



Richmond Public Schools Demographics, Capacity, and Utilization





Who We Are

Cropper GIS Consulting, LLC

K-12 school planning is our business and our passion. Our specialty is redistricting, Demographics, and boundary studies.

Cropper GIS works with K-12 school districts to:

- develop redistricting plans,
- develop demographic studies,
- facilitate community engagement,
- prepare long-range facility master plans,
- author site feasibility studies,
- conduct & publish housing impact and yield factor studies, and
- provide GIS implementation & training.





Principal & Project Manager

Matthew Cropper, Cropper GIS

20 years experience providing consulting services to school districts and other clients.

Manages and Facilitates rezoning/planning projects across the U.S.

Trained school district personnel across the U.S. how to use & apply GIS.

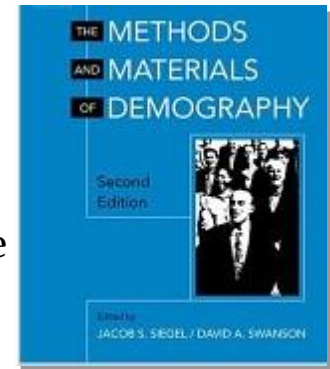
Published numerous papers regarding boundary planning and master planning.

Who We Are

Jerome McKibben, PhD

Experience

- PhD in Demography, Bowling Green University
- Taught demography, statistics, sociology within US & Europe
- Served as a State Demographer of Indiana for 6 years
- Fulbright Scholar Award Recipient, Germany 2002
- Testified before state legislatures, courts, and the US Congress regarding census and population issues



Notable Publications

- "School District Planning Needs and the 2010 Census". *In Journal of Economic and Social Measurement*, Vol. 33, No. 2, May 2007
- "The Impact of Policy Changes on Forecasting for School Districts". *Population Research and Policy Review*. Vol. 15, No.5, December 1996, P. 527-536
- "Race and Ethnicity." *In Methods and Materials of Demography, Second Edition*. Edited by Jacob Siegel and David Swanson. Academic Press, Boston, March 2004
- "Population Distribution - Classification of Residence." *In Methods and Materials of Demography, Second Edition*. Edited Jacob Siegel and David Swanson. Co-authored with Kimberly Faust. Academic Press, Boston, March 2004



Recent Planning Projects:

- Richmond Public Schools, VA
- Henrico County Public Schools, VA
- Alexandria City Public Schools, VA
- Arlington Public Schools, VA
- Frederick County Public Schools, VA
- Baltimore County Public Schools, MD
- Frederick County Public Schools, MD
- Cabarrus County School District, NC
- Charleston County School District, SC
- Akron Public Schools, OH
- Reading School District, PA
- Great Falls Public Schools, MT
- U.S. Department of Justice, Civil Rights Div.





Why We're Here



Project Objectives

Cropper GIS Consulting was hired by Richmond Public Schools to facilitate and manage the project. Our firm is tasked to do the following:

1. Demographic Study: Provide an updated 10-year forecast of population and enrollment for each school within Richmond Public Schools.
2. Capacity Study: Visit and study physical school facilities in Richmond and calculate a current school capacity figure for each building.
3. Utilization Forecast: Examine forecasted enrollment along with building capacity to determine current and 10-year school capacity needs.
4. Rezoning Study: Facilitate a rezoning study for the district, to examine attendance boundary alternatives that meet the project objectives while best adhering to rezoning criteria.

Why We're Here



Demographic Study & Enrollment Forecasts



Assumptions

- a. The national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)
- b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30-year fixed home mortgage stays below 5.0%;
- c. The rate of mortgage approval stays at 1999-2003 levels and lenders do not return to “sub-prime” mortgage practices;
- d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;
- e. The rate of housing foreclosures does not exceed 125% of the 2005-2007 average of the City of Richmond for any year in the forecasts;
- f. All currently platted and approved housing developments are built out and completed by 2027. All housing units constructed are occupied by 2028;
- g. The unemployment rates for City of Richmond and the Richmond Metropolitan Area will remain below 6.0% for the 10 years of the forecasts;



Assumptions

- h. The rate of students transferring into and out of the Richmond Public Schools will remain at the 2011-12 to 2018-19 average;
- i. No additional private or charter school opens in the district over the next 10 years;
- j. No existing private or charter school closes in the district over the next 10 years;
- k. The state of Virginia does not change the current policies on school vouchers or open enrollment over the next 10 years;
- l. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;
- m. No additional subsidized and/or public housing communities are closed over the next 10 years;
- n. There will be no building moratorium within the district;
- o. No natural disasters hit the area over the next 10 years;



Assumptions

- p. Businesses within the Richmond Metropolitan Area and the Richmond Public Schools area will remain viable;
- q. The number of existing home sales in the district that are a result of “distress sales” (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;
- r. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by home owners over the age of 60;
- s. Private school and home school attendance rates will remain constant;
- t. The rate of foreclosures for commercial property remains at the 2004-2008 average for the City of Richmond.



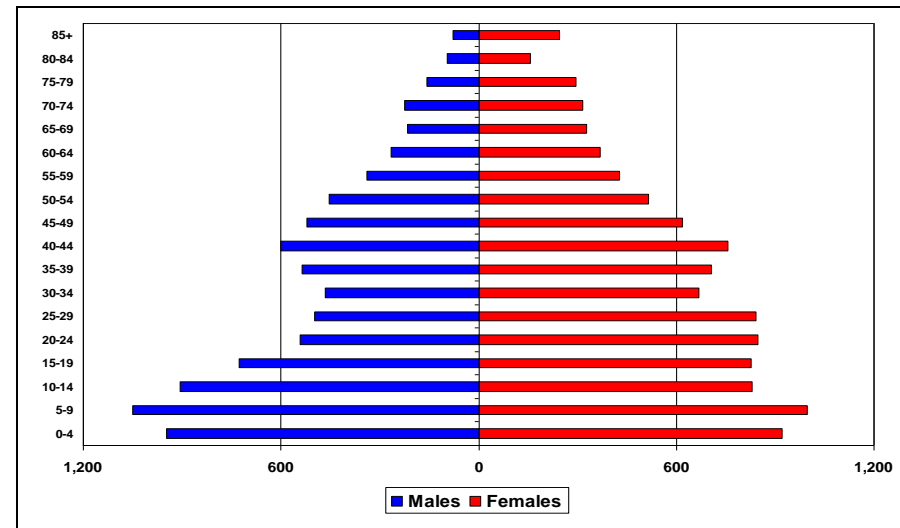
Forecast Methodology

“In order to understand what will happen with enrollment, you first must understand what will happen to the entire population”

Methodology, continued

Factors Considered in Forecasts Include

1. Number of women in child bearing age
2. Change in area mortality rates
3. Magnitude & prevalence of out migration patterns by age
4. Magnitude & prevalence of in migration patterns
5. Considerations determined by local neighborhood factors





Demographic Study

The population forecasts in the demographic study are developed by using the Cohort-Component Method of population forecasting. Five data sets are required to generate population and enrollment forecasts. These five data sets are:

1. A base-year population (here, the 2010 Census population for the Richmond Public Schools and all of its geographical areas i.e. School Attendance Areas);
2. A set of age-specific fertility rates for each small area to be used over the forecast period;
3. A set of age-specific survival (mortality) rates for each small area;
4. A set of age-specific migration rates for each small area;
5. Historical enrollment figures by grade for all facilities to be projected.

Historical enrollment databases will also be used to calculate student populations by small area regardless of where they attend.



Data Collected from multiple sources including:



- School District – Official enrollment counts by school by grade, along with enrollment databases by address



- City of Richmond– Local area maps and data



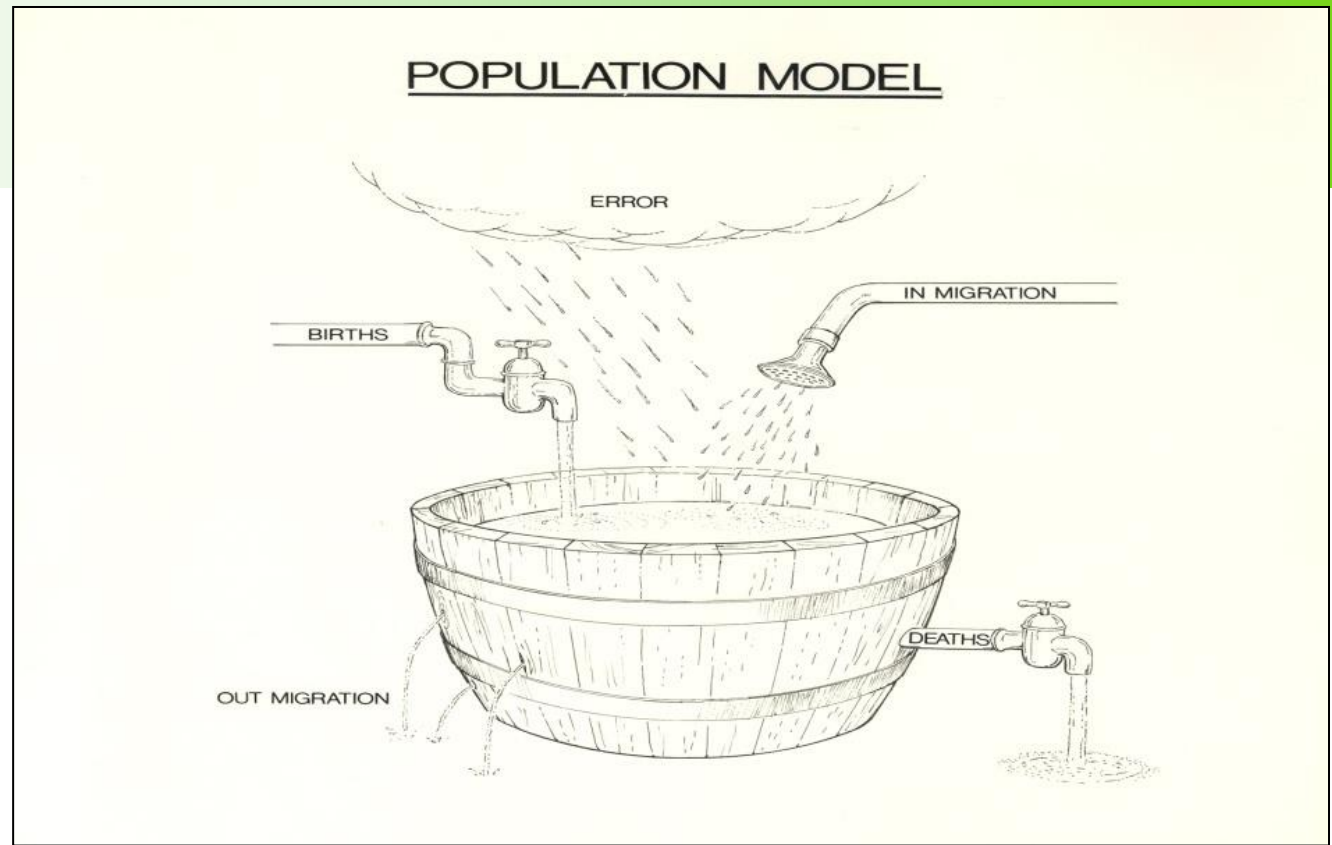
- Internal Revenue Service (IRS) – In/Out Migration data.



