Increment Financing, stormwater, or transportation capital.

Background: Real Estate Taxes in Arlington

More than half of Arlington's revenues come from real estate taxes. Arlington anticipated about $800 million in real estate taxes for its 2021 budget from assessments of about $80 billion dollars. A little over half of the $800 million comes from Arlington homeowners: single family residences including detached houses, townhomes, duplexes, and condominiums generated real estate tax revenue of a little over $400 million.

Since 2010, the average growth rate for existing detached single-family homes has increased by an average of 3.5 percent per year, considerably faster than the 1.7 percent average annual inflation over the same time.[2] Even if the tax rate were constant from 2010 through 2020, the average homeowners' inflation-adjusted tax bills go up just under two percent per year, leading to an increase in inflation-adjusted real estate taxes for homeowners of about 20 percent on average over this time period.

This is why we focus on projections of total real estate taxes as opposed to the tax rate in our analysis. An increase in either the tax rate or the assessment can result in an increase in a homeowner's tax liabilities. If projections of other sources of revenues and spending are accurate, most Arlington households should expect their inflation-adjusted real estate taxes to increase over the next 10 years regardless of the tax rate.

In addition to estimating the county-wide real estate taxes, we estimate the effects on a select group of individual residences to determine how homeowners will share the burden. An increase in real estate taxes will not be felt the same way among different Arlington homeowners. Showing the effects on these residences illustrates how different properties may end up being affected differently by changes in real estate taxes. Assessments on duplexes and side-by-side residences, which have historically grown much faster-than-average, rise quickly under our baseline assumption. For these types of more modestly priced residences, we expect an outsized increase in real estate taxes if they continue to appreciate at this fast rate.

Our analysis starts with Arlington's 2019 Multi-Year Financial Forecast, a county-produced forecast of a variety of fiscal conditions. We take all of the assumptions in that document and use them in our projections with a few key exceptions: APS revenue, APS spending, and real estate taxes. APS currently gets a fixed share of real estate revenues. In recent years, however, this revenue stream has proven inadequate to meet its needs. In 2022, for example, the superintendent requested an additional $42.5 million from the county. Therefore, in place of the county's assumption, we use APS 2023–2025 projections published in its FY2022 proposed budget and, to project 2026 and beyond, the Arlington Analytics model of spending and revenues.

After computing every non-real estate tax component of Arlington's budget using Arlington's own budget projections wherever possible, we compute the amount of real estate tax needed to balance the budget. Table 1 shows our projections for all of these categories of spending and revenues. We describe the projections of each category in subsequent sections of this report.

[2] See subsequent section "Real Estate Taxes" for more information on this calculation. Inflation calculated from Dec 2010 to Dec 2020 values of the Consumer Price Index for All Urban Consumers: All Items in U.S. City Average.

Table 1: Projected Revenues, Expenditures, and Deficit through 2022–2031
(current [nominal] USD, millions)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Real Estate Taxes	*$842*	*$893*	*$927*	*$953*	*$978*	*$998*	*$1,015*	*$1,045*	*$1,069*	*$1,097*
Property Taxes	$118	$121	$124	$127	$130	$134	$137	$140	$144	$148
BPOL	$68	$69	$70	$72	$73	$75	$76	$78	$79	$81
APS	$138	$143	$146	$150	$153	$156	$159	$162	$165	$168
State / Federal	$95	$96	$97	$98	$98	$99	$100	$101	$101	$102
Other	$254	$267	$273	$279	$285	$291	$298	$304	$311	$318
Prior Year	$25	$4	$4	$4	$4	$4	$4	$4	$4	$4
Total Revenue	**$1,541**	**$1,592**	**$1,642**	**$1,683**	**$1,722**	**$1,757**	**$1,789**	**$1,834**	**$1,874**	**$1,917**
Non-School Spending	$836	$864	$889	$915	$942	$970	$997	$1,026	$1,056	$1,086
APS Spending	$704	$729	$753	$767	$780	$788	$793	$807	$818	$830
Total Spending	**$1,541**	**$1,593**	**$1,642**	**$1,683**	**$1,722**	**$1,757**	**$1,790**	**$1,833**	**$1,874**	**$1,917**

To determine how much each property pays in real estate tax, we project assessment growth for several different types of residential and business property, and we include the contributions of anticipated development listed in the Quarterly Development Tracking Reports and shown in My Arlington - Projects Map.

