

# Assessment Brief

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## 2007-2008 ADVANCED PLACEMENT (AP) RESULTS

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### ABSTRACT

The purpose of this report is to summarize advanced placement (AP) enrollment and performance trends in Virginia Beach City Public Schools (VBCPS) for the 2007-08 school year. Overall, AP course enrollment has increased 22 percent over the past five years. In addition, the number of AP exams taken over the past five years has increased 36 percent. Seventy-nine percent of the students who took an AP course took the corresponding AP exam. In the spring of 2008, a total of 5,806 AP exams were taken by Virginia Beach students. Of the exams taken, 62 percent were associated with a score of 3 or higher, which was higher than the percentage at both the state (58%) and national (56%) levels.

### BACKGROUND

Composed of a series of courses and exams, the AP Program is a “cooperative educational endeavor between secondary schools and colleges and universities.”<sup>1</sup> Introduced in 1955, the College Board’s AP program has provided motivated students with the opportunity to gain college-level skills and credit in a high school setting. By 2007-08, 17,032 schools worldwide were participating in the program.<sup>2</sup> In addition, more than 90 percent of American universities have policies for crediting or placing students based on AP performance.<sup>3</sup>

### AP COURSE ENROLLMENTS

This report is intended to serve as a status report of the AP program as currently implemented within the division. The AP program offers 37 courses and exams in 22 subject areas. Even though not all 37 courses were offered during the 2007-08 school year in VBCPS, there was sufficient

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<sup>1</sup> The Advanced Placement Program available at: <http://apcentral.collegeboard.com/apc/public/program/index.html>

<sup>2</sup> Annual AP Program Participation 1956-2008 available at: <http://professionals.collegeboard.com/profdownload/ap-data-2008-Annual-Participation.pdf>

<sup>3</sup> AP Program Facts at: [http://www.collegeboard.com/about/news\\_info/ap/faqs.html](http://www.collegeboard.com/about/news_info/ap/faqs.html)

enrollment to offer an average of 20 AP courses. For the 2007-08 school year, there were five AP courses not offered in Virginia Beach: Computer Science AB, Macroeconomics, Microeconomics, Chinese Language and Culture, and Italian Language. During the 2007-08 school year, World History was the latest course added to those offered within the division.

Table 1 shows information related to the representation of student subgroups among AP course enrollees. Table 1 displays the unduplicated count of AP course enrollees, the percentage of all AP enrollees, and the percentage of students in high school membership as of September 30, 2007. As evidenced in Table 1, Asian/Pacific Islanders and Caucasians had higher representation among AP course enrollees, while African-American students had lower representation relative to their percentage in membership. African Americans represented 27 percent of the students in high school membership, but only accounted for 13 percent of the students enrolled in AP courses. During the 2007-08 school year, Hispanic students had the same representation of students in high school membership compared to AP course enrollees. The percentages reported in Table 1 for the 2007-08 school year were somewhat similar to the percentages reported in the 2006-07 AP Annual Data Analysis Report.

