

# Arlington Public Schools (APS) Enrollment Projections and Use in Capital Improvement Plans

February 12, 2019

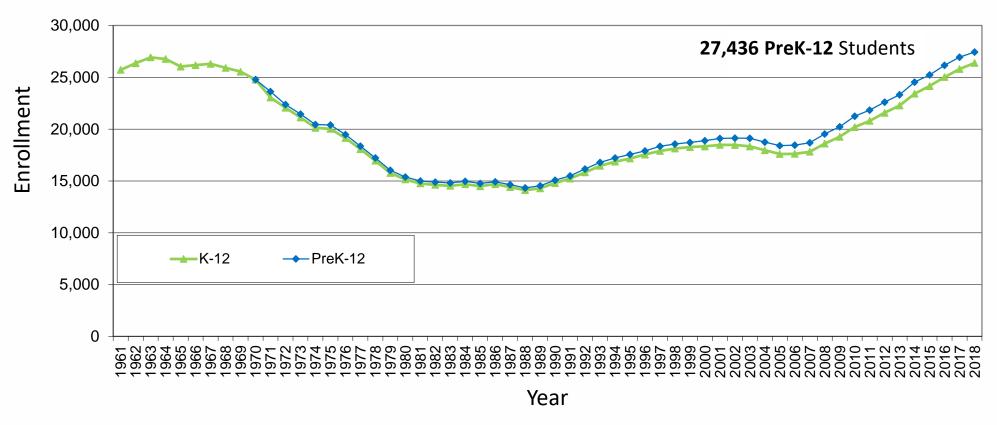




# Context

### **Historic APS Enrollment**

### Total K-12 and PreK-12 Enrollment (September 30th), 1961-2018



Source: Annual APS Enrollment Projections Report (January 2019), <a href="https://www.apsva.us/statistics/enrollment-projections/">https://www.apsva.us/statistics/enrollment-projections/</a>.

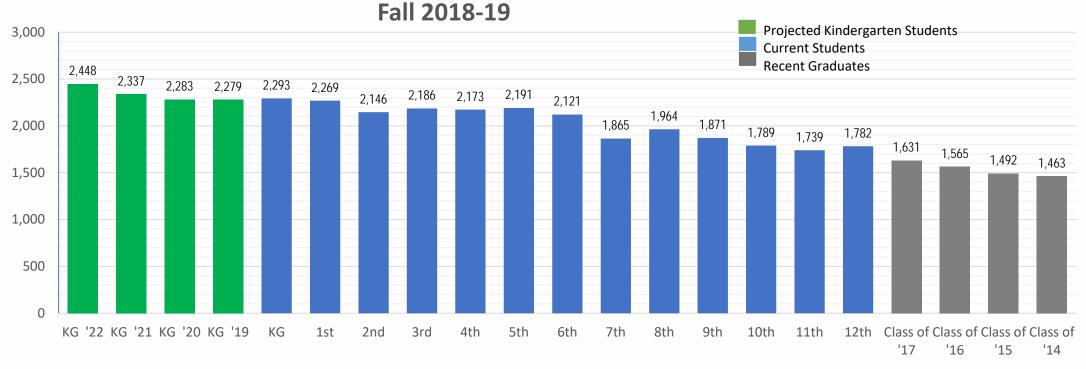


# **Context**

### Fall 2018 Enrollment by Grade Cohorts and Future Kindergarteners

# **Expected kindergarten cohorts are larger than recent graduating cohorts**

# **APS Student Enrollment Snapshot**



\*Source: Fall 2018 10-Year Projections

Source: Annual APS Enrollment Projections Report (January 2019), https://www.apsva.us/statistics/enrollment-projections/.



### Timeline of Process

Milestones	Timeframe
Internal Staff Assessment of Projection	May to early August 2018
Methodology	
Projections Internal Review Committee,	Monday, August 13, 2018
Meeting #1	
Receive data from Arlington County	Last week, September 2018
Government	
Receive September 30, 2018 enrollment	First week, October 2018
Draft 2019-20 One-Year Projected	November 9, 2018
Enrollment to Finance	
Projections Internal Review Committee,	November 20, 2018
Meeting #2	
Projections Preview for FAC and BAC	November 27, 2018
members and other parents	
School Board Adopts Elementary	December 6, 2018
Boundaries	
Produce Draft Elementary Projections	January 24, 2019
with Updated Boundaries	

Source: Annual APS Enrollment Projections Report (January 2019), https://www.apsva.us/statistics/e nrollment-projections/.