- U.S. Census Bureau – 2010 Population/Housing data

Methodology

United States
**Census
2010**



Three Main Steps:

1. Identify pertinent census blocks to collect necessary SF1, SF3 and SF4 detailed Census demographic information
2. Calculate a total population forecast for geographic study area with the Cohort-Component Method
3. Calculate enrollment forecast using modified average survivorship methods



Census Data



Table 2: Household Characteristics by Elementary Area, 2010 Census

What We've Found: Population

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Bellevue	404	11.1%	3,631	6,371	1.75
Blackwell	693	30.8%	2,249	5,115	2.27
Broad Rock	1,217	35.8%	3,401	9,110	2.68
Carver	805	22.9%	3,515	7,474	2.13
Cary	692	16.5%	4,198	9,067	2.16
Chimborazo	846	27.6%	3,069	7,211	2.35
Fairfield Court	671	58.1%	1,154	3,223	2.79
Fisher	719	19.8%	3,623	7,505	2.07
Fox	941	6.6%	14,230	25,256	1.77
Francis	849	37.0%	2,297	6,097	2.65
Ginter Park	550	26.8%	2,052	4,560	2.22
Greene	522	39.9%	1,308	3,927	3.00
Holton	988	17.2%	5,751	10,938	1.90
Mason	639	43.1%	1,483	4,053	2.73
Miles Jones	754	33.3%	2,262	5,526	2.44
Munford	1,628	24.0%	6,792	14,567	2.14
Oak Grove	867	44.0%	1,971	5,477	2.78
Overby-Sheppard	675	34.0%	1,989	5,454	2.74
Redd	788	34.2%	2,301	5,917	2.57
Reid	1,182	39.3%	3,007	7,710	2.56
Southampton	1,351	21.5%	6,271	12,242	1.95
Obama	648	29.8%	2,177	5,828	2.68
Swansboro	509	35.2%	1,444	3,777	2.62
Westover Hills	1,115	22.0%	5,063	10,200	2.01
Woodville	758	39.6%	1,913	4,884	2.55
District Total	20,810	23.9%	87,151	191,489	2.20

Table 3: Householder Characteristics by Elementary Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders Who Own Homes
Bellevue	25.7%	10.2%	24.8%
Blackwell	34.4%	13.1%	27.9%
Broad Rock	40.9%	16.6%	51.0%
Carver	24.9%	10.1%	15.3%
Cary	30.1%	20.0%	53.7%
Chimborazo	36.3%	17.3%	49.2%
Fairfield Court	33.0%	15.1%	14.9%
Fisher	30.9%	29.3%	62.0%
Fox	19.2%	10.1%	24.4%
Francis	37.4%	18.2%	55.4%
Ginter Park	37.5%	26.6%	43.4%
Greene	34.7%	9.2%	20.0%
Holton	35.7%	29.0%	52.5%
Mason	37.4%	16.8%	29.6%
Miles Jones	40.1%	15.5%	46.5%
Munford	35.1%	22.6%	76.2%
Oak Grove	36.8%	16.5%	31.8%
Overby-Sheppard	37.2%	28.0%	45.8%
Redd	38.9%	14.7%	45.4%
Reid	40.8%	11.4%	45.9%
Southampton	31.8%	22.8%	44.2%
Obama	36.4%	29.6%	61.8%
Swansboro	34.7%	26.9%	50.4%
Westover Hills	39.6%	16.5%	52.6%
Woodville	32.5%	25.4%	29.0%
District Total	32.2%	18.2%	43.1%



Table 4: Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Elementary Area , 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
Bellevue	54.1%	5.9%
Blackwell	38.0%	7.0%
Broad Rock	27.1%	6.3%
Carver	41.6%	7.1%
Cary	35.4%	9.5%
Chimborazo	33.5%	7.7%
Fairfield Court	21.2%	6.5%
Fisher	37.3%	13.7%
Fox	47.5%	6.8%
Francis	26.8%	7.8%
Ginter Park	36.3%	13.0%
Greene	23.4%	3.7%
Holton	47.4%	19.4%
Mason	26.6%	7.0%
Miles Jones	32.6%	7.9%
Munford	35.6%	11.3%
Oak Grove	24.7%	5.6%
Overby-Sheppard	28.2%	11.1%
Redd	25.8%	5.1%
Reid	28.4%	5.4%
Southampton	44.3%	14.1%
Obama	27.3%	10.4%
Swansboro	28.3%	11.9%
Westover Hills	41.4%	9.9%
Woodville	33.4%	13.1%
District Total	37.9%	9.5%



Table 6: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Area: 2010 Census

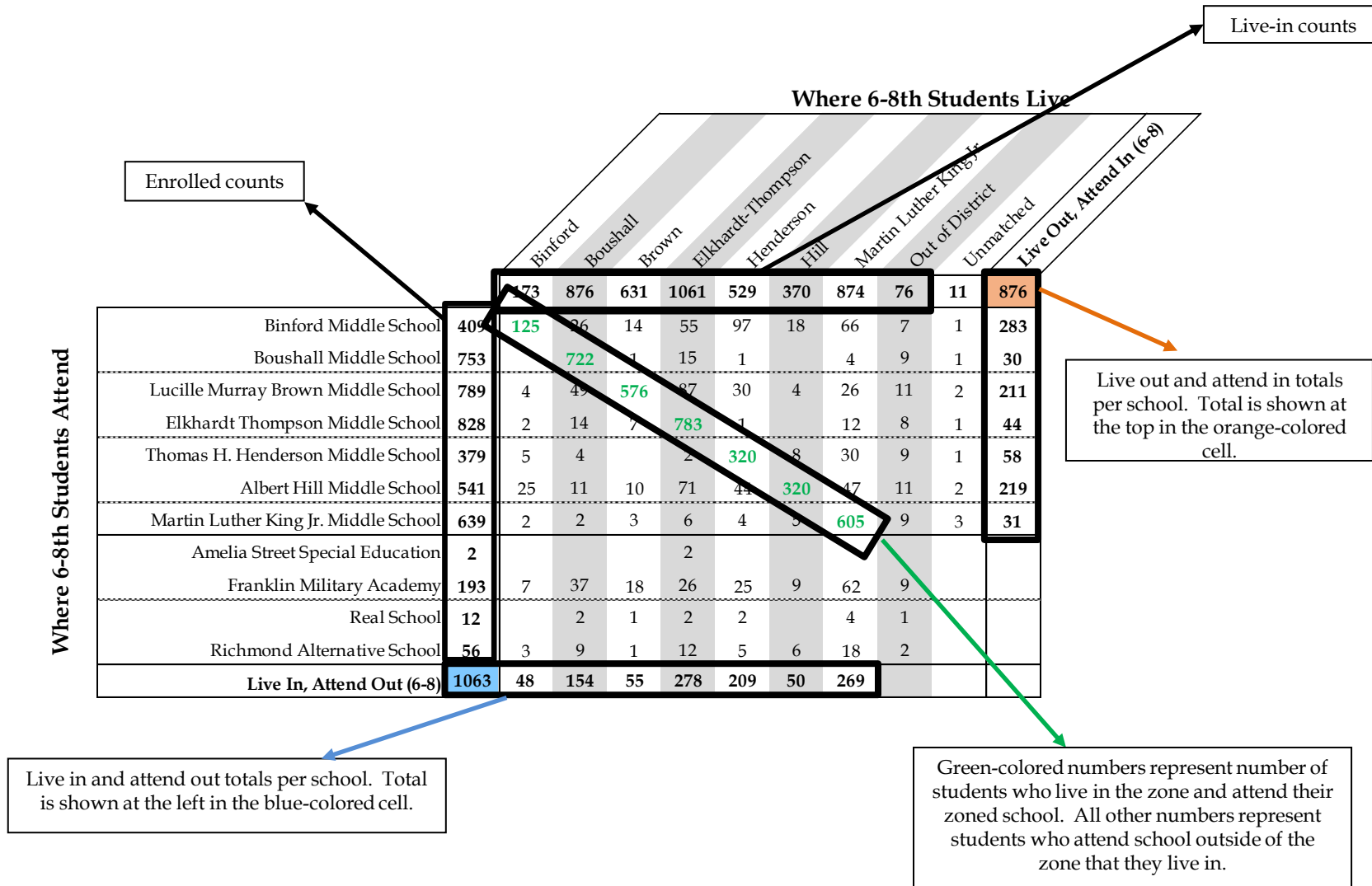
What We've Found: Enrollment

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Bellevue	54	49	40	40	38	34	31	41	42	34	41
Blackwell	79	76	62	87	54	85	89	58	65	75	78
Broad Rock	146	124	143	147	134	142	122	129	120	142	138
Carver	113	135	124	128	107	109	103	90	108	78	92
Cary	97	72	71	58	56	70	58	43	54	50	58
Chimborazo	114	106	105	99	100	88	109	82	82	77	77
Fairfield Court	108	100	105	93	112	94	86	70	80	67	56
Fisher	88	91	81	81	70	79	55	75	50	69	64
Fox	143	139	114	101	85	103	78	76	61	91	59
Francis	108	104	111	85	99	83	96	77	83	88	79
Ginter Park	69	36	46	58	53	33	43	44	59	50	54
Greene	125	111	115	77	56	52	65	43	47	34	35
Holton	119	113	108	112	107	100	86	81	80	97	81
Mason	99	109	99	83	75	73	98	75	75	73	73
Miles Jones	89	78	95	77	71	68	68	77	66	73	76
Munford	216	214	211	178	192	199	194	181	176	158	164
Oak Grove	119	123	129	122	129	100	110	80	70	91	96
Overby-Sheppard	66	56	59	59	82	62	70	70	75	80	74
Redd	109	88	111	96	100	73	62	74	86	67	85
Reid	142	142	148	133	147	116	121	121	106	93	98
Southampton	169	173	178	181	141	120	126	97	83	113	98
Obama	73	52	52	57	72	46	67	71	64	78	76
Swansboro	71	62	55	57	52	45	49	48	48	57	55
Westover Hills	167	147	156	153	105	109	87	87	78	66	68
Woodville	93	99	112	91	107	108	95	85	83	97	83
District Total	2,776	2,598	2,629	2,452	2,343	2,189	2,166	1,975	1,939	1,997	1,957