**Table 1**  
**AP Course Enrollments and Population Rates in Virginia Beach by Ethnicity for 2007-08**

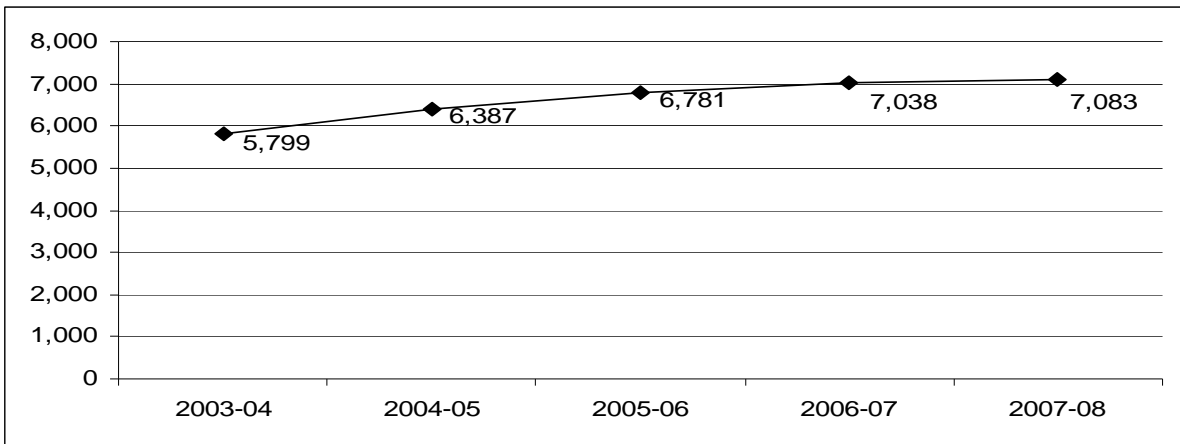
	American Indian	Asian/Pacific Islander	African American	Caucasian	Hispanic	Unspecified
Unduplicated Student Count	10	425	533	2,834	199	83
Percentage of All AP Enrollees	<1%	10%	13%	69%	5%	2%
Percentage of Students in Membership	<1%	7%	27%	58%	5%	2%

Sources: VBCPS SASI Data System and VBCPS September 30, 2007 Fall Membership.

**Five-Year AP Enrollment Trend in Virginia Beach**

Figure 1 contains the AP enrollment trend across all courses for the past five years. Because students are able to take more than one AP course during the year, the number of enrollees across all courses represented a duplicated student count.

**Figure 1**  
**Five-Year AP Enrollment Trends in Virginia Beach 2003-04 Through 2007-08**



Sources: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

Based on the information presented in Figure 1, enrollment in AP courses has increased each year for the past five years. The number of AP courses taken in 2007-08 represented a 22 percent increase over the five years examined and a 1 percent increase compared to the 2006-07 school year.

## AP COURSE AND EXAM PERFORMANCE

An important element of the AP program is that the exam is designed to measure students' mastery of the particular AP curricular area. During the 2007-08 school year, more than 2.7 million AP exams were taken by roughly 1.5 million students worldwide.<sup>4</sup>

In Virginia Beach, a variety of factors affect the number of AP exams taken each year. First, students may register to take an AP exam regardless of whether or not they are enrolled in an AP course. For example, many students who participated in the International Baccalaureate (IB) Program took AP exams even though they did not take the corresponding AP course. In addition, students who took the AP Government and Politics: United States course were permitted to take the AP Government and Politics: Comparative Government exam. Secondly, not all students enrolled in an AP course took the AP exam associated with that particular course of study. In Virginia Beach, a total of 5,806 AP exams were taken by 3,340 students in 2007-08.

### Demographic Characteristics of AP Exam Takers

Table 2 contains information related to the demographic characteristics of AP exam takers in Virginia Beach, Virginia, and the nation for 2007-08. Unless otherwise noted, the state and national figures were based on data for public schools. The demographic characteristics for the 2006-07 school year are included in Column 1 for purposes of comparison.

**Table 2**  
**Demographic Characteristics of Division, State, and National AP Exam Takers**  
**(Unduplicated Counts of Students)**

Student Group	2006-07	2007-08		
	Virginia Beach City Public Schools (N=3,072)	Virginia Beach City Public Schools (N=3,340)	Virginia Public Schools (N=54,155)	National Public Schools (N=1,348,653)
	Percent of Total	Percent of Total	Percent of Total	Percent of Total
Ethnicity Not Stated	3%	2%	2%	2%
American Indian/Alaskan	<1%	<1%	<1%	1%
African American	11%	11%	10%	7%
Asian/Pacific Islander	12%	11%	12%	12%
Hispanic	3%	5%	6%	14%
Caucasian	71%	70%	65%	60%
Other	N/A	N/A	5%	4%

Sources: VBCPS SASI and AP State and National Summary report available at: [http://www.collegeboard.com/student/testing/ap/exgrd\\_sum/2008.html](http://www.collegeboard.com/student/testing/ap/exgrd_sum/2008.html)

The demographic characteristics of AP exam takers in 2007-08 were similar to the characteristics observed in VBCPS in 2006-07. When compared to the state and nation, VBCPS had a higher percentage of Caucasian test takers, while the nation had a higher percentage of Hispanic test takers compared to Virginia Beach and the state. In addition, Virginia Beach and the state had a higher percentage of African-American test takers compared to the nation.