K-12 Comparison of Projections in Fall 2017 and 2018

## APS enrollment will continue growing and is expected to increase by 24% by 2028





### Sources

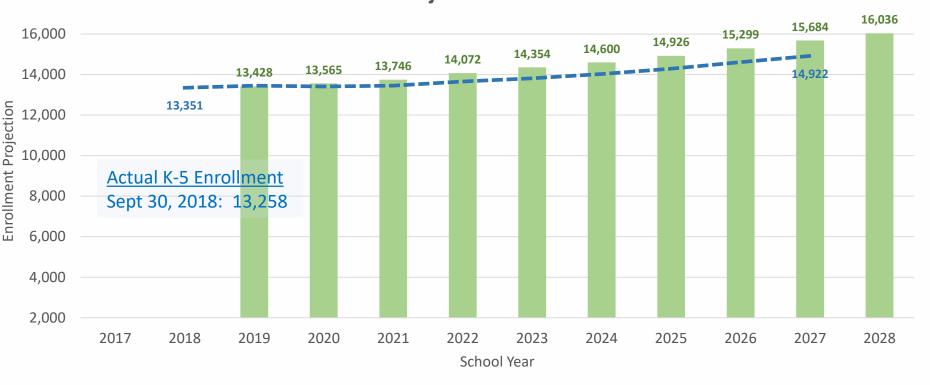
- Sept 30, 2018 Enrollment, <a href="https://www.apsva.us/wp-content/uploads/2018/10/Sep">https://www.apsva.us/wp-content/uploads/2018/10/Sep</a> t-30-Membership-2018-19.pdf
- Fall 2017 Projections, <a href="https://www.apsva.us/wp-content/uploads/2017/12/Fall-Projections18-27\_Official\_Web.pdf">https://www.apsva.us/wp-content/uploads/2017/12/Fall-Projections18-27\_Official\_Web.pdf</a>



Elementary School Comparison of Projections in Fall 2017 and 2018

At the elementary level, enrollment growth is expected to be 21%, which is higher than last year's projection (just over 1,000 more students)

### Two Years of Grade K-5 Projections: Fall 2017 and Fall 2018



### **Sources**

- Sept 30, 2018 Enrollment, https://www.apsva.us/wp- content/uploads/2018/10/Sep t-30-Membership-2018-19.pdf
- Fall 2017 Projections, https://www.apsva.us/wp-content/uploads/2017/12/Fall Projections18-27 Official Web.pdf

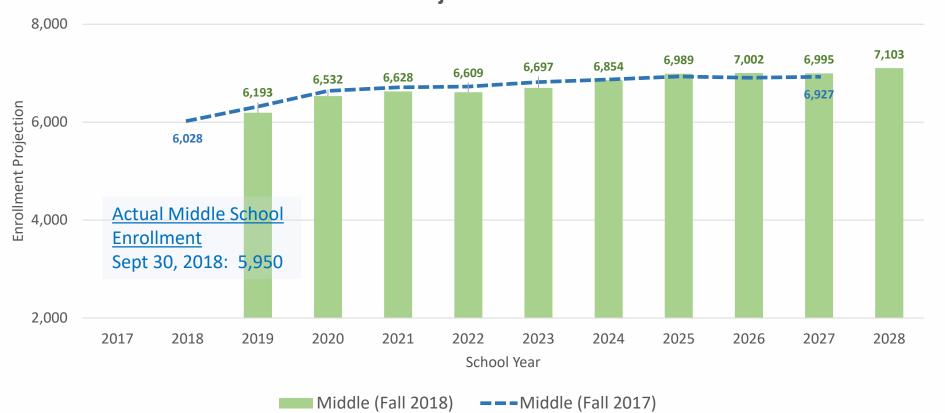
Elementary (Fall 2018) --- Elementary (Fall 2017)



