

Assessment Brief

ADVANCED PLACEMENT (AP) PROGRAM ANNUAL ANALYSIS REPORT

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ABSTRACT

The purpose of this report is to summarize advanced placement (AP) enrollment and performance trends in participating Virginia Beach City Public Schools for the 2006-07 school year. Overall, AP course enrollment has increased 29 percent over the past five years, and in addition, the number of AP exams taken over the past five years has increased 35 percent. Seventy-five percent of the students who took an AP course took the corresponding AP exam. In the spring of 2006, a total of 5,509 AP exams were taken by Virginia Beach students. Of the exams taken, 65 percent were associated with a score of 3 or higher, which was higher than the percentage at both the state (60%) and national (57%) 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.”¹ 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 2006-07, 16,464 schools worldwide were participating in the program,² including 66 percent of U.S. high schools. In addition, more than 90 percent of American universities have policies for crediting or placing students based on AP performance.

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 2006-07 school year, AP courses were available to students at each of the comprehensive high schools within the division. For the 2006-07 school year, there were eight AP courses not offered in Virginia

Key Topics:

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

² Annual AP Program Participation 1956-2007 available at: http://apcentral.collegeboard.com/apc/public/repository/2007_Annual_Participation.pdf.

Beach: Computer Science AB, Macroeconomics, Microeconomics, Chinese Language and Culture, French Literature, International English Language, Italian Language, and World History. During the 2006-07 school year, Japanese Language and Culture 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. As a reference point, Table 1 also displays the unduplicated count of AP course enrollees, the percentage of all AP enrollees, and the percentage of students in membership as of September 30, 2006. As evidenced in Table 1, Asian/Pacific Islanders and Caucasians had higher representation among AP course enrollees, while African-American and Hispanic students had lower representation relative to their percentage in membership. African Americans represented 27 percent and Hispanics represented 5 percent of the students in high school membership, but only accounted for 11 percent and 3 percent, respectively, of the students enrolled in AP courses. The percentages reported in Table 1 for the 2006-07 school year were similar to the percentages reported in the 2005-06 AP Annual Data Analysis Report.

Table 1
AP Course Enrollments and Population Rates in Virginia Beach by Ethnicity for 2006-07

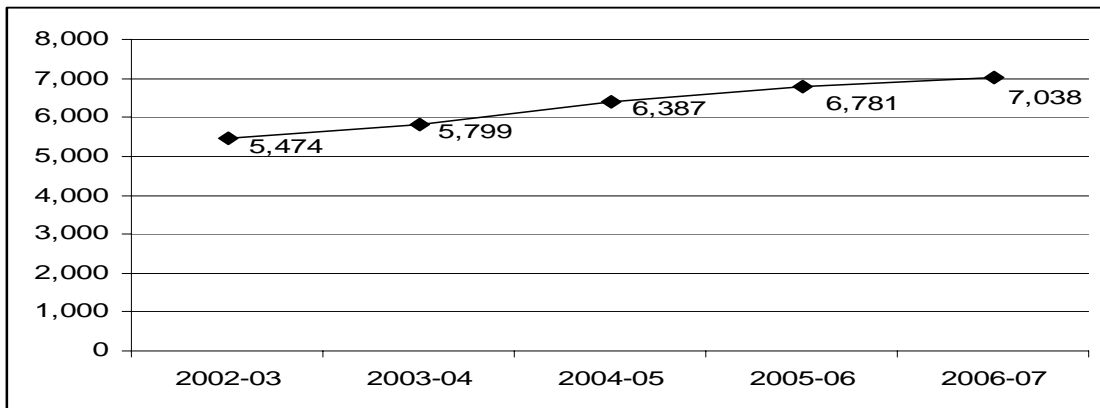
	American Indian	Asian/Pacific Islander	African American	Caucasian	Hispanic	unspecified
Unduplicated Student Count	13	458	502	2,778	145	93
Percentage of All AP Enrollees	<1%	12%	11%	71%	3%	2%
Percentage of Students in Membership	<1%	7%	27%	59%	5%	2%

Sources: VBCPS SASI Data System and VBCPS September 30, 2006, 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 represents a duplicated student count.

