Community Facilities Study (CFS), 2015 – 2017
https://commissions.arlingtonva.us/community-facilities-study/

The CFS reviewed the ACG Forecast and APS Projections Methods:

✓ Consultants reviewed County population and employment forecasts and APS student projections
✓ The review reinforced validity of methods
✓ This confirmed the need for two different methodologies and projections for two different purposes
✓ **Recommended short and long-term improvements for data sharing, collaboration, trend monitoring, and methodology**
Collaboration between APS and ACG

- **Community Facilities Study** (2015-2017)
  - ACG Forecast Round 9.0: July 1, 2015
- **APS Projections**
  - September 30, 2015
  - September 30, 2016
  - September 30, 2017
  - September 30, 2018
  - September 30, 2019
- **ACG Forecast Round 9.1**
  - July 1, 2017
- **Added Enhancement**
- **ACG Data Update**
  - September 30, 2018
  - September 30, 2019
- **Enhancement**
  - Annual Housing Unit Forecast
  - Master Housing Unit Database
  - Projected Births
- **Added Enhancement**
  - Affordability
- **Added Enhancement**
  - Recalibrate Birth Projections
Factors Contributing to Enrollment Growth
Factors Contributing to Enrollment Growth

Larger kindergarten cohorts entering APS elementary schools

Smaller 12th grade cohorts graduating from APS high schools

Projected Arlington County “resident” births

Residential housing growth

Migration of families into and out of Arlington County

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Factors Contributing to Enrollment Growth

APS Student Enrollment Snapshot Fall 2019

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* Source: Fall 2018 10-Year Projections
** Source: Membership reports for 2019 and previous years www.apsva.us/statistics/monthly-enrollment/
Enrollment projections rely on assumptions for future kindergarten students:

- Kindergarten projections from 2019-20 to 2021-22 are based on actual births from 2014 to 2016
- Kindergarten projections starting in 2022-23 are based on county birth forecasts

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Factors Contributing to Enrollment Growth

- In Fall 2019, RLS Demographics was contracted to update the Arlington County births forecast model, the *Cohort Projection System*, last updated in 2016
- Comparisons of forecasted and actual births for 2017 and 2018 showed that births were over-estimated in the forecast model
- RLS Demographics’ update of the birth forecasts includes:
  - The latest AGC population forecast (Round 9.1)
  - Updated analysis of age-specific fertility rates using 2010 to 2018 historical birth data and US Census bureau estimates of the distribution of the female population by age
  - Updated analysis of age-specific migration using US Census Bureau estimates up to July 1, 2018
- Some key findings that informed the updated births model:
  - It was found that the Total Fertility Rate (TFR) from 2010 to 2015 was 1.44 and is estimated to decline to 1.34 in the 2015 to 2020 period*
  - There is a reduced level of in-migration for the 20 to 24 and 25 to 29 age groups, compared with the 2016 model

* The updated migration uses the latest Census estimates extrapolated to 2020

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Factors Contributing to Enrollment Growth

By 2023, the latest birth forecast is 964 births lower than previously assumed.

Comparison of Actual Births and Births Used in the Fall 2018 and Fall 2019 10-Year Enrollment Projections


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Factors Contributing to Enrollment Growth

- Enrollment projections also rely on assumptions of future residential construction from the county.
- Future housing accommodates new households and students.

### Net New Housing Unit Forecast for 2019 to 2029

<table>
<thead>
<tr>
<th>Projection Year</th>
<th>Multi-family Garden</th>
<th>Multi-family Highrise</th>
<th>Single-family Detached</th>
<th>Townhome</th>
<th>Total Net New Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td></td>
<td>1,275</td>
<td></td>
<td></td>
<td>1,275</td>
</tr>
<tr>
<td>2020</td>
<td>12</td>
<td>2,188</td>
<td>3</td>
<td>2,203</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>36</td>
<td>1,230</td>
<td></td>
<td>1,266</td>
<td></td>
</tr>
<tr>
<td>2022*</td>
<td></td>
<td>1,273</td>
<td>27</td>
<td>1,300</td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>172</td>
<td>1,167</td>
<td>3</td>
<td>1,400</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>12</td>
<td>1,325</td>
<td>86</td>
<td>1,423</td>
<td></td>
</tr>
<tr>
<td>2025*</td>
<td>97</td>
<td>1,324</td>
<td>43</td>
<td>1,464</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td></td>
<td>1,379</td>
<td></td>
<td>1,379</td>
<td></td>
</tr>
<tr>
<td>2027</td>
<td></td>
<td>1,379</td>
<td></td>
<td>1,379</td>
<td></td>
</tr>
<tr>
<td>2028</td>
<td>85</td>
<td>1,232</td>
<td></td>
<td>1,317</td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>99</td>
<td>1,178</td>
<td></td>
<td>1,277</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>513</td>
<td>14,950</td>
<td>3</td>
<td>216</td>
<td>15,683</td>
</tr>
</tbody>
</table>

*The Sept. 2019 net new unit information for two residential projects was adjusted by APS staff in Dec. 2019.