Spending

We break down expenditures into APS expenditures and county expenditures. In its 2019 Multi-Year Financial Forecast, Arlington projects several different categories of county spending.

In the multi-year financial forecast, the county uses the revenue-sharing agreement to project spending for APS. As demonstrated during the process developing the 2020 and 2021 APS budgets, the revenue-sharing agreement at current tax rates is inadequate to meet APS fiscal needs. According to its own projections through 2025, APS is likely to need additional county contributions to support APS' growing needs.

For 2022 through 2025, we use APS forecasts of expenditures as reported in the FY2022 proposed budget. From 2026 and on, we use our model of APS revenues and expenditures that are based on projected changes in student enrollment. The Fall 2019 10-Year Projections Report provides the baseline student enrollment projections that we use from 2025 through 2028. Projected student growth is extremely slow out in 2028, we simply extend the student population in 2028 through 2031.

Student projections are highly variable. In the January 2019 Annual APS Enrollment Projections Report, APS projected more than 34,000 students in the 2028 school year, which is about 2,000 more enrollments than forecast in the Fall 2019 10-Year Projection. Reflecting this uncertainty on future school enrollment, we evaluate a scenario in which student enrollment is higher in the Alternate Assumptions section.

The county projects several other types of spending as well: the bulk of their projections are categorized as salaries and benefits, ongoing operating expenses, and a number of capital and regional expenditures. These expenditures declined slightly by 0.5 percent in the 2021 budget during COVID—however, we anticipate that expenditure growth will resume at its pre-COVID rates in 2022 through 2031. Following the county's projections, we project growth in this category of spending at 3.3 percent 2023, and about 3.0 percent in 2024. We extrapolate the 3.0 percent spending increase through 2031, which reflects inflation and the increased demands for county services from anticipated population increases.

Revenues Excluding Real Estate Taxes

About half of the county revenues come from sources other than real estate taxes. These sources of revenues include fees, fines, business taxes, personal property taxes, business property taxes, licenses, federal and state aid, meals taxes, sales taxes, and many other sources of revenue. As much as reasonably possible, we use county projections for each of these sources of revenue.

The property tax—colloquially known as the "car tax," but which includes other types of real property including business property—was largely unaffected by the pandemic. Arlington County projects that revenues from the property tax will increase by 2.5 percent through 2025. We extend the 2.5 percent growth rate through 2031.

Business, Professional, and Occupational (BPOL) revenues fell by about 8.7 percent in the 2021 adopted budget in response to the pandemic. In its projections, Arlington County assumed that BPOL revenues would grow by 1.5 percent in 2023, and 2.0 percent in 2024 and 2025. Although these projections were made prior to Amazon announcing Arlington as its HQ2 location, county staff reported that the county may not collect any additional BPOL revenues from Amazon.[3] Therefore, we extend the 2.0 percent growth rate through 2031. Arlington county does note that there is a possibility that Amazon may increase BPOL revenues—and in the Alternate Assumptions section, we evaluate a scenario in which Amazon pays the BPOL tax.

Sales, Meals, Transient Occupancy, and Other Taxes and Revenues were heavily affected by the pandemic. In its 2021 adopted budget, the county projected that revenues from this category would decline by about 5.4 percent, led by a drop in meals taxes. Nonetheless, we expect that these revenues will recover. We project that this category of revenue will grow quickly so that it recovers to its pre-pandemic forecast value by 2023. Following the county's pre-pandemic projections, we assume that growth in subsequent years through 2031 is 2.2 percent.

External funding is state and federal aid to the county (not including APS). Prior to the pandemic, Arlington county projected that state aid would increase by 1.0 percent per year and federal aid would remain flat through 2025. Although anticipated state aid increased slightly in 2021, federal aid did in fact remain flat. We extrapolate Arlington's projections of state and federal aid growth through 2031—therefore this category grows by about 0.8 percent through 2031.[4]

Arlington projects that prior year revenue will contribute about $4 million per year to the budget—we assume that prior year revenue will contribute about $4 million per year in every through 2031.[5]

[3] County staff write that "as a corporate headquarters and global company Amazon may not have gross receipts attributable to the Arlington location; or it may be classified as a type of company that is not subject to BPOL at all, such as a retailer or wholesaler. For these reasons, BPOL was not factored into the revenue projections."
[4] The 2021 stimulus package will increase federal aid for Arlington's FY2022 budget. The bill calls for $65 billion to be divided among counties according to a community development block grant formula.
[5] If prior-year revenue is larger than $4 million—and it typically is—this revenue comes from excess revenues in other categories of revenue, especially unexpectedly high real estate revenue that comes from greater-than-expected assessment

We model APS revenues starting in 2023. APS sources of revenue outside of the county's contribution come mainly from state and federal aid, as well as fees for services such as school lunches and extended day programs. Based on APS student enrollment projections, we find that APS revenue will increase by 3.5 percent in 2023. By 2026, as student enrollment levels out, APS revenue growth falls to just under 2.0 percent.