<sup>4</sup> Annual AP Program Participation 1956-2008 at: <http://professionals.collegeboard.com/profdownload/ap-data-2008-Annual-Participation.pdf>

## **Overall Course Enrollment and Exam Performance for 2007-08**

Table 3 shows the number of students who took each AP course, the percentage of students earning an A or B in the course, exam participation rates, as well as the percentage of AP exam scores with a 3 or higher. According to Table 3, among courses with more than 20 enrollees, 72 percent of all AP students earned an A or B, which represented a 3 percentage-point increase from 2006-07. Among courses with more than 20 students, the Government and Politics: Comparative course had 92 percent of the students receive an A or B, and the lowest percentage of students receiving an A or B was observed in Calculus AB (56%). These were somewhat different than the results found during the 2006-07 school year, where the Latin: Vergil course had the highest number of students receiving an A or B. However, Calculus AB had the lowest number of students earning an A or B in 2006-07 which was consistent with 2007-08 results.

There were AP courses offered in Virginia Beach that did not correspond on a one-to-one basis with the AP exams offered by the College Board. Those courses for which more than one AP exam might apply included Studio Art-related courses, Computer Science, and Physics C. For example, a few of the students enrolled in Physics C took both the Physics C: Mechanics and the Physics C: Electricity/Magnetism exams. Overall, approximately 79 percent of the students enrolled in an AP course in 2007-08 took the corresponding AP exam in the spring of 2008. Low exam participation rates, defined as being below 50 percent, were highlighted and observed in two of the AP art classes (Studio Art: 3-D and Studio Art Drawing). The course with an enrollment higher than 20 and a high exam participation rate, as defined as being higher than 90 percent, was World History, with a participation rate of 96 percent. Other courses with relatively high participation rates included Art History, Calculus BC, English Language and Composition, and European History.

In addition, the last three columns found in Table 3 show data comparing the percent of VBCPS test takers receiving scores of 3 or higher to the state and national performance for 2007-08. According to the College Board, each AP exam grade is a weighted combination of the student's score on the multiple-choice section and the free-response section of the exam. Students completing the AP exams receive a final score reported on a five-point scale ranging from 1, no recommendation for advanced placement, to 5, indicating that the student is extremely well-qualified for advanced placement. Periodically, college grade comparability studies are conducted to measure the performance of AP candidates against college students in related courses.<sup>5</sup> In general, these studies indicated that AP grades of 5 or 4 are comparable to a college course grade of an A, while a grade of 3 is most comparable to a B.

Among courses with more than 20 enrollees, students in VBCPS scored higher than state and national exam takers on 15 exams. A few of the higher scoring exams included Computer Science AB, Government and Politics: Comparative, Psychology, and Physics-C-Electricity/Magnetism. Areas which might require additional attention, where Virginia Beach students scored lower than state and national exam takers while having an enrollment of at least 20 students, included Biology, German Language, Statistics, and Chemistry.

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<sup>5</sup> AP Exam Grades at: <http://professionals.collegeboard.com/higher-ed/placement/ap/exam/grades>

**Table 3**  
**AP Course Grades, Exam Participation Rates, and Percentage of AP Exams with a Score of 3 or Higher for 2007-08**