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• The greatest number of residential units are delivered in 2020

• Unit deliveries are evenly distributed from 2021 to 2029
Factors Contributing to Enrollment Growth

To each new unit is applied a **Student Generation Rate (SGR)** to estimate the number of students from new residential development.

### Comparison of Draft Fall 2019 and Fall 2018 SGR

<table>
<thead>
<tr>
<th>Grades K to 12</th>
<th>Single Family Detached</th>
<th>Single Family Detached with Accessory Dwelling</th>
<th>Townhome</th>
<th>Duplex</th>
<th>Multi-family Elevator</th>
<th>Multi-family Garden</th>
<th>Condo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Detached</td>
<td>0.498</td>
<td>N/A</td>
<td>0.214</td>
<td>0.345</td>
<td>0.066</td>
<td>0.127</td>
<td>0.656</td>
</tr>
<tr>
<td>Single Family Detached with Accessory Dwelling</td>
<td>0.497</td>
<td>N/A</td>
<td>0.194</td>
<td>0.358</td>
<td>0.061</td>
<td>0.126</td>
<td>0.617</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td>0.001</td>
<td>N/A</td>
<td>0.020</td>
<td>(0.013)</td>
<td>0.005</td>
<td>0.001</td>
<td>0.039</td>
</tr>
</tbody>
</table>

### 2019 Master Housing Unit Database (MHUD) housing by type shares

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Detached</td>
<td>24.09%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Single Family Detached with Accessory Dwelling</td>
<td>3.77%</td>
<td>2.27%</td>
</tr>
<tr>
<td>Multi-family Elevator</td>
<td>25.24%</td>
<td>7.86%</td>
</tr>
<tr>
<td>Multi-family Garden</td>
<td>12.78%</td>
<td>10.00%</td>
</tr>
</tbody>
</table>

---

1 Excludes Apartment Elevator Senior Housing

Source:

* Rates are based on September 30, 2019 APS Enrollments (Grades K-12) and July 1, 2019 Master Housing Unit Database (MHUD) from Arlington County Government, CPHD, Planning Division.

** Rates are based on September 30, 2018 APS Enrollments (Grades K-12) and July 1, 2018 Master Housing Unit Database (MHUD) from Arlington County Government, CPHD, Planning Division.

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Starting in 2024-25, the Kindergarten to Grade 5 elementary school enrollment projections are completely based on assumptions from:

- Births
- Future construction
- Past cohort transition rates continuing into the future

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Starting in 2027-28, the Grade 6 to 8 middle school enrollment projections are completely based on assumptions from:

- Births
- Future construction
- Past cohort transition rates continuing into the future

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Factors Contributing to Enrollment Growth – High School

Starting in 2028-29, the Grade 9 high school enrollment projections are completely based on assumptions from:

- Births
- Future construction
- And past cohort transition rates continuing into the future

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Enrollment Projections Comparisons
Factors Contributing to Enrollment Growth

Since the Fall 2018 10-Year Projections, APS has produced two 10-Year enrollment projections:

• Bottom-up projections
  • Done school-by-school; these projections are shared publicly
  • Factors and assumptions used are unique to each school

• Top-down projections
  • Calculated to test the reasonableness of the bottom-up projections; these projections are for internal use only
  • Factors and assumptions used are APS system-wide (in the aggregate)
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Draft Projections Comparisons – Grades K to 12

The draft Fall 2019 10-Year Projections anticipates just under 3,200 fewer Grade K to 12 students for 2028-29 than were projected in Fall 2018.

Source: APS, Planning & Evaluation, Fall 2018 and Fall 2019.

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Draft Fall 2019 Projections for Grades K to 12 (Bottom-Up)

Fall 2019 Projections for Grades K to 12 (Top-Down)

Fall 2018 Projections for Grades K to 12 (Old)
Draft Projection Comparisons – Grade K to 5

The draft Fall 2019 10-Year Projections anticipates about 2,800 fewer Grade K to 5 students for 2028-29 than were projected in Fall 2018.

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Source: APS, Planning & Evaluation, Fall 2018 and Fall 2019.
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Draft Projection Comparisons – Grade 6 to 8

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Source: APS, Planning & Evaluation, Fall 2018 and Fall 2019.
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Draft Projection Comparisons – Grade 9 to 12

Draft Fall 2019 Projections (Bottom-Up) — Fall 2019 Projections (Top-Down)

Fall 2018 Projections (Old)

Source: APS, Planning & Evaluation, Fall 2018 and Fall 2019.
1. What are your thoughts on communicating the different trends observed when comparing the Fall 2019 and Fall 2018 10-Year Projections?
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## APS Enrollment Projections Timeline

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid December 2019</td>
<td>APS publishes Fall 2019 10-Year Projections for 2020-21 through 2028-29</td>
</tr>
<tr>
<td>January 2020</td>
<td>Update to Capacity Utilization Tables reflecting refinements to schools’ permanent seat capacity and the Fall 2019 10-Year Projections</td>
</tr>
<tr>
<td>February 11, 2020</td>
<td>School Board Work Session: 10-Year Projections update for the 2021-30 Capital Improvement Plan (CIP)</td>
</tr>
</tbody>
</table>