Middle School Comparison of Projections in Fall 2017 and 2018

# At the middle school level, enrollment growth is expected to be 19%, which is slightly lower than last year's projection





### Sources

- Sept 30, 2018 Enrollment, <a href="https://www.apsva.us/wp-content/uploads/2018/10/Sep">https://www.apsva.us/wp-content/uploads/2018/10/Sep</a> t-30-Membership-2018-19.pdf



High School Comparison of Projections in Fall 2017 and 2018

# At the High School level, enrollment growth is expected to be 35%, which is slightly lower than last year's projection

Two Years of Grade 9-12 Projections: Fall 2017 and Fall 2018



### Sources

- Sept 30, 2018 Enrollment, <a href="https://www.apsva.us/wp-content/uploads/2018/10/Sep">https://www.apsva.us/wp-content/uploads/2018/10/Sep</a> t-30-Membership-2018-19.pdf



2018 through 2028

# Change in Projected K-12 Enrollment from 2018 to 2028

School Level	2018 Actual	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Elementary	13,258	13,428	13,565	13,746	14,072	14,354	14,600	14,926	15,299	15,684	16,036
Middle	5,950	6,193	6,532	6,628	6,609	6,697	6,854	6,989	7,002	6,995	7,103
High	7,181	7,527	7,818	8,297	8,741	8,996	9,310	9,366	9,478	9,613	9,715
Total	26,389	27,148	27,915	28,671	29,422	30,047	30,764	31,281	31,779	32,292	32,854

ge
L%
9%
5%
1%

### **Note**

- Numbers in "2018" (green) column, represent Sept. 30, 2018 K-12 enrollment. Please see <a href="https://www.apsva.us/wp-content/uploads/2018/10/Sept-30-Membership-2018-19.pdf">https://www.apsva.us/wp-content/uploads/2018/10/Sept-30-Membership-2018-19.pdf</a>.
- Numbers in "2018 to 2028" (yellow) columns, represent the change of enrollment from Sept. 30, 2018 to Sept. 30, 2028.



# **Births to Kindergarten Ratio**

# **Historical Kindergarten Capture Rate 2000-2013**

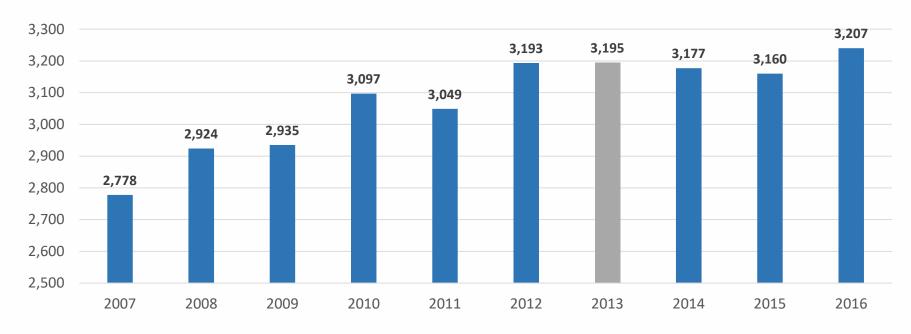
Birth Year	Resident Births	School Year Entering KG	Actual Kindergarten	Kindergarten Capture Rate %
2000	2,715	2005	1,501	55%
2001	2,814	2006	1,627	58%
2002	2,686	2007	1,610	60%
2003	2,659	2008	1,697	64%
2004	2,810	2009	1,924	68%
2005	2,809	2010	2,003	71%
2006	2,561	2011	1,968	77%
2007	2,778	2012	2,179	78%
2008	2,924	2013	2,139	73%
2009	2,935	2014	2,196	75%
2010	3,097	2015	2,152	69%
2011	3,049	2016	2,127	70%
2012	3,193	2017	2,253	71%
2013	3,195	2018	2,293	<b>72</b> %

Source: Annual APS Enrollment Projec



# **Key Assumptions**Births

# **Historical Resident Births in Arlington for 2007-2016**



### Note

Gray bar denotes the total number of resident births in 2013 that are eligible to enter kindergarten in School Year 2018-19.

