2020 10-Year Budget Forecast

We project Arlington's fiscal budget through 2030 using Arlington Analytics fiscal and demographic model. We project both spending and revenues for numerous categories in each using anticipated development, population, and student growth over the next 10 years. Using those projections, we conclude that:

- Arlington is currently on track for a balanced budget in 2030 at today's tax rates.
- Residential and business real estate taxes will grow faster than inflation. Furthermore, increases are not uniformly distributed around the county, some residents may see very large increases in their real estate taxes.
- Arlington's fiscal situation in 2030 is most sensitive to changes to assessment growth and student growth.
- Revenue from assessments—from existing, approved, and anticipated development—will grow at 4.9 percent from $771 million in 2020 to $1.24 billion in 2030.
- Increases in school spending drives spending increases, projected to increase at about 3.8 percent per year from $670 million in 2020 to $976 billion in 2030. This number is very sensitive to changes in the student enrollment growth rate.

A Model of Revenue and Spending

Arlington Analytics uses a model of every property in Arlington to forecast demographic, economic, and fiscal trends in Arlington county. We merge data a number of county sources on properties, assessments (2015-2020), interior improvements, maps, development reports, and more. We merge this data with information from other sources such as the Census Bureau, Arlington Public Schools (APS), and affordable housing inventories. This data allows us to analyze how different property types contribute to student enrollment, population, and property growth. We combine this information with county and APS budgets going back for about a decade to we evaluate the long-term impact on different categories of spending and revenues. Using those relationships as well as projections of population, student, and property growth, we construct a 10-year forecast for county finances.

Projecting assessment and student growth as well as the future pattern of development that hasn't been approved yet is a very uncertain exercise. We encourage you to use the introductory budget tool and the advanced budget tool on our website to evaluate some of the risks and uncertainty in the budget planning process. Furthermore, there is year-to-year variance in the budget process that tools are unable to capture, but the tools should give insight into how changes in long-term trends affect the long-run fiscal outlook.

Revenue

In Table 1, we highlight the changes in revenues that we expect from 2020 to 2030.

Table 1: Revenues in Different Categories (Millions USD)

Year	Real Estate	Prop.	BPOL	External	Other	Schools	Prior Year	Total
2020*	$771	$119	$69	$92	$264	$137	$41	$1,494
2030	$1,231	$160	$94	$112	$337	$177	$25	$2,135

*Approved 2020 budget.

Real Estate Taxes

Real estate taxes contribute more than half to Arlington's revenues, a share that is likely to increase a real estate assessment growth outpaces growth in every other category. We project that total assessments—new and existing properties—will increase by about 4.8 percent per year for the next 10 years.

We project that, consistent with recent history and the likely demand for existing properties (including rental apartments), that property assessments on existing properties are likely to remain above inflation for the next few years. We project that hotels and office buildings will appreciate at 4.5 percent per year, commercial real estate at 3.0 percent, apartments and detached-single family houses will appreciate at 3.5 percent. Growth in most categories decline to 2.0 percent by 2030 except for office space, commercial space, and hotel units which should benefit from the Amazon expansion.

Approved new development is drawn from the Quarterly Development Tracking Reports and APS Enrollment Projections Reports. Single-family home development is projected from our own statistical model of redevelopment: We estimate that about 250 single-family detached homes will be expanded or completely redeveloped each year. Lastly, we project that about 75,000, and 750,000 square feet of commercial and office space, 75 additional hotel units, 750 new market rate apartments, 150 committed affordable units, and 50 condominium units will come on-line each year beginning in 2026. These reflect projects that may be in the pipeline—including the large-scale office development for Amazon's HQ2—but are not yet reflected in these reports.

Property Taxes

The personal property tax is a tax levied on both personal vehicles and on businesses' tangible property such as machines, computers, and tools. In the 2020 adopted budget, the personal property tax is estimated to bring in just under $120 million. The business side of the tax levies about one-third of that amount—roughly $40 million. The tax on personal vehicles represents the remaining $80 million. We project that the total tax collected will increase by about 3.0 percent through 2030.