AP Course	Number of Students Who Took the AP Course	Percent Scoring A or B in AP Course	Percentage of AP Enrollees Who Took the AP Course and Exam	VBCPS Percent 3-5	Virginia Percent 3-5	Nation Percent 3-5
Art History	86	79%	90%	74%	66%	54%
Studio Art	3	67%	100%	33%	N/A	N/A
Studio Art: 2-D	41	76%	68%	52%	73%	68%
Studio Art: 3-D	1	100%	0%	0%	46%	60%
Studio Art: Drawing	64	75%	23%	63%	67%	68%
Biology	576	73%	74%	43%	46%	48%
Calculus AB	495	56%	82%	64%	59%	59%
Calculus BC	157	83%	92%	62%	78%	79%
Chemistry	253	72%	77%	49%	55%	54%
Computer Science A			Computer Science Course (52%)	53%	47%	57%
Computer Science AB	95	74%		100%	80%	73%
Economics: Macroeconomic	*	*	*	100%	55%	49%
Economics: Microeconomics	*	*	*	0%	56%	59%
English: Language & Composition	569	76%	90%	68%	64%	56%
English: Literature & Composition	398	77%	75%	73%	63%	57%
Environmental Science	384	84%	61%	59%	49%	52%
European History	529	64%	90%	61%	57%	59%
French Language	53	75%	79%	51%	57%	52%
French Literature	1	100%	100%	0%	70%	60%
German Language	25	88%	64%	31%	59%	64%
Government & Politics: Comparative	38	92%	74%	85%	53%	59%
Government & Politics: U.S.	889	75%	79%	63%	51%	49%
Human Geography	343	73%	83%	66%	57%	50%
Japanese Language	2	100%	100%	100%	80%	74%
Latin: Literature	80	90%	86%	72%	53%	60%
Latin: Vergil	16	100%	81%	85%	50%	56%
Music Theory	13	92%	77%	92%	60%	67%
Physics-B	145	76%	78%	60%	49%	58%
Physics-C-Mechanics			Physics C Course (55%)	49%	62%	72%
Physics-C-Electricity/Magnetism	76	91%		80%	63%	69%
Psychology	570	60%	77%	85%	68%	66%
Spanish Language	127	82%	70%	50%	60%	69%
Spanish Literature	4	75%	100%	50%	66%	60%
Statistics	396	61%	73%	48%	53%	58%
United States History	630	72%	86%	57%	52%	46%
World History	24	71%	96%	57%	67%	47%
<b>Total</b>	<b>7,083</b>	<b>72%</b>	<b>79%</b>	<b>62%</b>	<b>58%</b>	<b>56%</b>

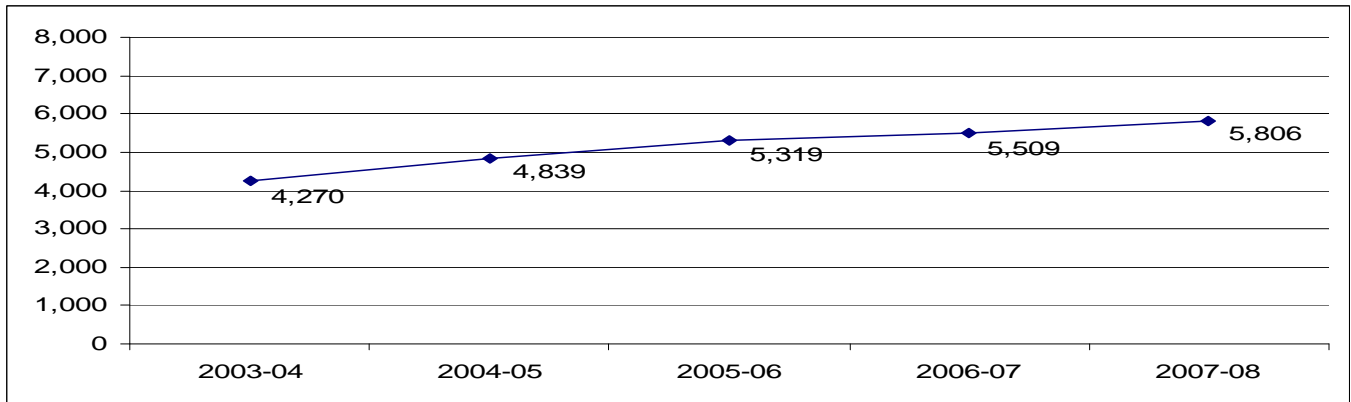
Source: VBCPS SASI Data System.

\* Only exam results, no course enrollment

**Five-Year AP Exam-Taking Trends in Virginia Beach**

Figure 2 illustrates the AP exam-taking trend in Virginia Beach over the past five years. Based on analysis, the number of exams taken over the past five years increased 36 percent. The number of AP exams taken in 2007-08 increased 5 percent from the previous year. However, over the past five years, the percentage increase in the number of exams taken by VBCPS students (36%) was lower than the state (57%) and the nation (48%).