Source: Annual APS Enrollment Projections Report (January 2019), https://www.apsva.us/statistics/enrollment-projections/. Virginia Department of Health (https://www.vdh.virginia.gov/HealthStats/stats.htm)



**Births Forecast** 

## Forecasted Births for Calendar Years 2017 through 2023

Birth Year	Resident Births	School Year Entering KG	Projected KG Cohort
2017	3,323	2022	2,349
2018	3,408	2023	2,409
2019	3,495	2024	2,471
2020	3,557	2025	2,515
2021	3,620	2026	2,559
2022	3,684	2027	2,604
2023	3,750	2028	2,651

### Note

The data source for projected resident births is the Arlington CPHD, September 2018.

Source: Annual APS Enrollment Projections Report (January 2019), <a href="https://www.apsva.us/statistics/enrollment-projections/">https://www.apsva.us/statistics/enrollment-projections/</a>. The data source for projected resident births is Arlington CPHD, September 2018.



# **Anticipated Residential Construction**

# **Net New Housing Unit Forecasts for 2018-2028**

Projection Year	Garden Apt	High-Rise Apt	Single Family Detached	Town House	Total Units
2018	307	1,909	0	12	2,228
2019	0	869	0	27	896
2020	36	762	3	0	801
2021	30	1,632	0	0	1,632
2022	0	1,311	0	27	1,338
2023	172	1,025	0	32	1,229
2024	12	1,367	0	151	1,530
2025	32	924	0	45	1,001
2026	0	1,198	0	0	1,198
2027	0	1,433	0	0	1,433
2028	0	1,293	0	0	1,293
Total	559	13,723	3	293	14,579

Source: Annual APS Enrollment Projections Report (January 2019), <a href="https://www.apsva.us/statistics/enrollment-projections/">https://www.apsva.us/statistics/enrollment-projections/</a>. Arlington CPHD, September 2018.



### **Student Generation Rates**

		All Grade Leve	els (K-12)		
Housing Type	APS K-12	% of Students by	Housing Units	% of County	Student
nousing type	Students	Housing Type	county-wide	Housing Type	Generation Factor
Single Family Detached	13,739	52.5%	27,625	24.2%	0.497
Townhouse	842	3.2%	4,331	3.8%	0.194
Duplex	899	3.4%	2,511	2.2%	0.358
Apartment Elevator –	1,717	6.6%	27,971	24.5%	0.061
Market Rate	1,/1/	0.0%	27,971	24.3%	0.001
Apartment Elevator – Mixed	1,140	4.4%	9,038	7.9%	0.126
Income	1,140	4.470	9,036	7.5/0	0.120
Apartment Elevator – CAF	373	1.4%	605	0.5%	0.617
Apartment Garden – Market	2,541	9.7%	9,838	8.6%	0.258
Apartment Garden – Mixed	820	3.1%	2.150	1.9%	0.380
Income	620	3.170	2,159	1.970	0.360
Apartment Garden – CAF	2,010	7.7%	3,441	3.0%	0.584
Condo-Elevator	822	3.1%	15,339	13.4%	0.054
Condo-Garden	1,255	4.8%	11,456	10.0%	0.110
Total	26,158	100%	114,314	100.0%	0.229

### Notes:

- 1. Housing unit data for 2018 provided by Arlington County Department of Community Planning and Housing Development.
- 2. Some students were not geocoded for reasons such as (i) they are children of employees who live outside Arlington County, (ii) they reside on Joint Base Myer-Henderson Hall (federal jurisdiction), or (iii) they are homeless or in foster care outside Arlington County, or live at a shelter.
- 3. The Pre-K cohort (1,047 students) is not included in the student generation factor calculation. Pre-K enrollment is based upon funding and seat availability.

Source: Annual APS Enrollment Projections Report (January 2019), <a href="https://www.apsva.us/statistics/enrollment-projections/">https://www.apsva.us/statistics/enrollment-projections/</a>. Arlington CPHD, September 2018.