The property tax grows roughly with inflation—as new, more expensive vehicles and business equipment replaces older—as well as new purchases. Nonetheless, apartments on average generate fewer cars than detached single-family homes. Since nearly the entirety of residential growth is in multi-family dwellings, that means that growth in the vehicle personal property tax will be smaller than population growth. Robust growth in commercial and office space, however, will make up for the slower growth in vehicle tax.

BPOL Taxes

BPOL taxes, or business, professional and occupation license taxes, are a significant source of revenue. Arlington county forecasts that the BPOL tax will raise about $64 million in 2020 after rebates and adjustments, which will increase to $94 million in 2030. There is considerable uncertainty around the BPOL revenue projections and how much of this new business tax will be levied on large corporations such as Amazon. Nonetheless, based on future business projections, we estimate that the BPOL on existing business (office and commercial) properties will increase in line with inflation at about 2.0 percent per year, and that new properties will generate revenue in proportion to the new office and commercial space that becomes available.

External (Federal and State)

According to the Arlington Comprehensive Annual Financial Report (CAFR), intergovernmental section, funding increases by about two percent per year from 1992.[1] From 2004, state funding has increased by about 1.9 percent and federal funding has increased by about 2.4 percent.[2] Based on descriptions of the sources of aid, we assume that combined commonwealth and federal transfers increases by about two percent per year. We compute that the average aid when population is in the formula and find that each additional resident likely generates less than $20 in additional federal aid.[3] As that is a tiny number, we exclude additional development from impacting federal aid.

Other Local Taxes and Revenues

We project that this group of revenues—the sales tax, transient occupancy tax, meals tax, car rental tax, utility tax, and more—grows by about 2.5 percent through 2030. Each subcategory is projected separately. The transient occupancy tax is capped by agreement with Amazon. By contrast, the car rental tax is projected to increase with the total number of hotel rooms in the county. The utility tax increases, which is a fixed fee per bill, increases with the number residential units and businesses.

Schools

Revenues from schools, in the form of state and federal aid, lunch receipts, before- and after-care fees, and other small categories should grow around 2.6 percent in the next decade. Although state and federal aid does not increase as quickly, the rapid growth in market-rate apartments will likely have a positive increase in revenues from lunches and before- and after-care fees.

Prior-Year

Prior-year revenues were unusually high in the 2020 budget, driven by larger-than-expected real estate tax revenues. We anticipate that this number will decline as that money is either allocated to other expenditures and real estate assessment growth for existing properties declines slowly, by about 5.0 percent per year.

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[1] The definition of intergovernmental transfers in the CAFR does not appear to be identical to the one in the revenue summary from the Arlington budget.

[2] We exclude other transfers such as the state-provided WMATA subsidy from this measure, as it is generally not included as a line in the official revenue summary.

[3] Law enforcement aid is about $6.8 million dollars, and social services aid is about $4.4 million in the 2020 adopted budget. Together, these categories represent about $11.2 million dollars. Only part of this money is determined by population, which is about 240,000.

Spending

In Table 2, we highlight the changes in spending that we expect from 2020 to 2030.

Table 2: Revenues in Different Categories (Millions USD)

Year	County Services	Public Safety	Courts	Schools	External	Debt Service	Other	Total
2020*	$373	$151	$78	$670	$55	$72	$95	$1,493
2030	$505	$222	$106	$970	$81	$103	$150	$2,137

*Approved 2020 budget.

We forecast spending across a wide range of categories of government spending. Typically, we break increased spending into two parts: a baseline change that occurs regardless of what else of what is happening and a growth that is due to additional county development.