Figure 1
Five-Year AP Enrollment Trends in Virginia Beach 2002-03 Through 2006-07



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 2006-07 represented a 29 percent increase over the five years examined and increased 4 percent compared to the 2005-06 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 2006-07 school year, more than 2.5 million AP exams were taken by roughly 1.4 million students worldwide.³

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 participating in the International Baccalaureate (IB) program take AP exams even though they do not take the corresponding AP course. In addition, students who take the United States Government and Politics course are allowed to take the United States Government and Politics: Comparative Government exam. Secondly, not all students enrolled in an AP course take the AP exam associated with that particular course of study. In Virginia Beach, a total of 5,509 AP exams were taken by 3,072 students in 2006-07.

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 2006-07. Unless otherwise noted, the state and national data are taken from public school counts. The demographic characteristics for the 2005-06 school year appear 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	2005-06		2006-07	
	Virginia Beach City Public Schools (N=3,120)	Virginia Beach City Public Schools (N=3,072)	Virginia Public Schools (N=49,884)	National Public Schools (N=1,242,484)
	Percent of Total	Percent of Total	Percent of Total	Percent of Total
Ethnicity Not Stated	7%	3%	3%	3%
American Indian/Alaskan	1%	>1%	>1%	>1%
African American	10%	11%	9%	7%
Asian/Asian American	12%	12%	12%	12%
Hispanic	4%	3%	5%	14%
Caucasian	63%	71%	66%	61%
Other	4%	N/A	5%	3%

Source: AP State and National Summary report available at: http://www.collegeboard.com/student/testing/ap/exgrd_sum/2007.html.

The demographic characteristics of AP exam takers in 2006-07 were similar to the characteristics observed in VBCPS in 2005-06 with the exception of a higher percentage of Caucasian students and a lower percentage of those with no ethnicity identified. When compared to the state and nation, VBCPS had a higher percentage of Caucasian and African-American exam takers, while the nation had a higher percentage of Hispanic test takers compared to Virginia Beach and the state.

Overall Course Enrollment and Exam Performance for 2006-07

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, 69 percent of all AP students earned an A or B. This is a 4 percentage-point decline from 2005-06. Among courses with more than 20 students, Latin Vergil had 100

³ Annual AP Program Participation 1956-2007 available at: http://apcentral.collegeboard.com/apc/public/repository/2007_Annual_Participation.pdf.

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 (55%). These were the same results found during the 2005-06 school year.

There are AP courses offered in Virginia Beach that do not correspond on a one-to-one basis with the AP exams offered by the College Board. Those courses included Studio Art related courses, Computer Science, and Physics C, for which more than one AP exam might apply. For example, several of the students enrolled in Physics C took both the Physics C: Mechanics and the Physics C: Electricity/Magnetism exams. Overall, approximately 75 percent of the students enrolled in an AP course in 2006-07 took the corresponding AP exam in the spring of 2006. Low exam participation rates, defined as being below 50 percent, are highlighted and were observed in three of the AP art classes and Computer Science. The course with an enrollment higher than 20 and a high exam participation rate, as defined as being higher than 90 percent, was Calculus BC, with a participation rate of 91 percent. Other courses with relatively high participation rates included Latin: Literature, Latin: Vergil, European History, and English: Language & Composition.

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 2006-07. 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 Physics C: Electricity/Magnetism, Art History, Psychology, and English: Literature & Composition. 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 Studio Art related courses and foreign language courses such as German Language and Spanish Language.

Table 3
AP Course Grades, Exam Participation Rates, and Percentage of AP Exams with a Score of 3 or Higher for 2006-07

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	124	77%	81%	82%	68%	58%
Studio Art	19	95%	*95%	N/A	N/A	N/A
Studio Art: 2-D	48	71%	*40%	44%	67%	67%
Studio Art: 3-D	19	79%	*11%	0%	63%	63%
Studio Art: Drawing	67	79%	*40%	35%	63%	68%
Biology	540	68%	69%	52%	56%	59%
Calculus AB	436	55%	81%	61%	55%	57%
Calculus BC	170	68%	91%	65%	79%	79%
Chemistry	254	74%	81%	57%	58%	54%
Computer Science A			**Computer Science Course (46%)	63%	46%	56%
Computer Science AB	61	72%		60%	77%	71%
English: Language & Composition	575	67%	85%	68%	64%	56%
English: Literature & Composition	393	78%	77%	76%	65%	58%
Environmental Science	319	80%	58%	57%	47%	51%