**Figure 2**  
**Five-Year AP Exam-Taking Trend in Virginia Beach 2003-04 Through 2007-08**

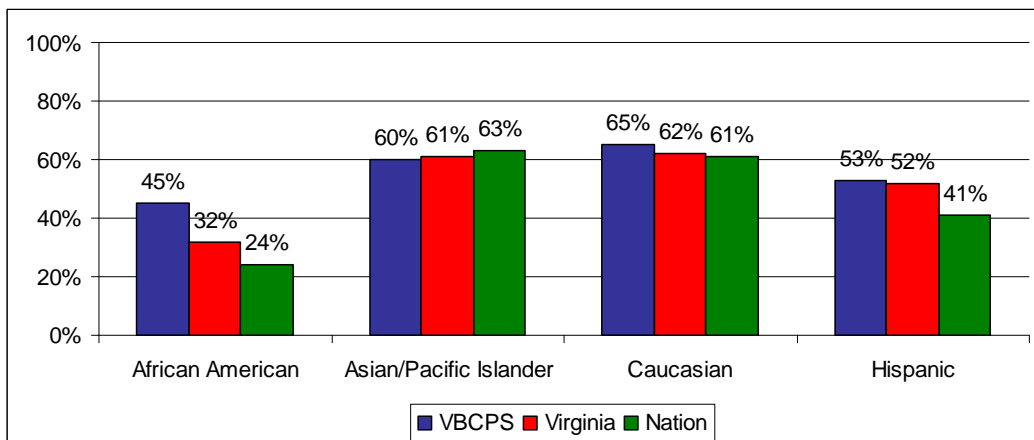


Sources: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

**Division, State, and National AP Exam Performance by Ethnicity for 2007-08**

Figure 3 displays the percentage of all AP exams with a score of 3 or higher disaggregated by ethnicity. Among Virginia Beach exam takers, the AP exam performance of Caucasian students was higher than any other student subgroup. The largest gap in performance occurred between Caucasian and African-American exam takers; however, this gap was smaller in Virginia Beach (20%) than the gap at the state (30%) and national levels (37%). Caucasians, African Americans, and Hispanics in Virginia Beach outperformed their peers at the state and national levels. However, the percentage of VBCPS Asian/Pacific Islander students scoring a three or higher on AP exams was lower than the state and national levels.

**Figure 3**  
**Division, State, and National AP Exam Performance by Ethnicity for 2007-08**  
**Percentage of Exams with a Score of 3 or Higher**

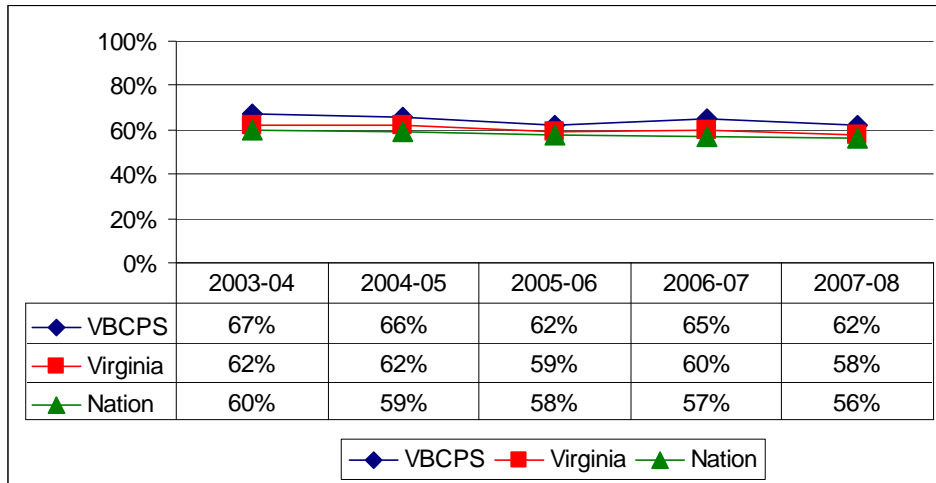


Source: VBCPS SASI Data System

**Five-Year Trends in AP Exam Performance for the Division, State, and Nation**

Figure 4 places the Virginia Beach exam results in a state and national context. In each of the five years reported, Virginia Beach demonstrated performance levels that exceeded state and national levels when aggregating across all AP exams.