Real Estate Taxes

The real estate taxes make up about half of county revenues on their own. Therefore, the real estate tax rate is used as the primary lever to close large budget imbalances. Each year, the Arlington County Board determines a tax rate to finance its proposed spending. We follow the same procedure in each year through 2031. Given projections for assessment growth, we pick a real estate tax rate that balances the budget given the projected spending and the previously-described sources of revenue. In our experiment, lower-than-expected assessment growth would lead to higher tax rates, but the same amount of total tax revenue.[6]

To project future assessment growth across different categories, we use history going back to 2010. We show average assessment growth by property type in Table 2.[7] For most categories, we project that assessments will grow in line with their historical averages through 2031. We assume that detached single-family residence assessments on existing properties will grow at 3.5 percent per year, townhomes at 2.9 percent, duplexes at 4.6 percent, condominiums at 2.3 percent, commercial buildings at 4.7 percent, and offices at 2.7 percent. Although office space is in higher demand with the Amazon HQ2 relocation, long-term growth may have been offset by the effects of the COVID-19 pandemic. We assume that hotel assessments grow by 7.5 percent in 2022 and 2023 as they recover some from the 20 percent drop in 2021, but that growth from 2024–2031 returns to its 2.5 percent historical growth rate.

Table 2: Assessment Growth of Properties Built Before 2010 by Property Type
(2010–2021, average annual growth*)

Detached single-family home	Townhome	Duplex	Condo	Apartment	Hotel	Commercial	Office
3.5%	2.9%	4.6%	2.3%	5.5%	2.5%**	4.7%	2.7%

* Calculations are average annual assessment growth for each property. Detached single-family homes (511), townhomes (512, 513), duplexes (514, 515), condos (611–613), apartments (311–313), commercial (211–290), and office building (111,112) assessment growth computed from 2010 through 2021. We report the weighted average, where the weights are the 2021 assessment values.
** Hotel (410, 411) assessment growth calculated from 2010 through 2020. Hotel assessments declined by about 20 percent during the pandemic, a decline that is not likely representative of future growth.

Lastly, we expect that apartment assessment growth, which may be impacted by falling rents, will fall to its 2015–2021 growth rate of about 3.5 percent. Apartments are a large share of the real estate tax base, so in the Alternate Assumptions section, we explore an additional scenario in which they grow at their historical 5.5 percent rate.

growth. We assume that the $4 million in this category comes from higher revenues from categories other than real estate taxes.

[6] Changes in assessment growth that differ across different types of properties, however, would lead to changes in the distribution of the taxes among Arlington homeowners.

[7] Prior to 2010, assessments were likely impacted by the financial crisis, which had significant effects on prices in certain segments of the real estate market.

Using these assessment growth assumptions, we can project how much of the $255 million in additional real estate tax revenue comes from each type of property, which is shown in Table 3. Arlington homeowners, who pay taxes on detached single-family homes, townhomes, duplexes, and condos, will end up paying about 40 percent of these new real estate taxes in 2031. Businesses that own apartments, hotels, commercial buildings, and offices will pay the other 60 percent. Owners of detached single-family homes, apartments, and offices will pay the lion's share of the total additional real estate tax in the county. Even though owners of detached single-family homes pay a large amount compared to duplexes, townhomes, and condominiums, the effects on individual homeowners in each of these categories varies significantly.