Table 3
AP Course Grades, Exam Participation Rates, and Percentage of AP Exams with a Score of 3 or Higher for 2006-07 (continued)

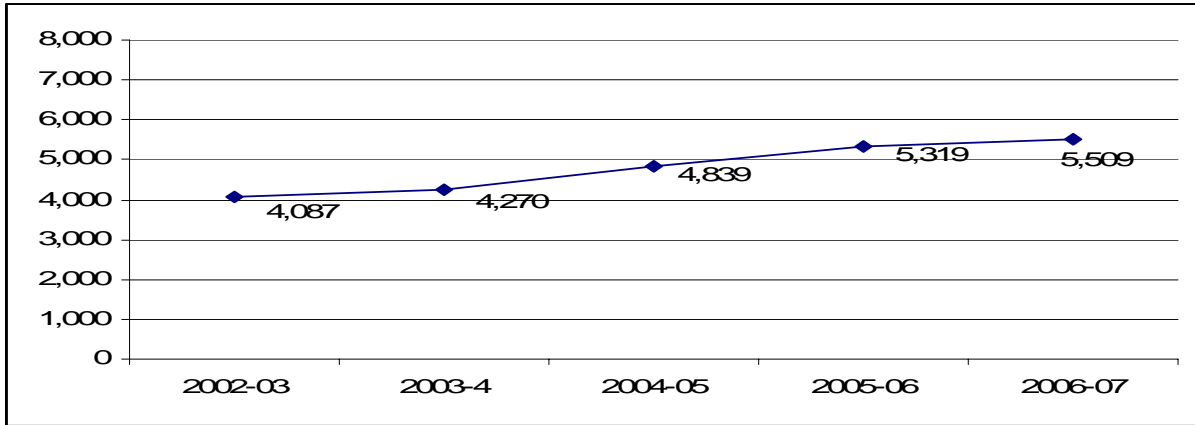
AP Course	Number of Students Who Took the AP Course	Percent Scoring A or B in AP Course	Percentage of AP Enrollees Who Took the AP Course and Exam	VBCPS Percent 3-5	Virginia Percent 3-5	Nation Percent 3-5
European History	554	62%	86%	71%	64%	64%
French Language	44	93%	73%	47%	59%	54%
German Language	30	77%	70%	44%	62%	62%
Government & Politics: U.S.	808	72%	77%	68%	55%	51%
Government & Politics: Comparative	35	86%	77%	72%	50%	56%
Human Geography	258	67%	67%	74%	59%	49%
Japanese Language	4	100%	75%	100%	55%	64%
Latin: Literature	36	72%	89%	55%	38%	46%
Latin: Vergil	57	100%	89%	61%	51%	57%
Music Theory	30	73%	67%	59%	55%	59%
Physics-B	171	68%	77%	56%	52%	58%
Physics-C-Mechanics				62%	61%	71%
Physics-C-Electricity/Magnetism	52	83%	***Physics C Course (65%)	83%	74%	71%
Psychology	652	58%	71%	80%	65%	65%
Spanish Language	138	78%	74%	45%	59%	64%
Spanish Literature	7	100%	71%	100%	61%	58%
Statistics	445	68%	60%	54%	51%	58%
United States History	692	65%	82%	60%	58%	51%
World History	0	0%	Not offered	100%	70%	53%
Total	7,038	69%	75%	65%	60%	57%

Source: VBCPS SASI Data System.

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 has increased 35 percent. The number of AP exams taken in 2006-07 increased 4 percent from the previous year. However, over the past five years, the percentage increase in the number of VBCPS test takers (35%) was lower than the state (47%) and the nation (50%).

