

OUTLINE – ENVIRONMENTAL SCAN FOR STRATEGIC PLAN STEERING COMMITTEE

Prepared for Arlington Public Schools

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This document describes Hanover Research’s proposed approach to analyzing external factors—such as demographic, economic, and policy trends—that will affect Arlington Public Schools’ future operations and sustainability.

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OVERVIEW

INTRODUCTION

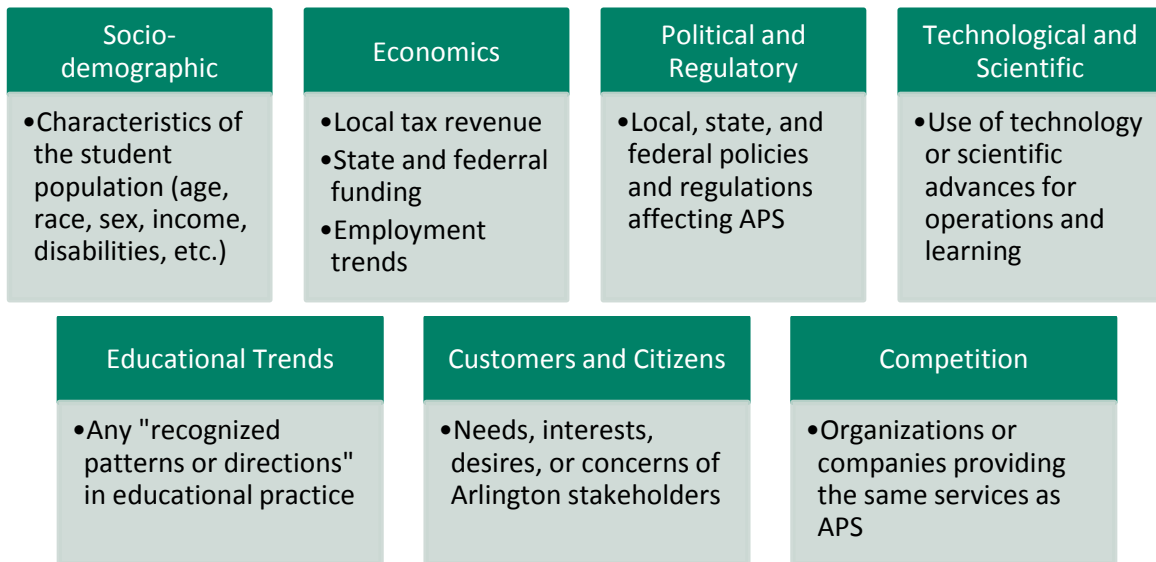
Arlington Public Schools (APS) has requested Hanover Research’s assistance in supporting the district’s new strategic plan, beginning in 2018. Specifically, APS has tasked Hanover with identifying external factors—such as economic trends, education policies, and demographic trends—that could affect the district’s short- and long-term operations and sustainability.

This document 1) outlines the major types of factors that may present threats or opportunities for APS in the future, and 2) provides a preliminary identification of data sources that Hanover and APS can use to understand these factors. The final report will provide a more in-depth discussion of how external factors will affect APS’ planning efforts.

SUMMARY OF EXTERNAL FACTORS

Hanover will rely on the seven categories of external factors, described below. These factors were identified in an external scan completed for the district’s 2011-2017 strategic plan.¹

Figure 1: Seven Categories of External Factors



In each category, APS may consider four *levels* of opportunities and threats that may affect the district: international, national, state, and local factors. However, this outline focuses only on national, state, and local factors.

¹ "Strategic Plan 2011-2017 - External Scan." (Arlington Public Schools). Email communication, September 27, 2017

EXTERNAL FACTORS AND DATA SOURCES

For each category of external factor identified, Hanover will provide a broad overview of how local, state, and national factors may affect APS' future operations. Hanover will rely on the data sources identified in this outline, as well as information provided in APS' master plan.² The first sub-section in this outline, "Socio-Demographic Factors," provides a brief example of this analysis. For the remaining sub-sections, Hanover has provided a list of potential data sources, but does not provide an analysis. Because this outline is preliminary, the final report may include data sources not identified in this outline.

SOCIO-DEMOGRAPHIC FACTORS

KEY TAKEAWAYS

Arlington's population is growing, and the proportion of young children and high-income households is increasing. Housing costs in the county have also increased in recent years.