Table 3: Amount of Additional Real Estate Taxes by Category
(current [nominal] USD, millions)

Year	Detached single-family home	Townhome	Duplex	Condo	Apartment	Hotel	Commercial	Office
2026	$29	$2	$2	$7	$49	$2	$9	$35
2031	$76	$6	$4	$14	$85	$4	$19	$49

In Table 4, we show several properties that illustrate how higher real estate taxes are likely to be shared among individual property owners. In this analysis, we report inflation-adjusted (real) changes in real estate taxes. Real changes in real estate taxes are a better reflection of the financial burden imposed by the real estate taxes for most homeowners. We select a variety of different property types—detached single-family houses, townhomes, duplexes, and condominiums—at different price points to show how anticipated changes to real estate taxes can affect actual homeowners.[8]

[8] We do not estimate changes in assessment by geographic region. Since 2010, the average of the neighborhood assessments on existing detached single-family homes was about 3.6 percent with a standard deviation of 0.8, and high growth of assessments in existing areas does not appear to be correlated with any particular geographic area. Therefore, we assume that the average assessment will grow consistently across Arlington. Nonetheless, we expect some moderate differences in these growth rates across neighborhoods through 2031.

Table 4: Predicted Change from 2020 in Real Estate Taxes for 10 Select Properties
(inflation-adjusted [real] 2020 USD)

Property	2020 Assessment	2020 Real Estate Tax	2026 Estimated Inflation-Adjusted (Real) Tax Increase	2031 Estimated Inflation-Adjusted (Real) Tax Increase
(1) 4-Bedroom House in Boulevard Manor	$719,900	$7,386	$464	$694
(2) 6-Bedroom House in Williamsburg	$2,087,000	$21,413	$1,345	$2,011
(3) 4-Bedroom House in Aurora Highlands	$1,266,400	$12,993	$816	$1,220
(4) 3-Bedroom House in Douglas Park	$547,900	$5,621	$353	$528
(5) 2-Bedroom Side-by-Side in North Highlands	$556,500	$5,710	$897	$1,456
(6) 2-Bedroom Side-by-Side in Green Valley	$406,200	$4,168	$655	$1,063
(7) 3-Bedroom Townhome in Clarendon - Courthouse	$964,600	$9,897	$460	$461
(8) 3-Bedroom Townhome in Penrose	$656,000	$6,731	$313	$314
(9) 2-Bedroom Condo in Virginia Square - Ballston	$555,900	$5,704	$30	$(133)
(10) 3-Bedroom Condo in Crystal City	$728,400	$7,473	$39	$(174)

In Table 4, we show a number of different properties to illustrate how higher real estate taxes translate into individual tax liabilities for different property types. We chose four geographically diverse, detached single-family homes at different price points. We also chose two side-by-side structures, two townhomes, and two condominiums.

Types of properties with faster-than-average assessment growth will end up paying a greater share of the real estate tax revenue as their assessments increase faster than those of other properties. Properties (5) and (6), which have the highest projected (and predicted) assessment growth rate at 4.6 percent, see the highest property tax increase. Historically, owners of duplexes and side-by-sides have seen their assessed values, and hence their real estate taxes, increase much more rapidly than other types of residential property. If this trend continues, we anticipate that the average duplex owners’ 2031 inflation-adjusted real estate taxes increase by about 25 percent compared to 2020.

We project that each of the detached single-family homes will see their 2031 tax liability increase by a little under 10 percent compared to 2020.

In contrast to the tax growth for detached single family houses, duplexes, and side-by-sides, we project townhomes and condominiums will have much slower assessment growth. Townhome owners see their 2031 inflation-adjusted real estate taxes increase by less than five percent. In inflation-adjusted terms, condo owners actually see their real estate taxes decrease. Over the past decade, condo assessment increases have been very low relative to the rest of Arlington's business and residential properties—because condominium assessments are growing so slowly, their share of the real estate tax burden decreases over the long run.

Alternate Assumptions

In this section, we evaluate three other potential budget scenarios. Although there are a large number of uncertainties about Arlington's revenues and expenditures going forward, we pick three that illustrate the effects key uncertainties might have on the budget. We show the results in Table 5.

First scenario. We show the effect on the budget if Amazon were to pay BPOL. Although the revenues are uncertain, we set the estimated annual revenues equal to the average BPOL revenue generated by office and commercial space, which is approximately $1.20 per square foot.[9] This assumption leads to a little over $5 million in BPOL revenue in 2026 once the Metropolitan Park 6-8 and PenPlace projects are completed. Assuming that these higher BPOL revenues are used to directly offset real estate tax revenues, we show the effect on the same households in the third column of Table 5. The effects of this assumption are fairly small—higher BPOL revenues lead to reductions of the property taxes from $30 to $200 depending on the size, type, and value of the residence.