**Figure 4**  
**Division, State, and National AP Exam Score Trends Across All Exams**  
**Percentage of AP Exams with a Score of 3 or Higher**

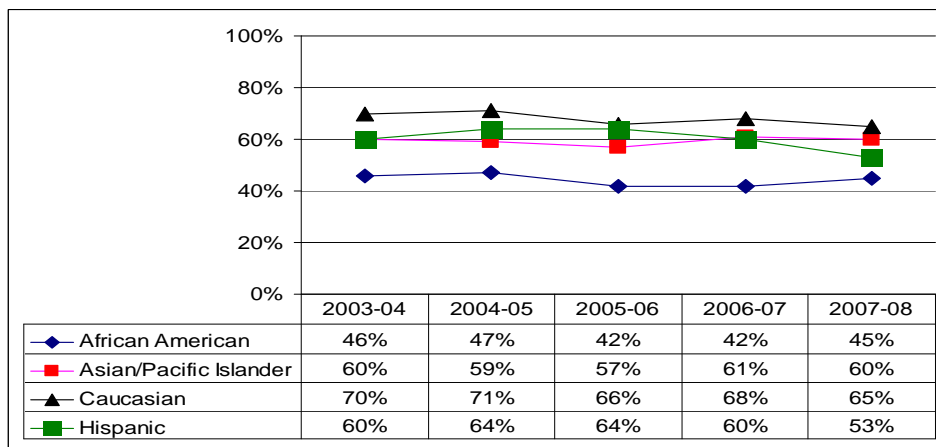


Sources: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

**Five-Year Trend in AP Exam Performance in Virginia Beach by Ethnicity**

Figure 5 displays the AP exam performance trend within the division disaggregated on the basis of ethnicity. Overall, from 2003-04 to 2007-08, the AP exam performance of Caucasian students was higher than any other student subgroup. Over a five-year period of time, results for each student subgroup fluctuated.

**Figure 5**  
**Five-Year AP Exam Performance Trends in Virginia Beach by Ethnicity<sup>6</sup>**  
**Percentage of AP Exams with a Score of 3 or Higher**



Source: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

<sup>6</sup> The data in Figure 5 are based on the racial/ethnic categories reported by students when taking the AP exam.

# AP COURSE ENROLLMENT/EXAM RESULTS BY HIGH SCHOOL

## AP Course Enrollments in Virginia Beach by High School for 2007-08

Table 4 provides information concerning AP enrollments for each of the division’s comprehensive high schools. The second column of Table 4 reflects the total number of course enrollees across all AP courses, while the third column represents an unduplicated count of the number of students in the school taking at least one AP course. The fourth column of Table 4 displays the percentage of students in each high school who chose to take at least one AP course during the year. Across the entire division, approximately 18 percent of all high school students took at least one AP course in 2007-08, which is consistent with the 2006-07 results.

**Table 4**  
**AP Course Enrollments in Virginia Beach by High School for 2006-07**

School	Duplicated Count of Students	Unduplicated Count of Students	Percent of Students Enrolled in AP Courses	Number of AP Courses with Students Enrolled
Bayside	474	300	15%	15
Cox	1,031	526	26%	24
First Colonial	733	433	21%	24
Green Run	238	156	9%	14
Kellam	714	383	20%	22
Kempsville	650	360	19%	21
Landstown	696	421	18%	20
Ocean Lakes	949	492	20%	24
Princess Anne	681	453	25%	25
Salem	369	229	12%	15
Tallwood	548	331	17%	20
<b>Total</b>	<b>7,083</b>	<b>4,084</b>	<b>18%</b>	<b>Average = 20</b>