**Key Takeaways** 

- The approach for Fall 2018 projections reflects:
  - Continued collaboration with the County on housing and births forecasts
  - Changes to the Options and Transfers policy
  - New elementary and middle school attendance zones beginning in 2019-20
  - Updated methodology that incorporates all policy and boundary changes to date
  - Greater internal review and assistance from consultant
- With changing enrollment trends and a new methodology for projections, we see:
  - Continued growth in K-12 enrollment with 24% increase expected by 2028
  - Slightly lower 10-year projections for middle and high school in Fall 2018 than in Fall 2017
  - Higher growth at the elementary level in Fall 2018 projections than previously seen, with an additional 1,000 more K-5 students anticipated
- An increase of more than 1,000 K-5 students could have implications for the upcoming FY 2020-29 CIP (Capital Improvement Plan) regarding the need and timing of future seats<sup>1</sup>.

<sup>1</sup> The 2019-28 CIP calls for 725 elementary seats at Reed in 2021-22 and 725-750 elementary seats at an existing building in 2029



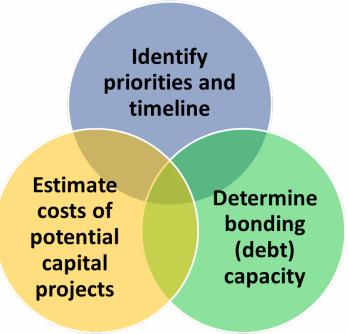
# Use of Projections in Capital Improvement Plan *FY 2019-2028 CIP Example*



**FY 2019-2028 CIP Example** 

APS 10-year Capital Improvement Plan (CIP):

- Assesses the impact of projected student growth on APS facilities
- Manages growth through:
  - Capital projects
  - And timing of projects
- Accounts for financing constraints



Source: School Board presentation, April 19, 2018, https://www.apsva.us/engage/cip\_fy19-28/



**FY 2019-2028 CIP Example** 

**Capital Options** - Permanent additions to APS facilities and infrastructure are funded by general obligation bonds

# **Examples:**

- New schools
- New additions to existing schools
- Adapt existing schools for new uses
- Certain Minor Construction/Major Maintenance (MC/MM)

Source: School Board presentation, April 19, 2018, https://www.apsva.us/engage/cip\_fy19-28/



**FY 2019-2028 CIP Example** 

Non-Capital Options - Options that increase the capacity of school buildings by optimizing the use of existing space are funded by the operating budget

# **Examples:**

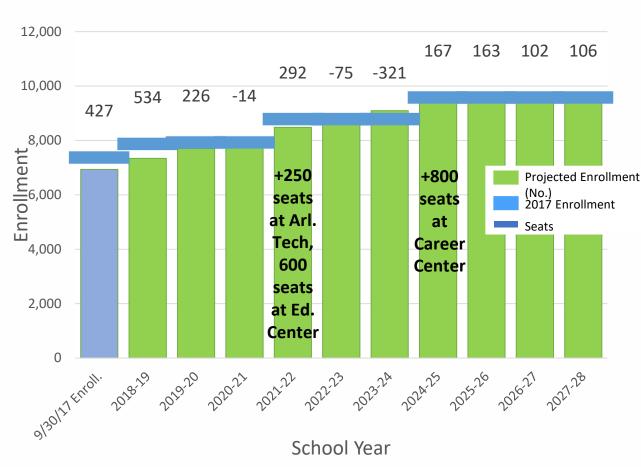
- Increase class size
- Adjust class schedules
- Lease/share space in available facilities
- Review and adjust program offerings
- Use relocatable classrooms

Source: School Board presentation, April 19, 2018, https://www.apsva.us/engage/cip\_fy19-28/



**FY 2019-2028 CIP Example** 

### Use of different CIP scenarios for the timing of permanent seats. This is Scenario A from May 15, 2018.



- High School capacity will exceed enrollment for 7 of 10 years in this CIP scenario
- In 2023-24, enrollment is manageable;
   Wakefield and Washington-Lee would need to add 6 to 7 relocatable classrooms
   Yorktown has no space for relocatable