Arlington County's government estimates that the population will grow to 289,500 by the year 2040, an almost 40 percent increase in population from 2010.³ Demographics have been shifting over the past 15 years, with children ages 0 to 5 currently among the fastest-growing age groups in Arlington.⁴ After enrollment declines from the mid-1960s to the 1990s, enrollment in APS began increasing by around 1 to 2 percent each year from the 1990s to the mid-2000s, and by 2 to 5 percent each year from the mid-2000s to present.⁵ By 2024, the student population is expected to increase by 7,800 students, bring total enrollment to over 30,000.⁶ The county's 2015 Community Facilities Study notes that APS will need "additional facilities to meet the educational needs of students."⁷

As Arlington's population has grown, the proportion of high-income populations has also grown substantially. Households with incomes over \$200,000 accounted for almost 20 percent of households in 2013, a significant jump from around 6 percent in 2000.⁸ This increase in high-income households has coincided with rising housing costs.⁹ The average value of Arlington residences doubled from 2000 to 2015, from \$202,770 (\$280,000 in 2015

² "Master Planning Committee 2015 Report." Arlington Public Schools, 2015. https://www.apsva.us/wp-content/uploads/legacy_assets/www/c58b5d32a8-Master_Planning.pdf

³ "Population and Employment Forecasts." Arlington County Government. <https://projects.arlingtonva.us/data-research/future-data-forecasts/>

⁴ "Arlington Community Facilities Study - Final Report." Arlington County Government, November 6, 2015. p. 82. http://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2015/11/CFS_Final_Report_web.pdf

⁵ *Ibid.*, pp. 43–44, 82.

⁶ *Ibid.*, p. 57.

⁷ *Ibid.*, p. 82.

⁸ *Ibid.*, p. 42.

⁹ *Ibid.*, pp. 83–84.

dollars) to \$579,800.¹⁰ Further, housing costs have outpaced wage increases in recent years; from 2014 to 2015, housing prices rose by 6.6 percent, while incomes increased by just 1.7 percent.¹¹ These rising housing costs may cause some groups to leave Arlington. Millennials currently make up the largest age group in the county, but they may not stay in Arlington in the long-term due to the lack of opportunities for affordable home ownership. Families with children are also affected by the lack of affordable, single-family homes—Arlington’s condominiums and apartments, although in large supply, may be unappealing to families due to bedroom/occupancy limits.¹²

These demographic and housing trends have several implications. First, there are potential implications for the county’s tax revenue—if Arlington experiences significant declines in its millennial population, it may be less attractive to employers, which could reduce its commercial tax base.¹³ Second, rising housing prices may further reduce diversity in the community and in schools, and lead to increasing disparities between various neighborhoods, especially between the northeast and southwest portions of the county.¹⁴

DATA SOURCES FOR EXTERNAL SCAN

Detailed demographic data for Arlington’s population can be drawn from the following:

- **Arlington County Community Profile.** The Virginia Employment Commission publishes community profiles for all counties in the state, providing demographic statistics of the population including age, race/ethnicity, and gender characteristics; unemployment rates; employment by industry; and educational attainment levels.¹⁵ The Arlington County government also produces a similar Community Profile on an annual basis.¹⁶ Both profiles rely largely on 2010 U.S. Census data and the most recent estimates from the American Community Survey (see below).
- **American Community Survey.** Data from the American Community Survey can provide information on a wide range of population demographic characteristics (age, race/ethnicity, and gender), as well as data on household composition, income, employment, foreign-born population and migration trends, language spoken at home, housing status (e.g., rent or own), and receipt of public assistance. Data can be analyzed at various geographic levels, e.g. state, city, county, zip code, and census tract.¹⁷ Data USA, a data visualization engine managed by Deloitte,

¹⁰ Ibid., p. 42.

¹¹ Ibid., p. 88.

¹² Ibid., pp. 87–88.

¹³ Ibid.

¹⁴ Ibid., pp. 83–84.