Live Attend Analysis

Interpreting Live/Attend Matrices





K-5th Live-Attend Analysis

		Where K-5th Students Live																												
		Barack Obama	Bellvue	Blackwell	Broad Rock	Carver	Cary	Chimborazo	Fairfield Court	Fisher	Fox	Francis	Ginter Park	Greene	Holton	Mason	Miles Jones	Munford	Oak Grove	Overby Sheppard	Redd	Reid	Southampton	Swansboro	Westover Hills	Woodville	Out of District	Unmatched	Live Out, Attend In (K-5)	
		297	164	425	938	442	271	409	476	218	400	605	309	682	485	424	650	441	645	388	442	751	425	251	490	453	188	23	1211	
Where K-5th Students Attend	Barack Obama Elementary	296	252			3		1	3		3		5		4				1	16						3	5		44	
	Bellvue Elementary	204	3	140	4	1	1	18	3				2			11	2				1				3	5	9		64	
	Blackwell Elementary	397			360	3				2	1	1	2			2	1		8		1	1		2	1	3	9		37	
	Broad Rock Elementary	902		3	2	849				1		3		8	1	2	1		2	1	3	4					19	1	52	
	George W. Carver Elementary	429	2	1		1	395		2	1		1	1	4	1	5	2			2	1					3	6	1	33	
	John B. Cary Elementary	272	2	2	1	1	8	208	2	2	1	5	3	1	1	2	6	2	2		5		1	3		3	1	8	2	62
	Chimborazo Elementary	363		2		2			333	2		2				6	1			4			2			6	3		30	
	Fairfield Court Elementary	457	2			2	3	1	2	426						3			2	1				2			9	6		31
	J.B. Fisher Elementary	282	1	1	1	9				1	194		13	1				11		2	2	4	10	19	3	4	1	5		88
	William Fox Elementary	478	6	1	1	2	8	15	5	2	9	373	2	2		5	1		7	2	2	1	1	7	1	17	5	3		105
	J.L. Francis Elementary	585				9							553		2	2		3		1		1	11				1	2		30
	Ginter Park Elementary	299	3				1		3	2				267		5	2				1		1		1		4	9		32
	E.S.H. Greene Elementary	670			1	5									652			1		1		5	1					4		18
	Linwood Holton Elementary	587	14	2	2		3	9	6	4		3		8	1	450	4		1	3	14	1	3	3	2	4	5	39	6	131
	George Mason Elementary	389		1		3	4		2	4		1	2		1	360										1	1	8	1	28
	Miles Jones Elementary	641		1	1	4	1	2		1	2		2		1		1	584		1		7	6	10	4	6		3	4	53
	Mary Munford Elementary	513		1	3	2	3	15	9	1		7		5		3		3	431		1			5		12	2	9	1	81
	Oak Grove Elementary	636			5	6		1		2			2		5	1				602		4	1				4	2	1	33
	Overby-Sheppard Elementary	366	2				3	1		2			3				6	1			333			2			6	7		33
	Elizabeth D. Redd Elementary	402				1				2		2						5		1		384	1	1		2	1	2		18
	G.H. Reid Elementary	699			1		2			3			1		4	1		2				675	1				1	8		24
	Southampton Elementary	386	1	1	5	7			1		2		8	1	3			15		3		6	9	314	1	2	1	5	1	71
	Swansboro Elementary	242			8	5					1		1					1		2	1		3		214		1	3	2	26
	Westover Hills Elementary	418		2	5	5		2	1	1			1			2	1		2	1	8	6	6	9	359	2	5		59	
	Woodville Elementary	413	1	1	1		1		4	3		1					2					3				4	385	7		28
	13 Acres At Carver	16	1	1	2		2		1	1		1	1	1	2		1					1					1			
	Amelia Street Special Education	9				2						1	1	1			1			1		1			1		1			
	Patrick Henry School Of Science And Art	341	7	4	22	19	2	16	19	7	9	1	11	4	2	5	12	16		11	4	15	12	52	13	72	2	3	1	
	Live In, Attend Out (K-5)	1388	45	24	65	89	47	63	76	50	24	27	52	42	30	35	64	66	10	43	55	58	76	111	37	131	68			



6-8th Live-Attend Analysis

		Where 6-8th Students Live										
		<div><div>Binford</div><div>Boushall</div><div>Brown</div><div>Elkhardt-Thompson</div><div>Henderson</div><div>Hill</div><div>Martin Luther King Jr</div><div>Out of District</div><div>Unmatched</div><div>Live Out, Attend In (6-8)</div></div>										
		173	876	631	1061	529	370	874	76	11	876	
Where 6-8th Students Attend	Binford Middle School	409	125	26	14	55	97	18	66	7	1	283
	Boushall Middle School	753		722	1	15	1		4	9	1	30
	Lucille Murray Brown Middle School	789	4	49	576	87	30	4	26	11	2	211
	Elkhardt Thompson Middle School	828	2	14	7	783	1		12	8	1	44
	Thomas H. Henderson Middle School	379	5	4		2	320	8	30	9	1	58
	Albert Hill Middle School	541	25	11	10	71	44	320	47	11	2	219
	Martin Luther King Jr. Middle School	639	2	2	3	6	4	5	605	9	3	31
	Amelia Street Special Education	2				2						
	Franklin Military Academy	193	7	37	18	26	25	9	62	9		
	Real School	12		2	1	2	2		4	1		
	Richmond Alternative School	56	3	9	1	12	5	6	18	2		
Live In, Attend Out (6-8)		1063	48	154	55	278	209	50	269			



9-12th Live-Attend Analysis

		Where 9-12th Students Live							
		Armstrong	Huguenot	Jefferson	Marshall	Wythe	Out of District	Unmatched	Live Out, Attend In (9-12)
Where 9-12th Students Attend		1226	1480	446	843	1342	77	13	682
	Armstrong High School	814	753	3	3	15	24	16	61
	Huguenot High School	1342	18	1257	1	4	43	17	2
	Thomas Jefferson High School	756	145	50	358	92	107	4	398
	John Marshall High School	624	41	2	1	556	10	10	4
	George Wythe High School For The Arts	1081	44	17		10	999	5	6
	Amelia Street Special Education	7	2	3		1	1		
	Franklin Military Academy	179	77	30	5	26	36	5	
	Open High School	197	30	32	42	44	47	2	
	Richmond Alternative School	144	66	21	4	21	26	6	
	Richmond Career Education & Employment Academy	41	12	8	2	7	10	2	
	Richmond Community High School	236	36	57	30	64	38	10	1
	Richmond Local Jail	6	2			3	1		
	Live In, Attend Out (9-12)	1414	473	223	88	287	343		



Population Forecast Results



Richmond Public Schools Total Population Forecast

What We've Found: Population

Total	2010	2015	2020	2025	2030
0-4	12,798	13,150	13,180	12,730	12,690
5-9	10,266	11,220	11,710	11,900	11,420
10-14	9,170	10,210	11,150	11,620	11,800
15-19	15,782	15,600	16,670	17,480	17,930
20-24	26,889	28,120	27,830	28,670	29,010
25-29	20,483	20,460	21,650	21,240	22,250
30-34	14,743	14,530	14,700	15,730	15,490
35-39	11,942	12,230	12,050	12,380	13,590
40-44	11,603	10,510	10,820	10,730	11,150
45-49	12,645	10,930	9,860	10,170	10,090
50-54	13,111	12,150	10,420	9,390	9,800
55-59	12,285	12,170	11,180	9,510	8,620
60-64	9,878	10,860	10,740	9,850	8,430
65-69	6,578	9,160	10,080	9,940	9,130
70-74	4,822	5,600	7,880	8,530	8,460
75-79	3,968	4,850	5,720	7,720	8,500
80-84	3,412	3,640	4,490	5,160	7,200
85+	3,839	3,950	4,140	4,490	5,210
Total	204,214	209,340	214,270	217,240	220,770
Median Age	32.3	32.0	31.7	31.6	31.7

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	14,440	14,430	14,060	13,910
Deaths	8,230	8,740	9,300	9,850
Natural Increase	6,210	5,690	4,760	4,060
Net Migration	-1,220	-1,200	-1,180	-1,140
Change	4,990	4,490	3,580	2,920

Differences between period Totals may not equal Change due to rounding.



Enrollment Forecast Results



Richmond Public Schools Enrollment Forecast

What We've Found: Enrollment

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2024-25	2025-26	2027-28	2028-29
K	2,297	2,283	2,266	2,267	2,255	2,228	2,209	2,177	2,150	2,124	2,102
1	2,250	2,375	2,360	2,342	2,317	2,295	2,267	2,248	2,216	2,185	2,154
2	2,233	2,232	2,355	2,353	2,338	2,312	2,290	2,262	2,245	2,213	2,182
3	2,099	2,194	2,197	2,327	2,332	2,317	2,291	2,270	2,244	2,226	2,195
4	2,081	2,059	2,151	2,164	2,302	2,306	2,290	2,264	2,244	2,218	2,201
5	2,085	2,045	2,022	2,126	2,153	2,290	2,293	2,276	2,253	2,237	2,212
Total: K-5	13,045	13,188	13,351	13,579	13,697	13,748	13,640	13,497	13,352	13,203	13,046

6	1,978	1,917	1,866	1,871	1,929	1,952	2,068	2,069	2,056	2,034	2,022
7	1,617	1,884	1,830	1,786	1,780	1,834	1,856	1,965	1,967	1,962	1,941
8	1,559	1,543	1,789	1,748	1,698	1,698	1,744	1,767	1,869	1,871	1,867
Total: 6-8	5,154	5,344	5,485	5,405	5,407	5,484	5,668	5,801	5,892	5,867	5,830

9	1,934	1,896	1,881	2,166	2,123	2,055	2,054	2,107	2,136	2,251	2,252
10	1,595	1,578	1,537	1,524	1,758	1,722	1,668	1,664	1,711	1,731	1,825
11	1,337	1,463	1,450	1,411	1,398	1,611	1,577	1,528	1,524	1,567	1,585
12	1,325	1,226	1,353	1,349	1,307	1,291	1,498	1,467	1,420	1,412	1,455
Total: 9-12	6,191	6,163	6,221	6,450	6,586	6,679	6,797	6,766	6,791	6,961	7,117

Total: K-12	24,390	24,695	25,057	25,434	25,690	25,911	26,105	26,064	26,035	26,031	25,993
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Total: K-12	24,390	24,695	25,057	25,434	25,690	25,911	26,105	26,064	26,035	26,031	25,993
Change		305	362	377	256	221	194	-41	-29	-4	-38
% Change		1.25%	1.47%	1.50%	1.01%	0.86%	0.75%	-0.16%	-0.11%	-0.02%	-0.15%

Total: K-5	13,045	13,188	13,351	13,579	13,697	13,748	13,640	13,497	13,352	13,203	13,046
Change		143	163	228	118	51	-108	-143	-145	-149	-157
% Change		1.10%	1.24%	1.71%	0.87%	0.37%	-0.79%	-1.05%	-1.07%	-1.12%	-1.19%