### Note

classrooms

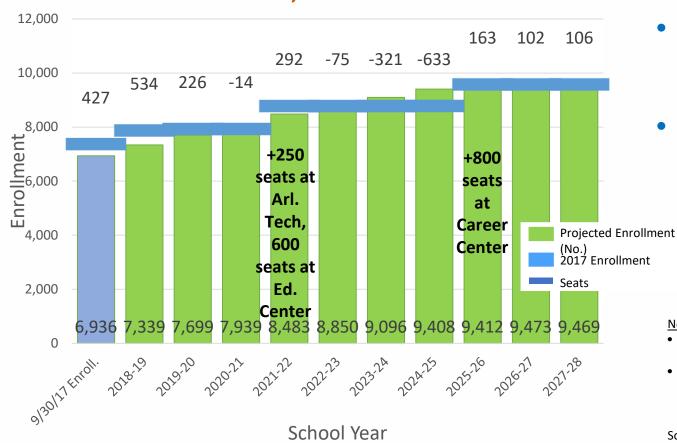
Assumes adding the maximum number of seats at the Ed. Center. All estimates for relocatables classrooms are based on an average class size of 25 students, across all levels.

Source: School Board presentation, May 15, 2018, https://www.apsva.us/engage/cip\_fy19-28/



**FY 2019-2028 CIP Example** 

Use of different CIP scenarios for the timing of permanent seats. This is the School Board adopted CIP Scenario A2 from June 21, 2018.



- High School capacity will exceed enrollment for 6 of 10 years in this CIP scenario
- In 2024-25, enrollment growth requires 13 relocatable classrooms each at Wakefield and Washington-Lee

Yorktown does not have space for relocatable classrooms

### Note

- All estimates for relocatable classrooms are based on an average class size of 25 students, across all levels.
- The green bars represent projected enrolled APS students, the blue horizontal lines indicate the number of seats available in the scenario, and the number at the top of each bar indicates the difference between enrolled students and seats.

Source: School Board presentation, June 21, 2018, https://www.apsva.us/engage/cip\_fy19-28/



**FY 2019-2028 CIP Example** 

All CIP Scenarios were contrasted to their effect on Debt Service Ratio and Bonding Capacity.

This is an example from an April 24, 2018.

SCENARIO FOR CIP WORK SESSION 4/24/18									ВС	OND FU	ND	ING												
Project Description	FY	2019	F	<b>/</b> 2020	F	Y 2021	F	Y 2022	F	<b>/ 2023</b>	F	Y 2024	Fì	<b>12025</b>	FY	2026	FY	2027	FY	2028	E	OTAL SOND NDING	PR	TOTAL ROJECT COST
Seats Available in	Fal	12018	Fa	II 2019	Fa	II 2020	Fa	II 2021	Fa	II 2022	Fa	II 2023	Fa	II 2024	Fa	II 2025	Fall	12026	Fal	12027				
Stratford (1,000 seats in 2019) *	\$	9.03																			\$	9.03	\$	36.55
Wilson (114 seats in 2019) *	\$	3.00																			\$	3.00	\$	100.80
Major Infrastructure Projects (bond-funded MC/MM)	\$	7.20	\$	7.40	\$	7.60	\$	7.80	\$	8.00	\$	8.20	\$	8.40	\$	8.60	\$	8.80	\$	9.00	\$	81.00	\$	81.00
Reed - Expanded (725 seats in 2021)	\$	24.10	\$	17.75	\$	2.40															\$	44.25	\$	55.00
Career Ctr/Arl Tech (FY17-26 project; 250 seats in 2021) **	\$	-	\$	9.55	\$	1.50															\$	11.05	\$	23.80
Career Center Phase 1 (800 seats in 2024)			\$	2.80	\$	9.60	\$	50.00	\$	53.70	\$	4.50									\$	120.60	\$	127.90
Education Center (500-600 seats in 2021)	\$	1.10	\$	29.00	\$	2.15															\$	32.25	\$	37.00
MS: Gunston Renovation/Addition (300 seats in 2023)	\$	1.90	\$	2.00	\$	10.60	\$	11.30	\$	0.65											\$	26.45	\$	27.00
New ES w/Parking below (725-750 seats in 2026)							\$	5.90	\$	6.30	\$	33.10	\$	35.50	\$	2.50					\$	83.30	\$	84.60
Transportation Staff Facility Renovation	\$	1.80	\$	0.30		·				•						•					\$	2.10	\$	2.10
Field conversions to synthetic turf (APS share @ 30%)	\$	0.62			\$	1.35				•											\$	1.97	\$	1.97
TOTAL PROJECTS	\$	48.75	\$	68.80	\$	35.20	\$	75.00	\$	68.65	\$	45.80	\$	43.90	\$	11.10	\$	8.80	\$	9.00	\$	415.00	\$	582.41