The baseline change in spending is based on historical increases in those categories, typically around 2.0 percent per year. Growth in public safety spending is an average of 2.75 percent per year, reflecting pressure to increase salaries to attract qualified candidates to fill Arlington's vacancies. The other main exceptions are related to capital expenditures: the pay-as-you-go (PAYG) contribution and debt service, which is generally laid out in the Capital Improvement Plan (CIP). [4] We anticipate a jump in PAYG spending as Arlington county reaches its self-imposed debt ceiling. With few opportunities to refinance Arlington's debt, additional short-term capital expenditures will likely have to be financed by the yearly PAYG contributes if that debt-service ceiling is maintained and there is no major source of additional external funding for these investments.

For growth related to county development and growth, we attempt to tie spending by category to the type of development that is most likely to increase demand for that type of spending. For example, growth in library spending is proportional to the increase in population, however, growth in school spending is proportional to the increase in the student population. Growth in WMATA spending, for example, primarily comes from growth in office business and apartments, as those are the populations most likely to use those services.

We highlight the methodology for how we project spending across each category in Table 3. Additional information and descriptions are available in our description of the spending model.

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[4] The CIP has a schedule for anticipated debt service for the next 10 years, based on an upper bound of debt services as a share of income.

Table 3: Spending Projections by Category

Category	Baseline Change	Development Effects
Gen. Gov't Admin	2.5%	None
Environmental Services	2.5%	Commuter services grow with apartments (and condos); ART buses grow with businesses and apartments (and condo); water, sewer, transportation grow with business and population; other categories unaffected
Human Services	2.0%	Grows with population
Libraries	2.0%	Grows with population
Parks and Recreation	2.0%	Grows with population
Development and Planning	0.0%	80% of equal-weighted growth of apartments and business space
Courts and Constitutionals	2.0%	Grows with population
Public Safety	2.75%	Growth with population and business (75% weight on population)
Non-dept Expenses	3.0%	None
Regional Contributions	0.0%	Formula growth applied to separate categories; roughly half grows with population, other half has no growth
Debt Service	Based on CIP	Grows at 80 percent of population
WMATA	2.0%	Grows 62.5 percent faster than apartment and business growth
Capital Expenditures	5.0% to 8.0% to 0%	None
Schools	2.0%	Grows with school enrollment

Uncertainty

In order to project Arlington's budget, we make many assumptions about underlying factors that can influence the budget. On our website, we provide users the option to adjust some of these key assumptions to see how they affect the budget. The options include:

- Tax rates
- Office vacancy rates
- Public safety budget growth rates
- PAYG growth for capital expenditures
- Assessment growth by type of property
- The growth of the average number of students coming from each type of property
- The growth of the average number of people coming from each type of property

- Approved and projected real estate development

Assessments

Here, we discuss the one of the two factors that have the biggest on Arlington's finances: assessment growth. In Table 4, we show the baseline assumptions for different types of properties:

Table 4: Average Assessment Growth Excluding New Development

Type	Avg 2015-2019 Change	Forecast
SFH	2.5 percent	Starts at 3.5%, tapers to 2.0%
Condo	1.5 percent	Starts at 2.5%, tapers to 2.0%
Townhomes	2.1 percent	Starts at 2.5%, tapers to 2.0%
Duplex	1.3 percent	Starts at 3.0%, tapers to 2.0%
Hotel	5.0 percent	Starts at 4.5%, tapers to 3.0%
Office*	5.5 percent	Starts at 4.5%, tapers to 3.5%
Apt – Market	2.9 percent	Starts at 3.5%, tapers to 2.0%
Apt – CAF	2.9 percent	2%
Commercial	4.6 percent	Starts at 4.0%, tapers to 3.0%

The county relies on recent sales to assess single-family homes and condos. As the market price for these types of properties increases, we expect that assessment increases will follow. We assume that most types of residences are in relatively high demand these days with the anticipated Amazon HQ2 expansion. Therefore, we assume that most types of detached single-family homes will increase by about 3.5 percent in the near future; condos, duplexes, and townhomes increase at a slightly lower rate, but still exceeding inflation. In the long-run, we expect that all of these properties will eventually trend toward a typical rate of inflation, about 2.0 percent. Many individual properties may see their assessments increase or decrease

Commercial properties are frequently evaluated by estimating the amount of income the property generates. We assume the market for office space will improve as Amazon continues to expand its footprint, and additional businesses locate in Arlington. Therefore, we assume that the market for hotels, office spaces, and commercial real estate will remain strong through the ten year window, even as the rate of increase begins to slow.