Total: 6-8	5,154	5,344	5,485	5,405	5,407	5,484	5,668	5,801	5,892	5,867	5,830
Change		190	141	-80	2	77	184	133	91	-25	-37
% Change		3.69%	2.64%	-1.46%	0.04%	1.42%	3.36%	2.35%	1.57%	-0.42%	-0.63%

Total: 9-12	6,191	6,163	6,221	6,450	6,586	6,679	6,797	6,766	6,791	6,961	7,117
Change		-28	58	229	136	93	118	-31	25	170	156
% Change		-0.45%	0.94%	3.68%	2.11%	1.41%	1.77%	-0.46%	0.37%	2.50%	2.24%

Forecasts developed April 2019
 Green cells (2018-19) are historical data
 Blue cells (2019-2020 and later) are forecasted years



Summary of Findings

Table 5: Elementary Enrollment (PK-5) , 2018, 2023, 2028

	2018	2023	2018-2023 Change	2028	2023-2028 Change	2018-2028 Change
Bellevue	245	288	17.6%	271	-5.9%	10.6%
Blackwell	454	489	7.7%	464	-5.1%	2.2%
Broad Rock	1,029	1,012	-1.7%	963	-4.8%	-6.4%
Carver	493	466	-5.5%	451	-3.2%	-8.5%
Cary	306	375	22.5%	362	-3.5%	18.3%
Chimborazo	428	482	12.6%	442	-8.3%	3.3%
Fairfield Court	513	551	7.4%	517	-6.2%	0.8%
Fisher	318	375	17.9%	354	-5.6%	11.3%
Fox	518	510	-1.5%	485	-4.9%	-6.4%
Francis	646	712	10.2%	663	-6.9%	2.6%
Ginter Park	341	359	5.3%	342	-4.7%	0.3%
Greene	705	682	-3.3%	655	-4.0%	-7.1%
Holton	669	749	12.0%	709	-5.3%	6.0%
Mason	444	417	-6.1%	401	-3.8%	-9.7%
Miles Jones	708	759	7.2%	710	-6.5%	0.3%
Munford	560	550	-1.8%	537	-2.4%	-4.1%
Oak Grove	715	778	8.8%	729	-6.3%	2.0%
Overby-Sheppard	414	509	22.9%	474	-6.9%	14.5%
Redd	438	398	-9.1%	394	-1.0%	-10.0%
Reid	765	815	6.5%	772	-5.3%	0.9%
Southampton	434	431	-0.7%	414	-3.9%	-4.6%
Obama	339	405	19.5%	371	-8.4%	9.4%
Swansboro	256	252	-1.6%	258	2.4%	0.8%
Westover Hills	471	537	14.0%	495	-7.8%	5.1%
Woodville	475	476	0.2%	451	-5.3%	-5.1%
District Total	12,684	13,377	5.5%	12,684	-5.2%	0.0%



Summary of Findings

1. The resident total fertility rate (TFR) for Richmond Public Schools over the life of the forecasts is above replacement level. (2.18 vs. the replacement level of 2.1).
2. Most non-college in-migration to the district continues to occur in the 0-to-4 and 20-to-34-year-old age groups.
3. Much of the local non-college 18-to-24-year-old population continues to leave the district, going to college or moving to other urbanized areas. This population group accounts for the largest segment of the district's out-migration flow. The second largest out-migration flow is 30-to-44-year-olds moving to the outlying suburban areas.
4. The primary factors causing the district's enrollment to increase over the next five years are the strong level of in-migration of young households with children, the district's relatively high number of births and the growth in the existing home market.
5. Changes in year-to-year enrollment over the next five years will primarily be due to larger grade cohorts entering and moving through the school system in conjunction with smaller grade cohorts leaving the system.



Summary of Findings

6. The elementary enrollment will begin a slight but steady decline after the 2023-24 school year.
7. The median age of the population will stay in a very small range of 32.3 to 31.6 between 2010 and 2030.
8. Even if the district continues to have some level of annual new home construction, the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.
9. Total district enrollment is forecasted to increase by 1,521 students, or 6.2%, between 2018-19 and 2023-24. Total enrollment will grow by 82 students or 0.3%, from 2023-24 to 2028-29.



Capacity Study



Capacity Study

In February-March 2019, Cropper visited the Richmond Public Schools to tour school buildings and meet with administrators.

1. Class size assumptions that have been used historically by RPS were utilized in this study. Alternative class size assumptions can be easily explored if the district wishes to adjust the class size assumptions.

*Functional calculated using:
18:1 for KG,
22:1 for 1-12,
15:1 for VPI, and
9:1 for Exc. Ed

2. Cropper met with each building principal to better understand building/room uses and limitations, and to also take a tour of the facility.
 - a) This part is very important, because there could be rooms that could be used as standard classrooms but is being used in an alternative way because there is available space.
3. For elementary schools, certain spaces are not counted in the capacity. These include Special Education pull-out/resource rooms, music, art, and library spaces.



Capacity Study

*Functional calculated using:
18:1 for KG,
22:1 for 1-12,
15:1 for VPI, and
9:1 for Exc. Ed

Computer labs, music, and art were calculated in the Junior High and High School capacity because of the nature of how education is delivered at the upper grades.

Once meetings with principals occurred, rooms were itemized, counted, and special use rooms set aside to not be included in counts.

Some schools had rooms being used as resource/pull-out because the space is available.

- In some cases, rooms that were not being used as standard classrooms were counted in the capacity if there was already an adequate number of spaces to provide pull-out/resource instruction.
- Detailed notes on assumed use of spaces is included with the capacity study findings.



Capacity Study

The table below reflects the classroom counts, rooms set aside not counted in capacity (shown under the yellow header), and the total classroom capacity.

*Functional calculated using:
18:1 for KG,
22:1 for 1-12,
15:1 for VPI, and
9:1 for Exc. Ed

RICHMOND PUBLIC SCHOOLS - FUNCTIONAL CAPACITY CALCULATIONS

School	Classrooms									Program Spaces		
	Type	Grade KG Classrooms	Grade 1-3 Classrooms	Grade 4-6 Classrooms	Grade 7-12 Classrooms	VPI/Headstart	Exc Ed/PDD	Total Classrooms	Total Classroom Capacity	Agency/Pull Out/Office	Music/Art/Lab	Total Program Space Rooms
BELLEVUE ELEM.	ES	2	9	4		2	1	18	361	5	1	6
BLACKWELL ELEM.	ES	5	14	8			3	30	601	4	1	5
BROAD ROCK ELEM. (Ideal)	ES	5	15	10		3	4	37	721	10	2	12
BROAD ROCK ELEM. (Existing)	ES	8	28	14			2	52	1086	15	3	18
CHIMBORAZO ELEM.	ES	4	12	8		2	2	28	560	4	2	6
ELIZABETH D. REDD ELEM.	ES	3	10	6			2	21	424		2	2
FAIRFIELD COURT ELEM.	ES	4	11	8			1	24	499	2		2
G.H. REID ELEM. (Ideal)	ES	5	14	9			4	32	632	5	2	7
G.H. REID ELEM. (Existing)	ES	6	20	9			4	39	782	6	2	8
GEORGE W. CARVER ELEM.	ES	5	14	8			14	41	700	1	2	3
GINTER PARK ELEM.	ES	4	11	3			1	19	389	6	2	8
J.B. FISHER ELEM.	ES	3	9	5		1	1	19	386	3	2	5
BARACK OBAMA ELEM.	ES	3	9	6			2	20	402	3	2	5
J.L. FRANCIS ELEM.	ES	5	13	7			4	29	566	4	1	5
JOHN B. CARY ELEM.	ES	3	8	4			2	17	336	3	3	6
LINWOOD HOLTON ELEM.	ES	4	13	8		2	3	30	591	3	2	5
MARY MUNFORD ELEM.	ES	4	13	6			2	25	508	2	2	4
MILES JONES ELEM. (Ideal)	ES	5	12	8			5	30	575	3	2	5
MILES JONES ELEM. (Existing)	ES	5	17	8			5	35	685	4	2	6
OAK GROVE/BELLEMEADE ELEM.	ES	5	15	10		3	6	39	739	6	2	8
OVERBY-SHEPPARD ELEM.	ES	3	9	6		1	1	20	408	4	2	6
SOUTHAMPTON ELEM.	ES	4	12	6		3	2	27	531	3		3
SWANSBORO ELEM.	ES	2	7	4			2	15	296	3		3
WESTOVER HILLS ELEM.	ES	5	10	6			1	22	451	2		2
WILLIAM FOX ELEM.	ES	4	12	6			1	23	477	3	2	5
WOODVILLE ELEM.	ES	4	13	8			2	27	552	6	2	8



Capacity Study

RPS Elementary School Capacities 2018-19	
School Name	RPS Functional*
BARACK OBAMA ELEM.	402
BELLEVUE ELEM.	361
BLACKWELL ELEM.	601
BROAD ROCK ELEM. (Ideal)	721
BROAD ROCK ELEM. (Existing)	1086
CHIMBORAZO ELEM.	560
E.S.H. GREENE ELEM.	1000
ELIZABETH D. REDD ELEM.	424
FAIRFIELD COURT ELEM.	499
G.H. REID ELEM. (Ideal)	632
G.H. REID ELEM. (Existing)	782
GEORGE MASON ELEM.	1000
GEORGE W. CARVER ELEM.	700
GINTER PARK ELEM.	389
J.B. FISHER ELEM.	386
J.L. FRANCIS ELEM.	566
JOHN B. CARY ELEM.	336
LINWOOD HOLTON ELEM.	591
MARY MUNFORD ELEM.	508
MILES JONES ELEM. (Ideal)	575
MILES JONES ELEM. (Existing)	685
OAK GROVE/BELLEMEADE ELEM.	739
OVERBY-SHEPPARD ELEM.	408
SOUTHAMPTON ELEM.	531
SWANSBORO ELEM.	296
WESTOVER HILLS ELEM.	451
WILLIAM FOX ELEM.	477
WOODVILLE ELEM.	552

RPS Middle School Capacities 2018-19	
School Name	RPS Functional*
ALBERT HILL MIDDLE	819
BINFORD MIDDLE	661
ELKHARDT MIDDLE	1500
HENDERSON MIDDLE	977
LUCILLE M. BROWN MIDDLE	779
MARTIN LUTHER KING JR. MIDDLE	876
THOMAS C. BOUSHALL MIDDLE	885

RPS High School Capacities 2018-19	
School Name	RPS Functional*
ARMSTRONG HIGH	1255
FRANKLIN MILITARY ACADEMY	550
GEORGE WYTHE HIGH	1401
HUGUENOT HIGH	1426
JOHN MARSHALL HIGH	1391
OPEN HIGH	198
RICHMOND COMMUNITY HIGH	726
THOMAS JEFFERSON HIGH	1127



Analyzing Building Utilization



Building Utilization

Once forecasts were determined to still be reliable and capacities calculated, the utilization of buildings was analyzed.