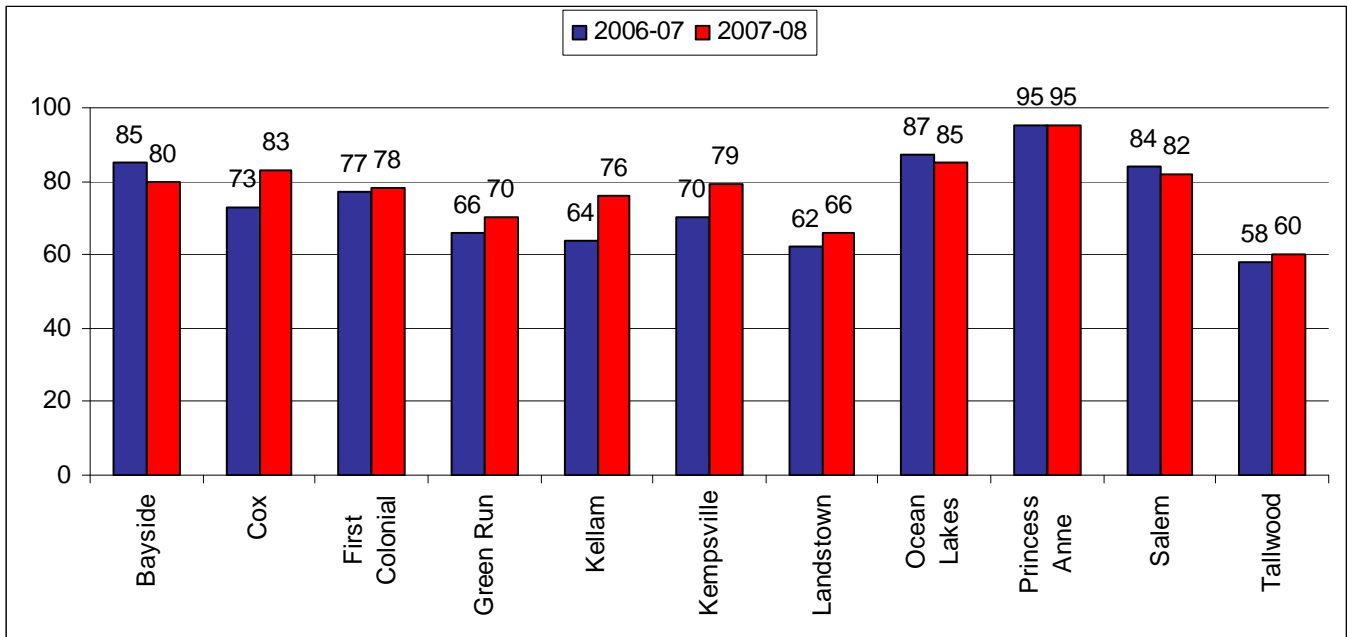
Source: VBCPS SASI Data System.

The last column of Table 4 displays the number of AP courses in each high school with students enrolled. Across all high schools in Virginia Beach, there was sufficient enrollment to offer an average of 20 AP courses. This is much higher than the nine courses that were offered, on average, worldwide.<sup>7</sup>

Figure 6 displays the AP exam participation rates for students enrolled in AP courses at each of the high schools for the 2007-08 school year. The participation rates for the previous school year are also provided for comparison purposes. The AP exam participation rates across the division ranged from a high of 95 percent at Princess Anne High School to a low of 60 percent at Tallwood High School. The largest increases in participation rates from 2006-07 to 2007-08 were found at Cox, Kellam, and Kempsville high schools. The largest decline in participation occurred at Bayside High School where the participation rate decreased from 85 percent in 2006-07 to 80 percent in 2007-08. The three schools with the lowest exam participation rates in 2007-08 were Tallwood, Landstown, and Green Run.