<sup>\*</sup> Bonds for Stratford and Wilson being sold in FY 2019 are from previous bond referenda.

<sup>\*\*</sup> The Career Center/Arlington Tech project funding was \$12.75 million in the FY17-26 CIP. Of that amount, it is estimated that \$5.5 million will have been used over the summers of 2017 and 2018 for internal modifications generating 350 seats. The remaining \$7.25 million along with the new funding in the FY19-28 CIP will be used for an addition to provide the 250 additional seats needed for Arlington

	2018		2020		2022		2024		2026		
BOND REFERENDA AMOUNTS	\$ 121.17		\$ 159.70		\$ 87.30		\$ 17.00		\$ 17.80		
Debt Service Ratio Target ≤9.8%	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Total
Debt Service Ratio APS	9.28%	9.34%	9.98%	9.71%	10.18%	10.63%	10.74%	10.50%	10.46%	9.36%	
Annual Bond Issuance	\$ 48.75	\$ 68.80	\$ 35.20	\$ 75.00	\$ 68.65	\$ 45.80	\$ 43.90	\$ 11.10	\$ 8.80	\$ 9.00	\$415.0
Annual APS Debt Service Increase		\$0.54	\$4.78	(\$0.27)	\$4.60	\$4.65	\$2.35	(\$0.07)	\$1.37	(\$6.51)	\$11.4

Source: School Board presentation, April 24, 2018, https://www.apsva.us/engage/cip\_fy19-28/