It seems clear that the real estate market will remain strong. The question, however, is how long will the current momentum continue. Overall, the forecast reflects continued anticipated strength for both residences and businesses that also reflects the previous five years' worth of assessment data.

Schools

Table 5: Historical and Forecast Student Generation Factor Growth

Residence Type	Avg. Historical Growth Rate (2005-2019)	Baseline Forecast
Apartment (Market)	0.1% (elevator) to 0.2% (garden)	0.2%
Apartment (CAF)	1.6% (garden) to 3.6% (elevator)**	2.0% tapering to 0.5%
Condominium	2.2% (garden) to 3.3% (elevator)	2.0% tapering to 0.5%
Detached SFH	2.3%*	1.7% tapering to 0.0%
Townhome	4.8%	1.8% tapering to 0.0%
Duplex	-1.6%	0.0%

* The 2.3 percent increase in the student growth generation factor from detached SFH is 2.3 percent, which includes house redevelopment. The forecast SGF excludes redevelopment, which occurs at a rate of about 200-250 houses per year.
** CAF historical growth rates calculated from 2010 to 2019.

We increase our SGFs as shown in Table 5. Over time trends change and student growth per residence is likely to respond to changing demographics. The growth rates in these factors is determined judgmentally, looking at factors such as recent and long-term history, birth rates, and other factors.

SGFs are a product of two factors: kids born in Arlington who enter the school system and net migration of kids into the school system. Over the next five years, we project based on historical student enrollment that SGFs will increase in line with history as the large 2014 through 2017 cohorts of prospective students enter kindergarten and become elementary students. Large classes of elementary school kids will continue on to be large middle school classes and large high school classes. Moreover, kids will continue to migrate into the system at the high school level at a relatively as they have since 2010. The number of kids graduating over the next five years is relatively small, but grows quickly around 2024.

APS currently predicts that student enrollment will peak in 2024 as a result of two factors: much larger graduating high school classes leaving the system and much smaller kindergarten classes coming from a lower birth rate. APS predicts that the birth rate will drop from 12.3 births in 2018 to about 11.0 births in 2024 while the share of births reaching kindergarten will remain the same. Both of these will generate a slight decline in the SGFs.[5]

We predict that the SGFs will level off, which we attribute to additional migration into the system. A renewed demand for office- and commercial-space across the county, reflecting Amazon's build-out as well as a broad decrease in the office vacancy rate, will increase demand for housing in Arlington, particularly for families.

Furthermore, Arlington Analytics projects additional development in addition to the projects listed in the published documents. First, our statistical model estimates that about 250 large new and renovated houses will be constructed per year on average over the next 10 years, which, by itself, we estimate will house an additional 1,500 students. Furthermore, we assume that new, unapproved and unannounced residences will be constructed in each year starting in 2026 that the county will see the construction of:

- Market-rate apartments not near Columbia Pike: 300 elevator units, 50 mid-rise units, 20 garden units
- Market-rate apartments near Columbia Pike: 50 elevator units, 50 mid-rise units
- Condos: 50 units of elevator condos

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[5] Projected 2024 birth rate calculated from number of births provided by APS and a projected population from Arlington Analytics.

- Committed affordable units: 50 elevator and 50 mid-rise units

The differences in SGFs and the consideration of additional units and detached single-family houses will lead to higher projected student enrollment. In 2029, we project about 2,800 students more students than APS, in spite of having very similar numbers in 2024 and 2025.

Notes and Acknowledgments

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For additional tools, data, and analysis, please visit our site at https://www.arlington-analytics.com/.

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