¹⁵ “Community Profile - Arlington County.” Virginia Employment Commission, September 28, 2017.

http://virginialmi.com/report_center/community_profiles/5104000013.pdf

¹⁶ “Arlington, Virginia - Profile 2017.” Center for Urban Design and Research. <https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/31/2017/04/2017ProfilePagesFINAL.pdf>

¹⁷ “American FactFinder.” <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

Macro Connections, and Datawheel, also provides visualizations of ACS-derived demographic data at the county level.¹⁸

- **Demographic Projections.** Arlington County completed a Community Facilities Study in 2015 that provides population projections for the county through 2040 and school enrollment projections through 2025.¹⁹ Arlington County’s planning office also posts population and employment forecasts online on a regular basis.²⁰
- **County Health Rankings.** The County Health Rankings compare Arlington County’s outcomes for a variety of health and quality of life indicators to other counties in the state and to Virginia as a whole.²¹

ECONOMIC FACTORS

DATA SOURCES FOR EXTERNAL SCAN

- **Labor Market Projections.** The Bureau of Labor Statistics (BLS) provides long-term industry and occupational projections from 2014 to 2024 at the national level,²² while the Virginia Department of Labor provides long-term projections at the state level.²³ Local-level projections are provided by the Virginia Employment Commission.²⁴
- **Unemployment Rates.** BLS tracks the unemployment rates for the Washington metropolitan area (and other geographic areas) on a monthly basis.²⁵
- **Housing Market Data.** APS may derive data on the Arlington and Washington metropolitan area housing market from several sources. The Department of Housing and Urban Development (HUD) published a comprehensive housing market analysis of the Washington metropolitan area in January 2015, estimating supply and demand in both the sales and rental markets from 2015 to 2018.²⁶ Organizations such as MRIS (a housing listing service) and the Northern Virginia Realtor Association provide information on average home sale prices on a yearly and monthly basis,

¹⁸ “Arlington County, VA.” Data USA. <https://datausa.io/profile/geo/arlington-county-va/>

¹⁹ “Arlington Community Facilities Study - Final Report,” Op. cit.

²⁰ “Population and Employment Forecasts,” Op. cit.

²¹ “County Health Rankings & Roadmaps - Arlington County, Virginia.” University of Wisconsin, Population Health Institute.

<http://www.countyhealthrankings.org/app/virginia/2017/rankings/arlington/county/outcomes/overall/snapshot>

²² [1] “Employment Projections.” U.S. Bureau of Labor Statistics. <https://data.bls.gov/projections/occupationProj> [2] “Industry Employment and Output Projections to 2024.” Bureau of Labor Statistics, December 2015.

<https://www.bls.gov/opub/mlr/2015/article/industry-employment-and-output-projections-to-2024.htm>

²³ [1] “Occupational Projections (Long-Term) for All Detailed Occupations in Virginia in 2014-2024.” Virginia Department of Labor and Industry. <https://data.virginialmi.com/vosnet/Default.aspx> [2] “Industry Projections (Long-Term) for Multiple Industries in Virginia 2014-2024.” Virginia Department of Labor and Industry. <https://data.virginialmi.com/vosnet/analyzer/results.aspx?session=indproj>

²⁴ “Community Profile - Arlington County,” Op. cit.

²⁵ “Economy at a Glance - Washington-Arlington-Alexandria, DC-VA-MD-WV.” Bureau of Labor Statistics. https://www.bls.gov/eag/eag.dc_washington_md.htm

²⁶ “Comprehensive Housing Market Analysis - Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division.” U.S. Department of Housing and Urban Development, January 1, 2015. https://www.huduser.gov/publications/pdf/WashingtonDC_comp_15.pdf

respectively.²⁷ Finally, the Federal Housing Finance Agency publishes monthly and quarterly reports of the House Price Index (HPI), which measures changes in the price of single-family homes for various geographic levels.²⁸

- **Spending and Inflation.** The Consumer Price Index (CPI) provides information on inflation and the cost of various goods and services; BLS publishes CPI data for the Washington metropolitan area every other month.²⁹ In addition, the Census Bureau conducts an annual Consumer Expenditure Survey, which collects data on the proportion of income that consumers spend on housing, transportation, insurance, food, healthcare, and other goods and services. The most recent CES data for the Washington metropolitan area is from 2015-2016.³⁰ Finally, the Employment Cost Index (ECI) provides information on the price of labor (such as the cost of wages and benefits that employers provide), which can affect inflation in the price of goods and services.³¹ BLS reports this data on a quarterly basis.³²
- **Other National, State, and Local Economic Indicators.** The U.S. Bureau of Economic Analysis publishes national, state, and metropolitan area-level GDP data on an annual basis.³³ In addition, the Brookings Institution’s Metro Monitor Dashboard provides key economic growth and prosperity indicators for the Washington metropolitan area on an annual basis, such as job growth and gross metropolitan product.³⁴ Finally, Arlington County and the state of Virginia track key economic