<sup>7</sup> AP Report to the Nation at: <http://professionals.collegeboard.com/profdownload/ap-report-to-the-nation-2008.pdf>

**Figure 6**  
**AP Exam Participation Rates for Students Enrolled in AP Courses by High School**

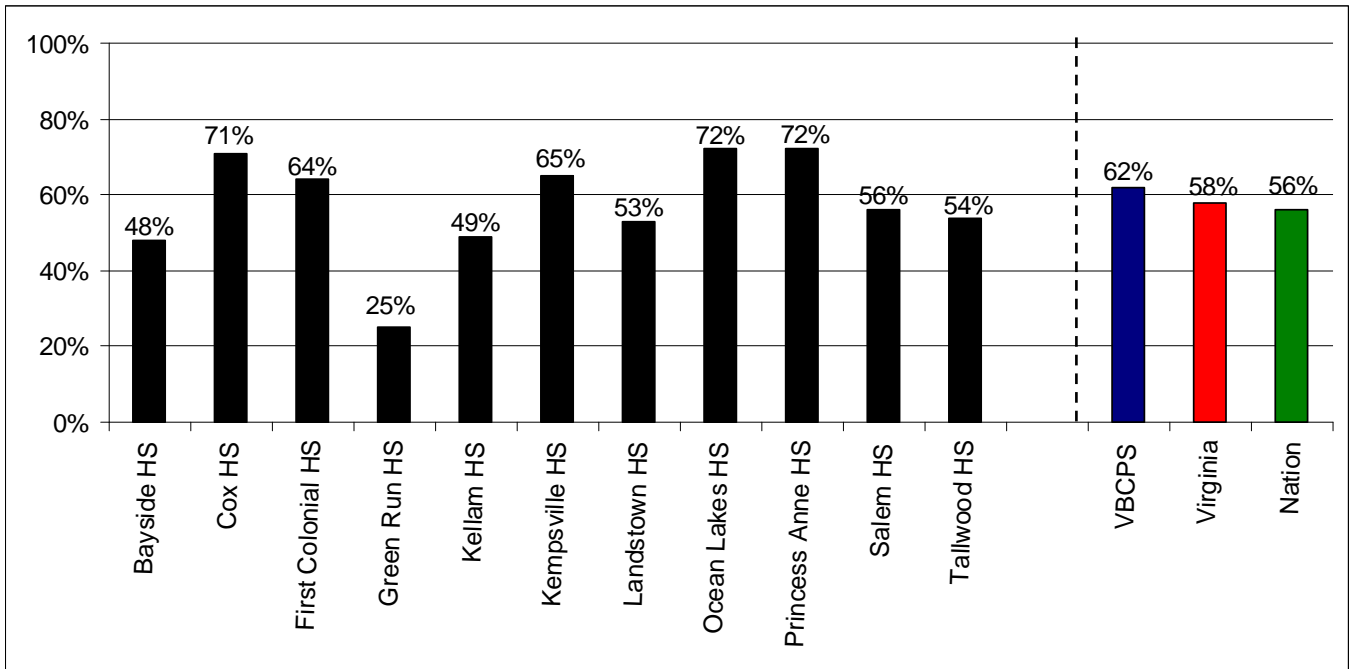


Sources: VBCPS SASI Data System and Advanced Placement Program Annual Data Analysis and Reports.

**AP Exam Performance Across All Exam Areas for 2007-08 by High School**

In the spring of 2008, a total of 5,806 AP exams were taken by Virginia Beach students. Of the exams taken, 62 percent were associated with a score of 3 or higher. Figure 7 displays the percentage of AP exams with a score of 3 or higher for each high school. When examining each high school’s overall performance on the AP exams, the percentage of AP exams with a score of 3 or higher ranged from a high of 72 percent at Ocean Lakes and Princess Anne to a low of 25 percent at Green Run. Five of the high schools in Virginia Beach exceeded the VBCPS division performance rate. Figure 7 also displays the percentage of all AP exams with a score of 3 or higher for all exam takers in Virginia Beach, the state, and the nation. The results indicated that Virginia Beach exam takers outperformed exam takers across the state and nation in 2007-08. When comparing the performance of individual high schools to the performance of state and national exam takers, five of the high schools in Virginia Beach exceeded the state (58%) and national (56%) performance levels, as reported in Figure 7. These schools were Cox, First Colonial, Kempsville, Ocean Lakes, and Princess Anne.

**Figure 7**  
**AP Exam Performance by High Schools Compared to the Division, State, and Nation:**  
**Percentage of AP Exams with a Score of 3 or Higher in 2007-08**



Sources: VBCPS SASI Data System. Virginia and National data taken from the College Board Report.