Capacity is compared to enrollment (current and forecasted) to understand how buildings are currently being utilized along with how they will change through the life of the forecasts.

	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
BARACK OBAMA ELEM.	402	339	359	379	387	394	405	401	394	387	379	371
BELLEVUE ELEM.	361	245	264	276	283	285	288	285	281	277	273	271
BLACKWELL ELEM.	601	454	465	471	483	489	489	486	482	476	469	464

	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
BARACK OBAMA ELEM.	402	84%	89%	94%	96%	98%	101%	100%	98%	96%	94%	92%
BELLEVUE ELEM.	361	68%	73%	76%	78%	79%	80%	79%	78%	77%	76%	75%
BLACKWELL ELEM.	601	76%	77%	78%	80%	81%	81%	81%	80%	79%	78%	77%

Cells were color-coded to visualize how utilization changes over time:

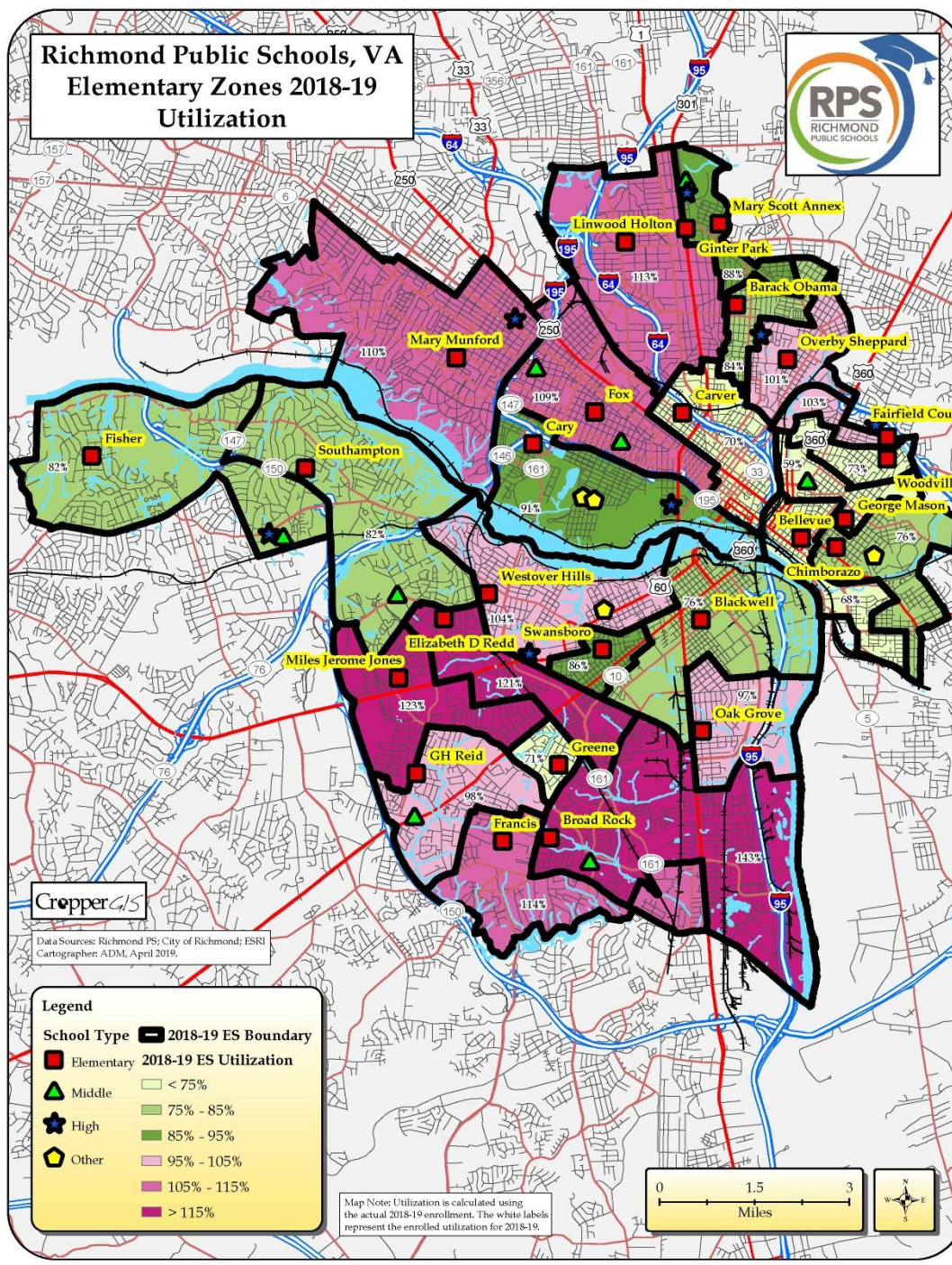
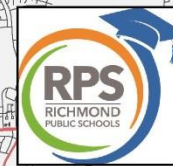
Below 75% Utilization
Between 75-85% Utilization
Between 85-95% Utilization
Between 95-105% Utilization
Between 105-115% Utilization
Over 115% Utilization



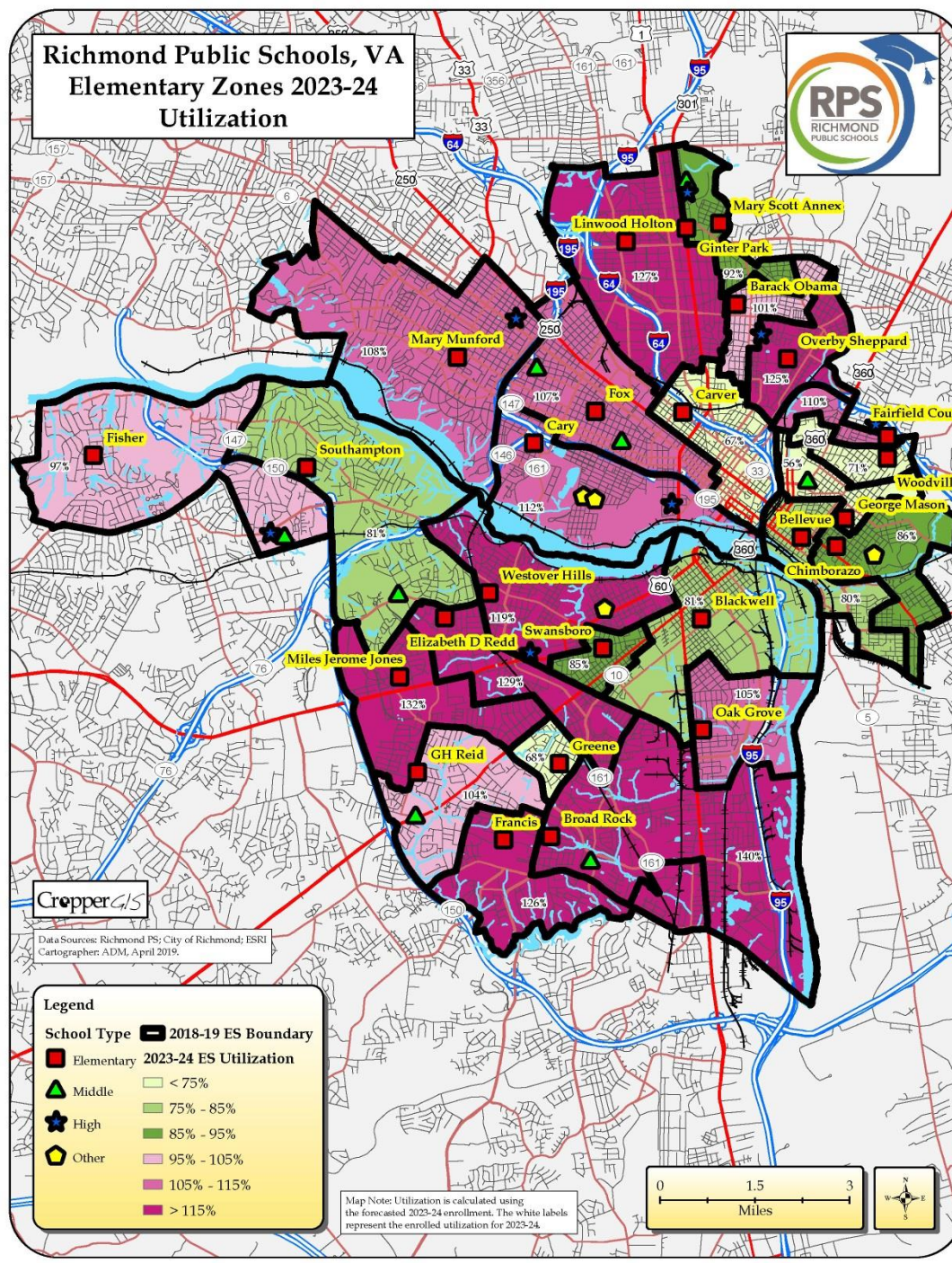
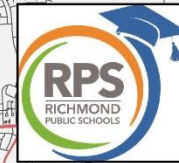
Elementary Building Utilization

	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
BARACK OBAMA ELEM.	402	84%	89%	94%	96%	98%	101%	100%	98%	96%	94%	92%
BELLEVUE ELEM.	361	68%	73%	76%	78%	79%	80%	79%	78%	77%	76%	75%
BLACKWELL ELEM.	601	76%	77%	78%	80%	81%	81%	81%	80%	79%	78%	77%
BROAD ROCK ELEM.	721	143%	143%	144%	144%	141%	140%	139%	137%	136%	135%	134%
CHIMBORAZO ELEM.	560	76%	79%	79%	83%	84%	86%	85%	83%	82%	81%	79%
E.S.H. GREENE ELEM.	1000	71%	69%	69%	70%	70%	68%	68%	68%	67%	66%	66%
ELIZABETH D. REDD ELEM.	424	103%	100%	100%	97%	97%	94%	93%	92%	93%	93%	93%
FAIRFIELD COURT ELEM.	499	103%	103%	103%	109%	110%	110%	110%	108%	107%	105%	104%
G.H. REID ELEM.	632	121%	119%	122%	125%	129%	129%	128%	127%	125%	124%	122%
GEORGE MASON ELEM.	750	59%	57%	55%	56%	55%	56%	55%	55%	54%	54%	53%
GEORGE W. CARVER ELEM.	700	70%	70%	69%	67%	66%	67%	66%	66%	65%	65%	64%
GINTER PARK ELEM.	389	88%	90%	92%	92%	93%	92%	93%	92%	91%	90%	88%
J.B. FISHER ELEM.	386	82%	84%	86%	91%	96%	97%	96%	95%	94%	93%	92%
J.L. FRANCIS ELEM.	566	114%	119%	120%	122%	126%	126%	124%	122%	120%	119%	117%
JOHN B. CARY ELEM.	336	91%	94%	99%	102%	105%	112%	111%	110%	110%	108%	108%
LINWOOD HOLTON ELEM.	591	113%	118%	120%	125%	128%	127%	126%	124%	123%	121%	120%
MARY MUNFORD ELEM.	508	110%	113%	114%	113%	113%	108%	108%	108%	107%	106%	106%
MILES JONES ELEM.	575	123%	127%	129%	129%	131%	132%	131%	129%	127%	125%	123%
OAK GROVE/BELLEMEADE ELEM.	739	97%	98%	99%	102%	103%	105%	104%	103%	102%	100%	99%
OVERBY-SHEPPARD ELEM.	408	101%	105%	109%	114%	117%	125%	123%	121%	120%	118%	116%
SOUTHAMPTON ELEM.	531	82%	80%	83%	82%	82%	81%	81%	80%	80%	79%	78%
SWANSBORO ELEM.	296	86%	83%	85%	88%	89%	85%	86%	88%	88%	88%	87%
WESTOVER HILLS ELEM.	451	104%	110%	112%	118%	118%	119%	118%	116%	114%	112%	110%
WILLIAM FOX ELEM.	477	109%	104%	104%	105%	105%	107%	106%	105%	104%	103%	102%
WOODVILLE ELEM.	552	73%	73%	72%	71%	71%	71%	71%	71%	70%	70%	69%
ES Total	13705	94%	95%	96%	98%	98%	99%	98%	97%	96%	95%	94%