²⁷ [1] Green, R. “August 2017 Housing Market Update.” MRIS, September 12, 2017. <http://www.mris.com/#/blog/6929> [2] “Market Statistics.” Northern Virginia Realtor Association. <https://nvar.com/realtors/news/market-statistics> [3] Shanholtz, S.A. “The Northern Virginia Economy and Housing Market Track Slightly Upward This Year Will That Stick? It Depends.” Northern Virginia Realtor Association, July 2017. <https://nvar.com/realtors/news/re-view-magazine/article/jul-aug/2017-07-08-Northern-Virginia-Housing-Market-economy-to-track-upward>

²⁸ “House Price Index.” Federal Housing Finance Agency. <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

²⁹ “Economy at a Glance - Washington-Arlington-Alexandria, DC-VA-MD-WV,” Op. cit.

³⁰ [1] “Consumer Expenditures for the Washington Metropolitan Area: 2014-15.” Bureau of Labor Statistics, November 7, 2016. https://www.bls.gov/regions/mid-atlantic/news-release/consumerexpenditures_washington.htm [2] “Consumer Expenditure Survey - CE Tables.” Bureau of Labor Statistics. <https://www.bls.gov/cex/tables.htm#MSA> [3] “Table 3024. Selected Southern Metropolitan Statistical Areas: Average Annual Expenditures and Characteristics, Consumer Expenditure Survey, 2015-2016.” Bureau of Labor Statistics. <https://www.bls.gov/cex/2016/msas/south.pdf>

³¹ Ruser, J.W. “The Employment Cost Index: What Is It?” Bureau of Labor Statistics, September 2001. <https://www.bls.gov/opub/mlr/2001/09/art1full.pdf>

³² “Changing Compensation Costs in the Washington-Baltimore Metropolitan Area – June 2017.” Bureau of Labor Statistics, August 2, 2017. https://www.bls.gov/regions/mid-atlantic/news-release/employmentcostindex_washingtondc.htm

³³ [1] Shanholtz, S. “2016 GDP Growth in the Washington DC Metropolitan Area and Commonwealth of Virginia.” Center for Regional Analysis, George Mason University, September 20, 2017. http://cra.gmu.edu/2017/09/20/wash_msa_2016gdp/ [2] “Gross Domestic Product by State: First Quarter of 2017.” Bureau of Economic Analysis, July 26, 2017. https://www.bea.gov/newsreleases/regional/gdp_state/qgsp_newsrelease.htm [3] “Regional Data.” Bureau of Economic Analysis. <https://www.bea.gov/iTable/iTable.cfm?reqid=70&step=10&isuri=1&7003=1000&7035=-1&7004=naics&7005=1&7006=xx&7036=-1&7001=21000&7002=2&7090=70&7007=-1&7093=levels#reqid=70&step=10&isuri=1&7003=1000&7004=naics&7035=-1&7005=1&7006=xx&7001=21000&7036=-1&7002=2&7090=70&7007=-1&7093=levels>

³⁴ “Metro Monitor 2017 Dashboard.” Brookings Institution, February 23, 2017. <https://www.brookings.edu/interactives/metro-monitor-2017-dashboard/>

indicators on a monthly basis and quarterly basis, respectively. At the county level, these indicators include office vacancy rates, housing listings and sales, housing prices, hotel occupancy rates, and retail sales.³⁵ At the state level, these indicators include changes in job availability, unemployment rates, unemployment insurance claims, and average hourly earnings for metropolitan statistical areas throughout Virginia.³⁶

- **State New Economy Index.** A 2014 report by the Information Technology and Innovation Foundation rates each state on the degree to which its economy matches the ideal structure of the “New Economy,” defined as availability of knowledge jobs, number of business startups and entrepreneurs, use of information technology to deliver goods and services, and “innovation capacity.” These indicators can complement the above traditional economic indicators to provide APS with a more in-depth understanding of economic trends in Virginia.³⁷
- **Development Tracking.** Arlington County tracks residential and commercial development activity in Arlington, and publishes an annual report highlighting trends development trends over the past 10 years.³⁸
- **Local Tax Rates.** Arlington County’s FY2018 budget (including tax rates) and proposals for the FY2019 budget are posted on its website.³⁹
- **Transit Accessibility.** Arlington County provides transit accessibility and density forecasts from 2010 to 2040 based on population and employment projections.⁴⁰

POLITICAL AND REGULATORY FACTORS

DATA SOURCES FOR EXTERNAL SCAN

- **Education Week’s Quality Counts Report.** Education Week publishes an annual report on state-level efforts to improve public education. The 2017 report focuses on state-and district-level efforts to prepare for implementation of the Every Student Succeeds Act (ESSA).⁴¹

³⁵ “Economic Indicators.” Arlington Economic Development, September 2017.