FY 2019-2028 CIP Example

### This is the Debt Service Ratio and Bonding Capacity table from the adopted CIP of June 21, 2018.

		ОТН	ER FUNDIN	IG SOUP	RCES						BOND FU	NDING						
Project Description	Operating	MC/MM (not bonds)	Capital Reserve <sup>1</sup>		Fund	Previous Bond Funding	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	TOTAL BOND FUNDING	TOTAL PROJECT COST
Seats Available in	Operating	Dollasj	110001110	APS	Alico	runung	Fall 2018	Fall 2019	Fall 2020	Fall 2021	F1 2023 Fall 2022	Fall 2023	Fall 2024	Fall 2025	Fall 2026	Fall 2027	FUNDING	COST
ocato Avanable III							rail 2010	raii 2013	ran 2020	rail 2021	rail 2022	raii 2023	Fall 2024	ran 2023	Fall 2020	raii zvzi		
Stratford (1,000 seats in 2019) *	\$ 0.80		\$ 0.25	\$ 2.11	\$ 2.11	\$ 22.25	\$ 9.03										\$ 9.03	\$ 36.55
Wilson (114 seats in 2019) *	\$ 1.90		\$ 7.00	\$ 3.00	\$ 3.00	\$ 82.90	\$ 3.00										\$ 3.00	\$ 100.80
Major Infrastructure Projects (bond-funded MC/MM)							\$ 7.20	\$ 7.40	\$ 7.60	\$ 7.80	\$ 8.00	\$ 8.20	\$ 8.40	\$ 8.60	\$ 8.80	\$ 9.00	\$ 81.00	\$ 81.00
Reed - Expanded (725 seats in 2021)	\$ 1.25		\$ 4.00	\$ 2.75	\$ 2.75		\$ 24.10	\$ 17.75	\$ 2.40	725							\$ 44.25	\$ 55.00
Career Ctr/Arl Tech (FY17-26 project; 250 seats in 2021) **	\$ 0.75					\$ 12.00	\$ 1.00	\$ -	\$ 5.00	250							\$ 6.00	\$ 18.75
Career Center Project - field and parking garage (2023); 800 seat Addition and performing arts facility (2025)	\$ 1.30		\$ 31.00			\$ 6.00	\$2.80	\$3.10	\$19.90	\$21.00	\$34.00	\$60.40	\$5.20	800			\$ 146.40	\$ 184.70
Education Center (600 HS seats in 2021)	\$ 0.75					\$ 4.00	\$ 16.00	\$ 14.10	\$ 2.15	600							\$ 32.25	\$ 37.00
MS: Renovation/Addition Location TBD (300 seats in 2030)			\$ -											\$ 2.50	\$ 2.70	\$ 13.90	\$ 19.10	\$ 35.00
New ES in Existing Building (725-750 seats in 2029) <sup>2</sup>	\$ 1.30		\$ -										\$ 5.10	\$ 5.50	\$ 28.90	\$ 31.10	\$ 70.60	\$ 73.90
Transportation Staff Facility Renovation			\$ 2.10														\$ -	\$ 2.10
Drew Model School refresh (summer 2019)		\$ 0.95															\$ -	\$ 0.95
Patrick Henry building refresh (summer 2019)		\$ 0.85															\$ -	\$ 0.85
Field conversions to synthetic turf (APS share)			\$ 1.97														\$ -	\$ 1.97
Turf field replacements (APS share)		\$ 2.89															\$ -	\$ 2.89
TOTAL PROJECTS	\$ 8.05	\$ 4.69	\$ 46.32	\$ 7.86	\$ 7.86	\$ 127.15	\$ 63.13	\$ 42.35	\$ 37.05	\$ 28.80	\$ 42.00	\$ 68.60	\$ 18.70	\$ 16.60	\$ 40.40	\$ 54.00	\$ 411.63	\$ 631.46
300 Shows the number of seats coming online that year			ВС	ND REF	ERENDA	AMOUNTS	2018 \$ 103.00		2020 \$ 58.10		2022 \$ 114.00		2024 \$ 32.80		2026 \$ 109.60	***	-	_
		De	bt Servi	ce Rati	o Targ	et ≤9.8%		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Total	
				Debt	Service F	Ratio APS	9.28%	9.57%	9.78%	9.56%	9.35%	9.45%	9.93%	9.38%	9.47%	8.84%		4

63.13

Annual Bond Issuance S

Annual APS Debt Service Increase

https://www.apsva.us/eng
age/cip\_fy19-28/

\$411.63

\$7.53

All Arlington Public Schools (APS) budget and operations decisions are based on the best information available at the time. Staff and community members are reminded that funding forecasts from Arlington County and the state may change, based on many external factors. Similarly, student enrollment and projections are based on the best available information, but are also subject to change due to employment, housing and other economic factors. For these reasons, APS and the Arlington School Board may adjust future budget allocations, staffing and other operations decisions to reflect the existing community and operating landscape.

42.35

\$1.98

37.05

\$2.10

28.80

42.00

\$0.01

68.60

\$2.13

\$ 18.70

\$4.84

16.60 \$

(\$2.44)

40.40

\$2.13

54.00

Source: School Board presentation, June 21, 2018,

<sup>&</sup>lt;sup>1</sup> This is a plan to allocate funds to Capital Reserve over the next ten years in order to mitigate the need for bond funding for needed buildings

<sup>\*</sup> Bonds for Stratford and Wilson being sold in FY 2019 are from previous bond referenda.

<sup>\*\*</sup> The Career Center/Arlington Tech project funding was \$12.75 million in the FY17-26 CIP. Of that amount, it is estimated that \$4.54 million will have been used over the summers of 2017 and 2018 for internal modifications generating 350 seats. The remaining \$8.21 million along with the new funding in the FY19-28 CIP will be used to provide the 250 additional seats needed for Arlington Tech.

Adjusted cost for renovation of existing building in lieu of full cost of building new ES.

<sup>\*\*\*</sup> The 2026 bond referendum amount includes an additional \$2M for the New ES project and \$15.9M for the MS Renovation/Addition (not shown in this chart).



# Arlington Public Schools (APS) Enrollment Projections and Use in Capital Improvement Plans

February 12, 2019