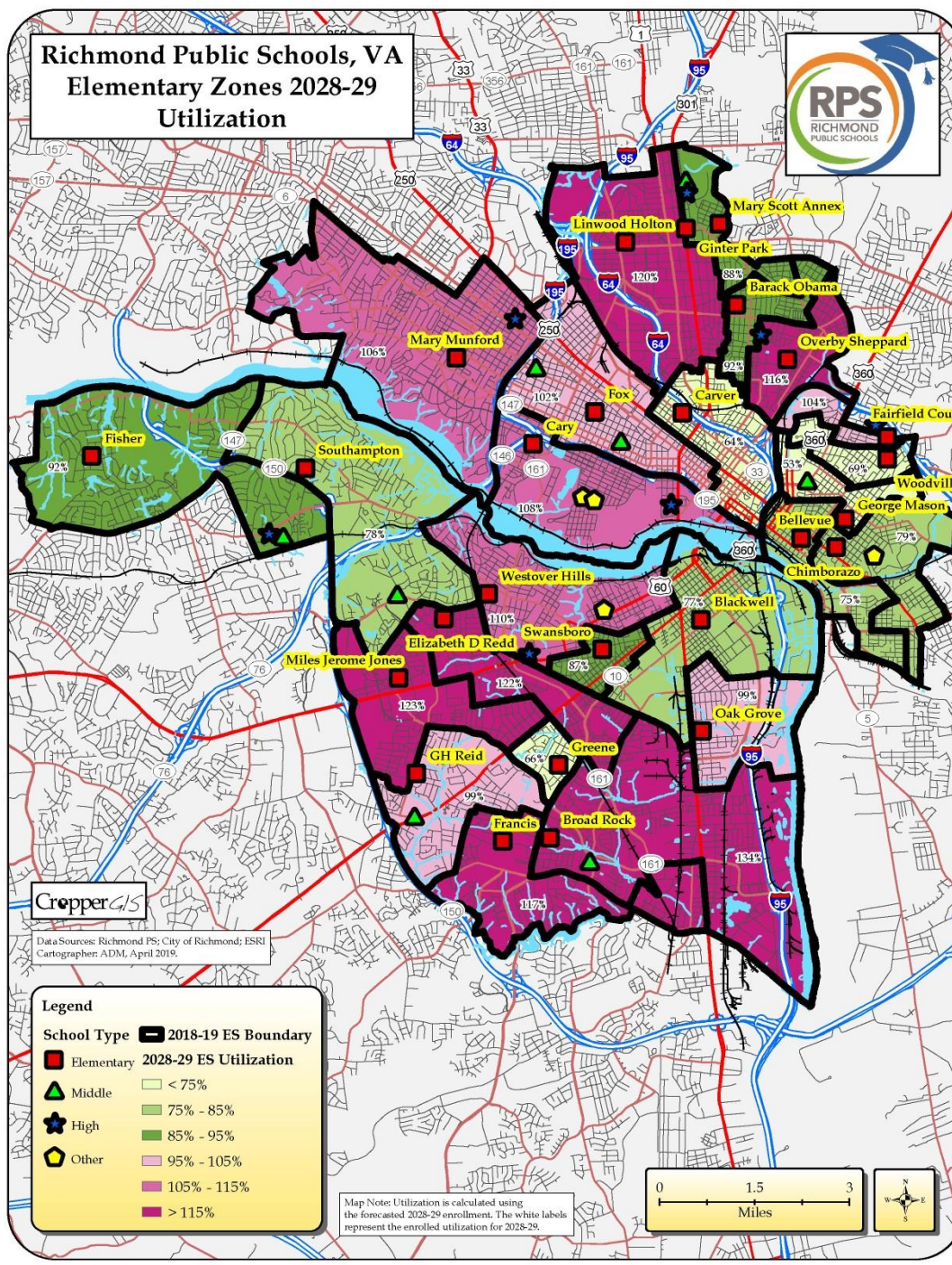
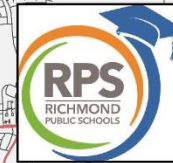
Richmond Public Schools, VA Elementary Zones 2018-19 Utilization



Richmond Public Schools, VA Elementary Zones 2023-24 Utilization



Richmond Public Schools, VA Elementary Zones 2028-29 Utilization

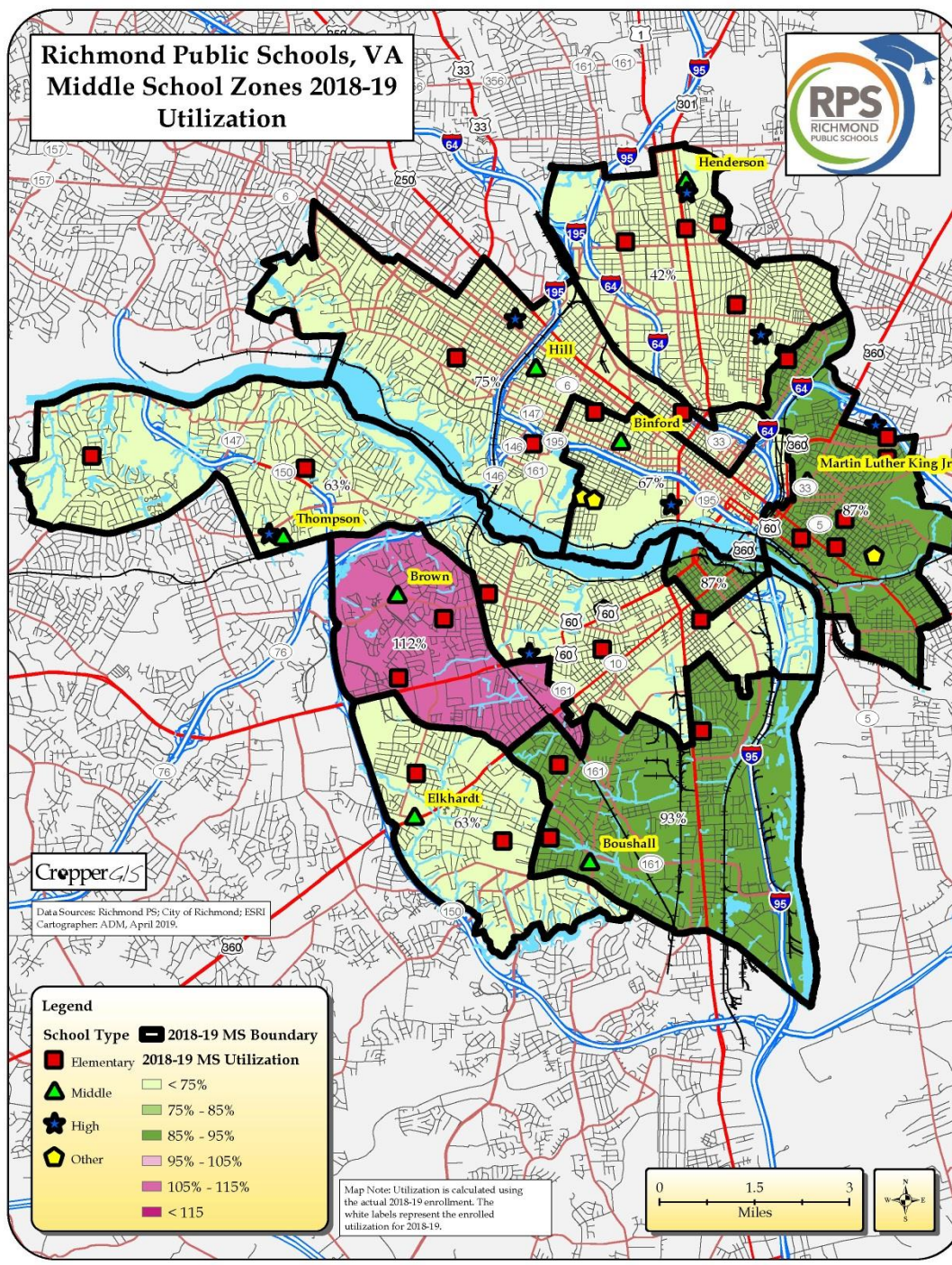
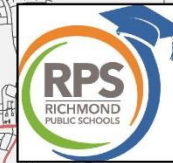