<https://www.arlingtoneconomicdevelopment.com/index.cfm?LinkServID=A32A7A07-A2D0-65C9-37D015526EE0129A&showMeta=0>

³⁶ “2nd Quarter 2017 - Virginia Economic Indicators - Volume 49, Number 2.” Virginia Employment Commission, 2017.

<http://virginialmi.com/content/pdfs/Indicators%20-%202nd%20qrt%202017.pdf>

³⁷ Atkinson, R.D. and A.B. Nager. “2014 State New Economy Index.” Information Technology and Innovation Foundation, June 2014. <http://www2.itif.org/2014-state-new-economy-index.pdf>

³⁸ “Development Tracking.” Arlington County Government. <https://projects.arlingtonva.us/data-research/development/>

³⁹ “Budget & Finance - Budget.” Arlington County Government. <https://budget.arlingtonva.us/budget/>

⁴⁰ “Population and Employment Forecasts,” Op. cit.

⁴¹ “Quality Counts.” Education Week. <http://www.edweek.org/ew/qc/index.html>

- **Virginia’s ESSA State Plan.** Virginia’s ESSA plan is posted on the Department of Education’s website. The plan was approved by the U.S. Department of Education in September 2017.⁴²

TECHNOLOGICAL AND SCIENTIFIC FACTORS

DATA SOURCES FOR EXTERNAL SCAN

- **K-12 Computer Science Learning Standards.** Virginia is one of just “a handful of states actively working to develop K-12 computer science standards;”⁴³ a law passed in 2016 requires that Virginia’s K-12 standards address computer science, computational thinking, and computer coding.⁴⁴ *The Atlantic* reported in October 2016 that the state plans to use the K-12 Computer Science Framework—released in 2016 as a result of collaboration between The Association for Computing Machinery, Code.org, Computer Science Teachers Association, Cyber Innovation Center, and National Math and Science Initiative—as the basis for Virginia’s new learning standards.⁴⁵ The state plans to review and adopt the proposed learning standards in October 2017.⁴⁶

EDUCATIONAL TRENDS

DATA SOURCES FOR EXTERNAL SCAN

- **Teacher Shortage Data.** A 2016 report by the Virginia Department of Education summarizes the teacher shortage problem in the state and provides recommendations for addressing the shortage.⁴⁷
- **Higher Education Costs.** Recent reports by the State Council of Higher Education for Virginia and the Joint Legislative Audit and Review Commission provide an overview of trends in tuition costs at Virginia’s public colleges and universities—costs have risen in recent years as state funding for higher education has decreased.⁴⁸

⁴² “Every Student Succeeds Act.” Virginia Department of Education.

http://www.doe.virginia.gov/federal_programs/esea/essa/index.shtml

⁴³ Deruy, E. “A Plan to Teach Every Child Computer Science.” *The Atlantic*, October 19, 2016.

<https://www.theatlantic.com/education/archive/2016/10/a-plan-to-teach-every-child-computer-science/504587/>

⁴⁴ Loewus, L.H. “Va. Gov. Signs K-12 Computer Science Bill, Making the Subject a Requirement for All.” *Education Week*, May 19, 2016. http://blogs.edweek.org/edweek/curriculum/2016/05/virginia_governor_signs_k-12_computer_science_bill.html

⁴⁵ [1] Deruy, Op. cit. [2] “K-12 Computer Science Framework.” K-12 Computer Science Framework Steering Committee. <https://k12cs.org/wp-content/uploads/2016/09/K%E2%80%9312-Computer-Science-Framework.pdf>

⁴⁶ “Standards of Learning (SOL) & Testing - Computer Science.” Virginia Department of Education.

http://www.doe.virginia.gov/testing/sol/standards_docs/computer-science/index.shtml

⁴⁷ “The Shortage of Qualified Teachers in the Commonwealth of Virginia and Recommended Strategies for Addressing the Shortage.” Virginia Department of Education, January 4, 2016.