Second scenario. By contrast, APS' enrollment levels are an extremely important driver of expenditures. Judging by past long-term enrollment projections, school enrollment projections are very uncertain. We show the effect that changes in school enrollment compared to APS projections will likely have on real estate taxes by property assuming a similar level of school service regardless of enrollment.[10] Increasing student enrollment by 1,000 has a large effect on APS' budget. This is reflected in across-the-board increases in real estate taxes. The bulk of the real estate tax increase from higher enrollment is borne by the most expensive properties—properties (2) and (3) in the sample pay more than $600 and $400 respectively to support the higher enrollment.

Third scenario. Average apartment assessments have increased by about 5.5 percent since 2010. A lot of this increase has been driven by post–financial crisis increases. Over a shorter time-frame, apartment assessments have increased by about 3.5 percent. In our baseline analysis, we use that number as our number. Nonetheless, to show how this assumption impacts our analysis, we also run the analysis with apartment assessment growth rates of 5.5 percent through 2031. In this scenario, we see that higher apartment assessment increases have a strong effect on homeowners' tax bills. Higher apartment building assessment leads to a several-hundred-dollar drop in inflation-adjusted real estate taxes on almost every type of property. Apartments in Arlington pay a large share of the real estate taxes, so any change in assessment growth has an outsized impact on homeowners' real estate tax liabilities.

[9] The Arlington Open Data Property dataset does not include floor space for some properties, particularly much older properties. Therefore, since we are missing some floor space, our estimate likely slightly overstates the actual average BPOL revenue per square foot of commercial and office space.
[10] Changes instructional resources per student such as the recently approved change to class size may affect real estate tax revenues. In our analysis, we assume that these do not change over the forecast timeline.

Table 5: Predicted Change Between 2031 and 2020 in Real Estate Taxes for 10 Select Properties Under Alternate Scenarios
(inflation-adjusted [real] 2020 USD)

Property	Baseline	Amazon Pays BPOL	1,000 Additional APS Students	Higher Apt. Assess. Growth
(1) 4-Bedroom House in Boulevard Manor	$694	$650	$912	$273
(2) 6-Bedroom House in Williamsburg	$2,011	$1,884	$2,645	$792
(3) 4-Bedroom House in Aurora Highlands	$1,220	$1,143	$1,605	$481
(4) 3-Bedroom House in Douglas Park	$528	$495	$694	$208
(5) 2-Bedroom Side-by-Side in North Highlands	$1,456	$1,417	$1,650	$1,083
(6) 2-Bedroom Side-by-Side in Green Valley	$1,063	$1,034	$1,205	$790
(7) 3-Bedroom Townhome in Clarendon - Courthouse	$461	$405	$742	$(77)
(8) 3-Bedroom Townhome in Penrose	$314	$275	$504	$(53)
(9) 2-Bedroom Condo in Virginia Square - Ballston	$(133)	$(163)	$18	$(422)
(10) 3-Bedroom Condo in Crystal City	$(174)	$(213)	$24	$(553)

Conclusions

We build off of county and APS projections to forecast the budget going forward through 2031. We find that, in order to meet spending needs for new students and residents, county revenues from real estate taxes will increase. Arlington homeowners will shoulder an estimated 40 percent of the increase—the residual 60 percent will be paid by businesses who own apartment, office, commercial, and other types of buildings.

We run simulations in which assessments are projected to increase along their historical rates to determine how the additional real estate tax burden will be distributed among Arlington homeowners. We find that expensive detached single-family homes will see the greatest dollar increase in taxes. Duplexes and side-by-sides are also likely to pay far higher taxes (both by percentage and in dollars) owing to their rapid assessment growth. Historically, townhomes and condominiums have seen slower assessment growth—if history is a guide, they will shoulder a smaller share of the increase in real estate taxes. Condominium owners may end up paying lower taxes in inflation-adjusted terms.

We ran several additional experiments to find out how alternate scenarios affect homeowners' tax burdens. Additional revenues from Amazon in the form of BPOL taxes have a pretty small effect on homeowners. By contrast, greater-than-expected APS enrollment has a very large effect: each 1,000-student additional enrollment increment increases each homeowner's tax liability by several hundred dollars or more. Finally, we considered faster assessment growth for apartment buildings. Increasing apartment assessment growth to 5.5 percent leads to a large drop in homeowners' real estate taxes.

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