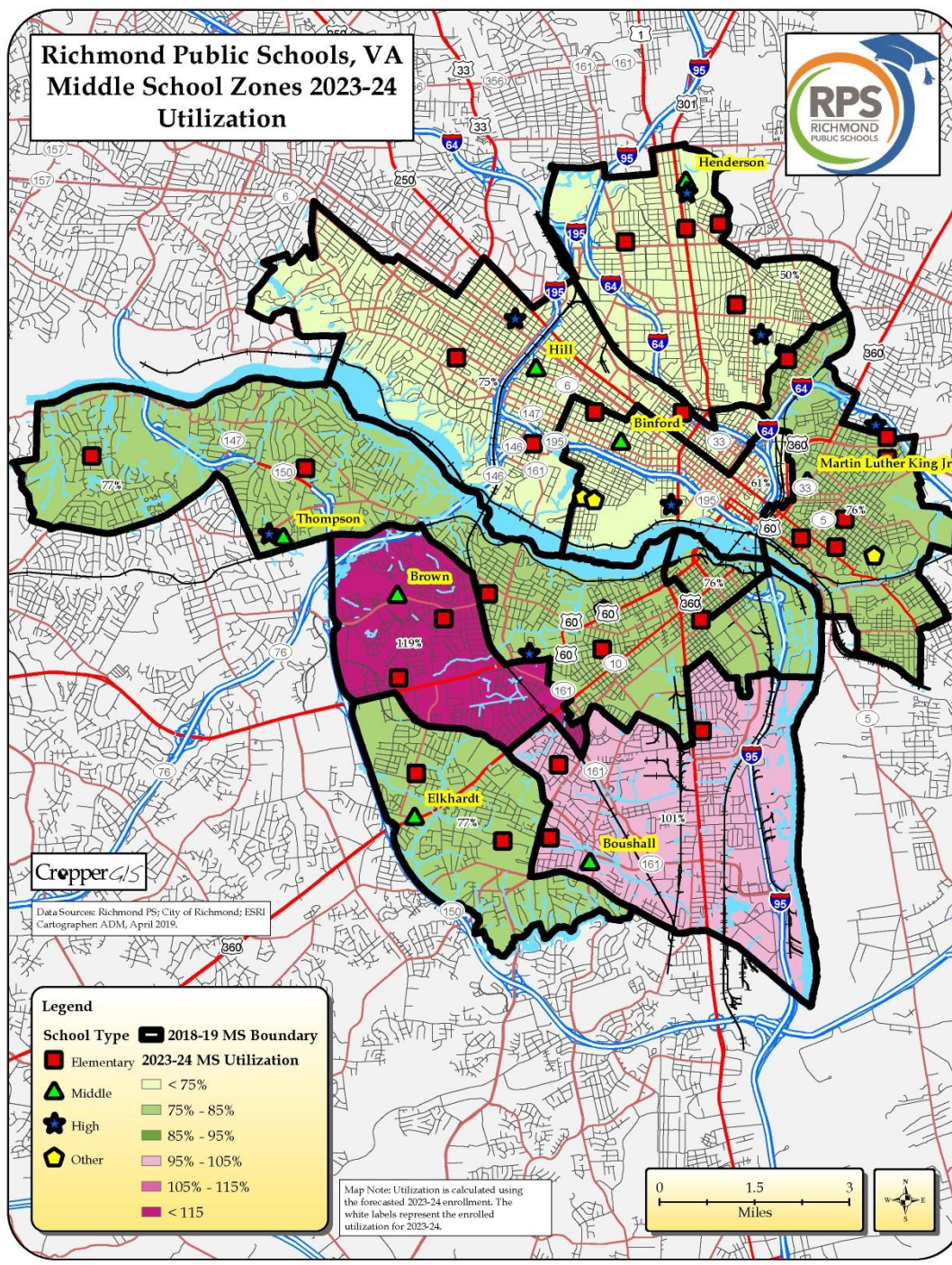
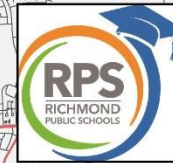
Middle School Building Utilization

	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
ALBERT HILL MIDDLE	819	75%	74%	75%	72%	73%	75%	74%	74%	73%	73%	72%
BINFORD MIDDLE	661	67%	69%	67%	65%	63%	61%	64%	67%	72%	73%	72%
ELKHARDT MIDDLE	1500	63%	71%	77%	78%	75%	77%	82%	86%	87%	87%	86%
HENDERSON MIDDLE	977	42%	43%	45%	46%	48%	50%	54%	56%	57%	57%	56%
LUCILLE M. BROWN MIDDLE	779	112%	115%	112%	115%	115%	119%	119%	120%	121%	120%	120%
MARTIN LUTHER KING JR. MIDDLE	876	87%	83%	84%	75%	76%	76%	82%	84%	87%	86%	85%
THOMAS C. BOUSHALL MIDDLE	885	93%	94%	95%	94%	102%	101%	104%	103%	104%	103%	103%
MS Total	6497	75%	77%	78%	77%	78%	79%	82%	84%	86%	85%	85%

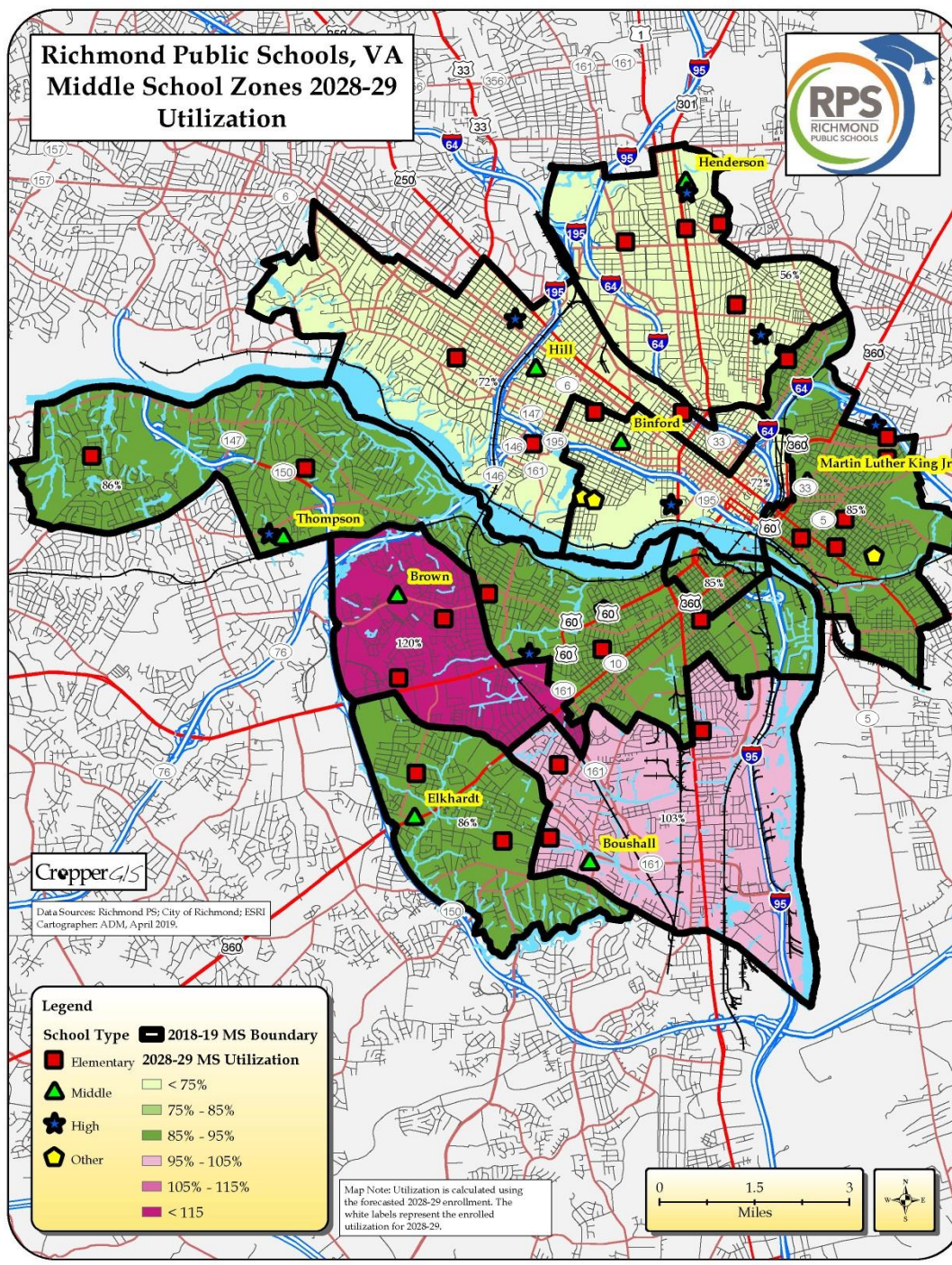
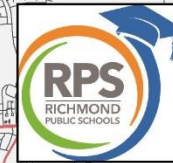
Richmond Public Schools, VA Middle School Zones 2018-19 Utilization



Richmond Public Schools, VA Middle School Zones 2023-24 Utilization



Richmond Public Schools, VA Middle School Zones 2028-29 Utilization

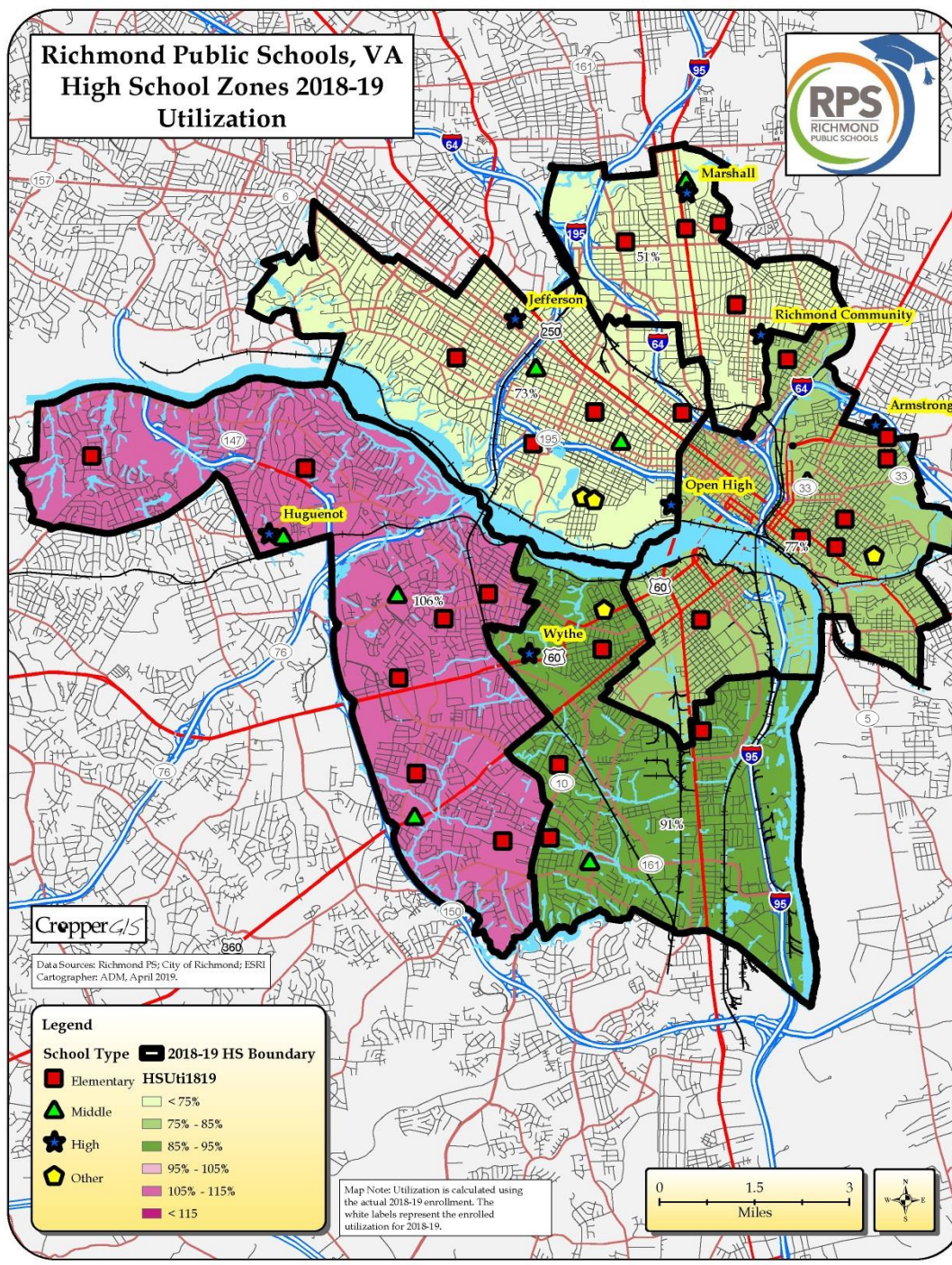
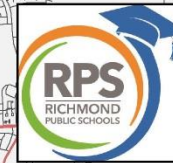