[http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD642016/\\$file/RD64.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD642016/$file/RD64.pdf)

⁴⁸ [1] “2017-18 Tuition and Fees Report.” State Council of Higher Education for Virginia, August 2017.

<http://www.schev.edu/docs/default-source/Reports-and-Studies/2017/tuition-and-fees-report-2017-18.pdf> [2]

- **Community College-University Articulation Agreements.** Virginia's Community Colleges' website lists guaranteed admissions agreements between the state's 23 community colleges and more than 30 public, four-year colleges and universities.⁴⁹
- **Work-Based Learning Experiences for High School Students.** An October 2017 article in *Education Week* discusses various ways that states have incentivized schools to encourage high school students to earn industry credentials or obtain internships, apprenticeships, or part-time jobs connected to career pathways.⁵⁰
- **Assessing Student Learning Beyond Test Scores.** A 2016 report by the National Center for Fair and Open Testing discusses ways that school districts can assess student learning outcomes beyond standardized tests.⁵¹

CUSTOMERS

DATA SOURCES FOR EXTERNAL SCAN

- **Arlington Partnership for Children, Youth, and Families.** The Partnership works closely with APS and the Arlington County Government and could be a good potential source of information regarding stakeholders' beliefs and perceptions.⁵²
- **Arlington Resident Satisfaction Survey.** Arlington County conducted a resident satisfaction survey in 2015, assessing satisfaction with a variety of county services, including public schools.⁵³
- **Youth Risk Behavior Survey.** The Youth Risk Behavior Survey (YRBS) is an annual survey administered to students in Grades 6, 8, 10, and 12. The survey asks questions about students' drug and alcohol use; experiences with bullying, violence, and abuse; mental and sexual health issues; and nutrition and physical activity.⁵⁴

"Addressing the Cost of Public Higher Education in Virginia." Joint Legislative Audit and Review Commission. <http://jlarc.virginia.gov/higher-ed-cost.asp>

⁴⁹ "Guaranteed Transfer." Virginia's Community Colleges. <http://www.vccs.edu/students/transfers/>

⁵⁰ Gewertz, C. "Growing Number of States Embrace Career Education." *Education Week*, October 4, 2017.

<http://www.edweek.org/ew/articles/2017/10/04/growing-numbers-of-states-embrace-career-education.html>

⁵¹ Strauss, V. "Beyond Test Scores: The Right Way to Assess Students and Schools." *Washington Post*, October 5, 2016.

https://www.washingtonpost.com/news/answer-sheet/wp/2016/10/05/beyond-test-scores-the-right-way-to-assess-students-and-schools/?utm_term=.85c97c8db659

⁵² "About Us." Arlington Partnership for Children, Youth, and Families. <https://apcyf.arlingtonva.us/about-us-2/>

⁵³ "Resident Satisfaction Survey - 2015 Results." Arlington County Government.

<https://departments.arlingtonva.us/2015/05/residential-satisfaction-survey-2015-results/>

⁵⁴ "Youth Risk Behavior Survey - 2017 Results." Arlington County Government. <https://apcyf.arlingtonva.us/youth-risk-behavior-survey-2017-results/>

COMPETITION

DATA SOURCES FOR EXTERNAL SCAN

- **Charter Schools Laws.** Virginia’s charter school laws are some of the strictest in the country; the Washington Post reported in February 2017 that there are only nine public charter schools operating in the state.⁵⁵ In March 2017, Governor McAuliffe vetoed legislation to loosen restrictions on charter school authorizations, saying that the law would “undermine support for Virginia’s public education system.”⁵⁶
- **Other competition in the Arlington area.** Some students in Arlington attend the Duke Ellington School of the Arts and the Thomas Jefferson High School for Science and Technology.

⁵⁵ [1] “A Chance for Charter Schools to Finally Break through in Virginia.” Washington Post, February 14, 2017. https://www.washingtonpost.com/opinions/a-chance-for-charter-schools-to-finally-break-through-in-virginia/2017/02/14/82e6539e-efd6-11e6-b4ff-ac2cf509efe5_story.html?utm_term=.82f3e2dac4a3 [2] “Measuring Up - Virginia.” National Alliance for Public Charter Schools. <http://www.publiccharters.org/get-the-facts/law-database/states/va/>

⁵⁶ “Governor McAuliffe Vetoes Legislation Undermining Virginia Public Schools.” Office of the Governor, Commonwealth of Virginia, March 23, 2017. <https://governor.virginia.gov/newsroom/newsarticle?articleId=19848>

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