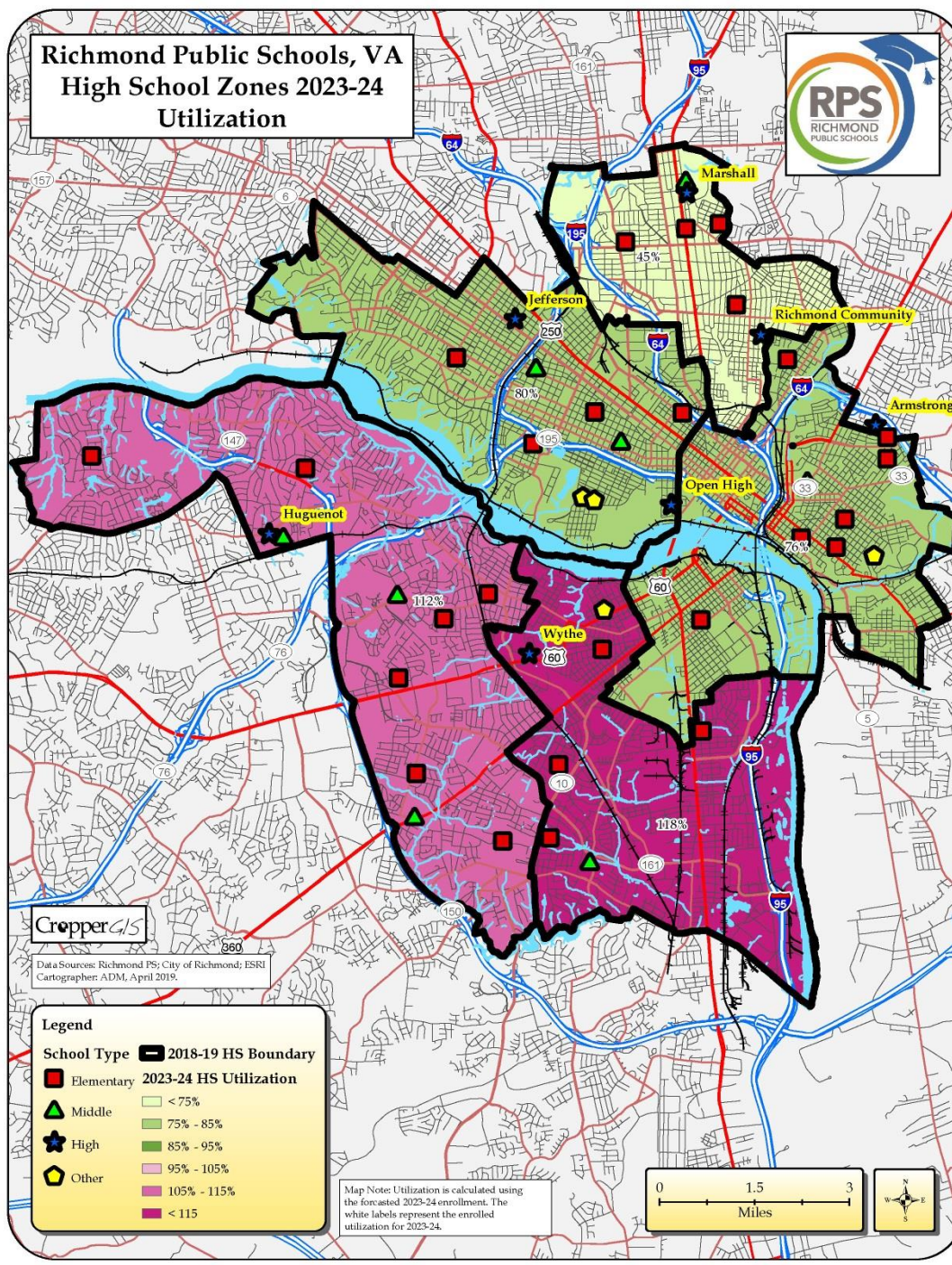
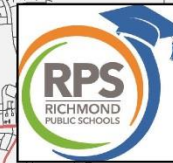
High School Building Utilization

	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
ARMSTRONG HIGH	1255	77%	79%	76%	78%	78%	76%	76%	74%	74%	77%	80%
FRANKLIN MILITARY ACADEMY	550	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
GEORGE WYTHE HIGH	1401	91%	97%	103%	110%	113%	118%	122%	123%	122%	124%	127%
HUGUENOT HIGH	1426	106%	99%	100%	104%	110%	112%	116%	116%	118%	122%	124%
JOHN MARSHALL HIGH	1391	51%	47%	45%	46%	44%	45%	47%	47%	49%	51%	52%
OPEN HIGH	198	101%	98%	98%	99%	100%	103%	105%	104%	104%	106%	109%
RICHMOND COMMUNITY HIGH	726	33%	33%	33%	34%	37%	37%	38%	38%	38%	39%	39%
THOMAS JEFFERSON HIGH	1127	73%	75%	77%	80%	81%	80%	79%	77%	74%	76%	77%
HS Total	8074	76%	75%	76%	79%	81%	82%	83%	83%	83%	85%	87%

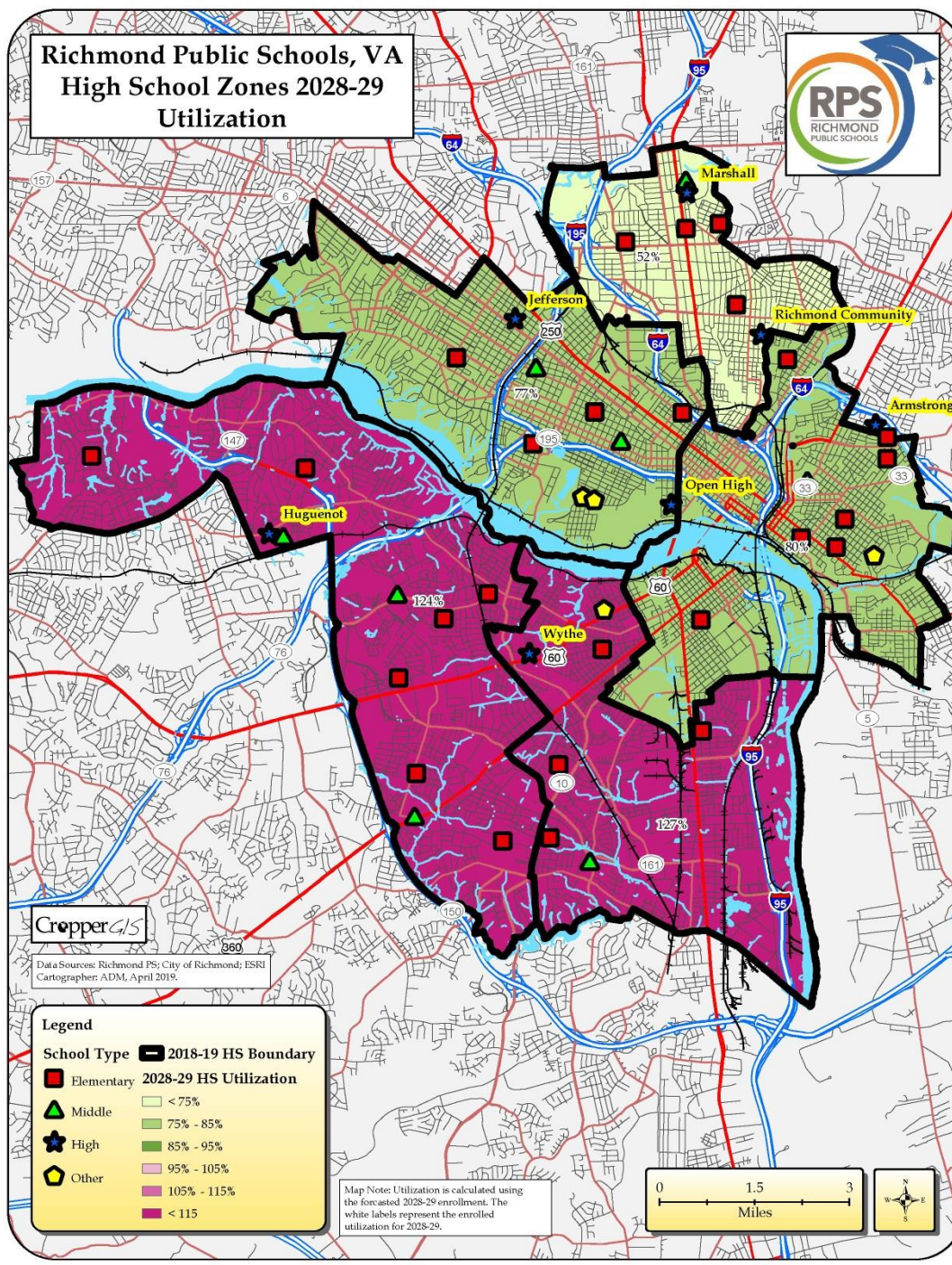
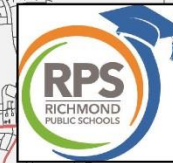
Richmond Public Schools, VA High School Zones 2018-19 Utilization



Richmond Public Schools, VA High School Zones 2023-24 Utilization



Richmond Public Schools, VA High School Zones 2028-29 Utilization





Next Steps - Rezoning

The work presented this evening is being prepared to help further facilitate the rezoning process. Next steps regarding rezoning are to:

1. Utilize the findings of these studies to develop DRAFT baseline rezoning options for review by the planning team.
2. Work through the rezoning process, which includes:
 - I. A series of meetings with a planning team to develop options.
 - II. Communicating the work of the team with the public as the planning team prepares to share information at a public engagement session.
 - III. Hosting public information sessions to further inform the public about the process and DRAFT rezoning options that are being considered.
 - IV. Presenting a recommendation on behalf of the planning team to the school board. Anticipated presentation of recommendations in November 2019.
 - V. Further working with the school board to ensure they understand the recommendation and consider any further changes.



Questions?