Figure 2
Five-Year AP Exam-Taking Trend in Virginia Beach 2002-03 Through 2006-07

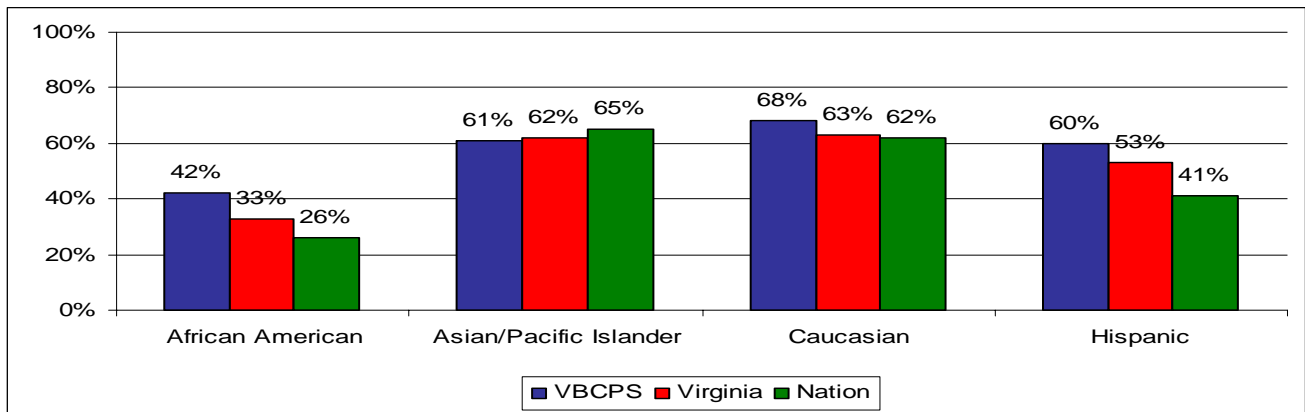


Sources: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

Division, State, and National AP Exam Performance by Ethnicity for 2006-07

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 (26%) than the gap at the state (30%) and national levels (36%). 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 2006-07
Percentage of Exams with a Score of 3 or Higher

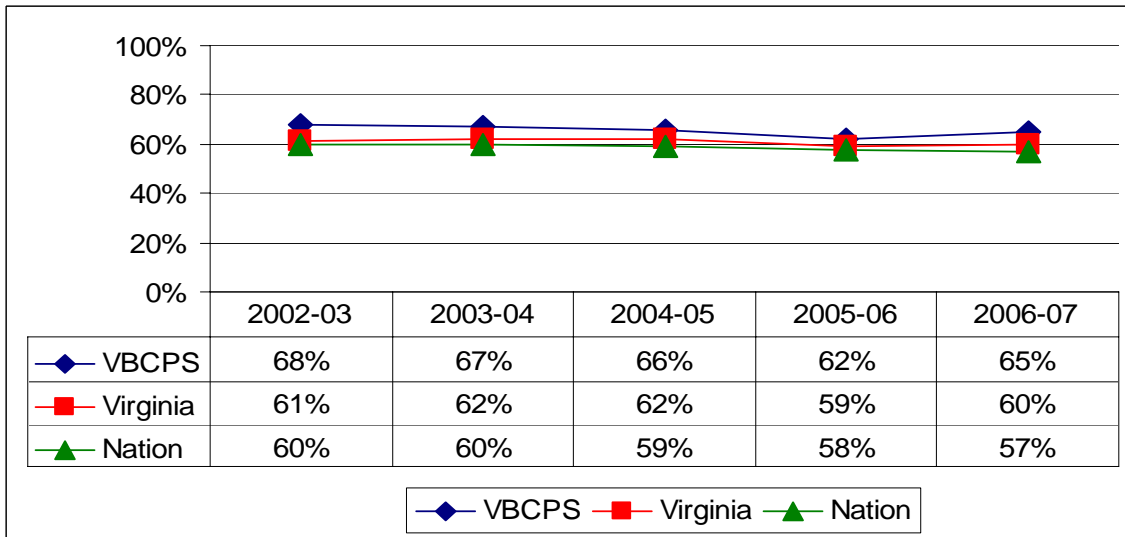


Source: VBCPS SASI Data System.

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 has demonstrated performance levels that exceed 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

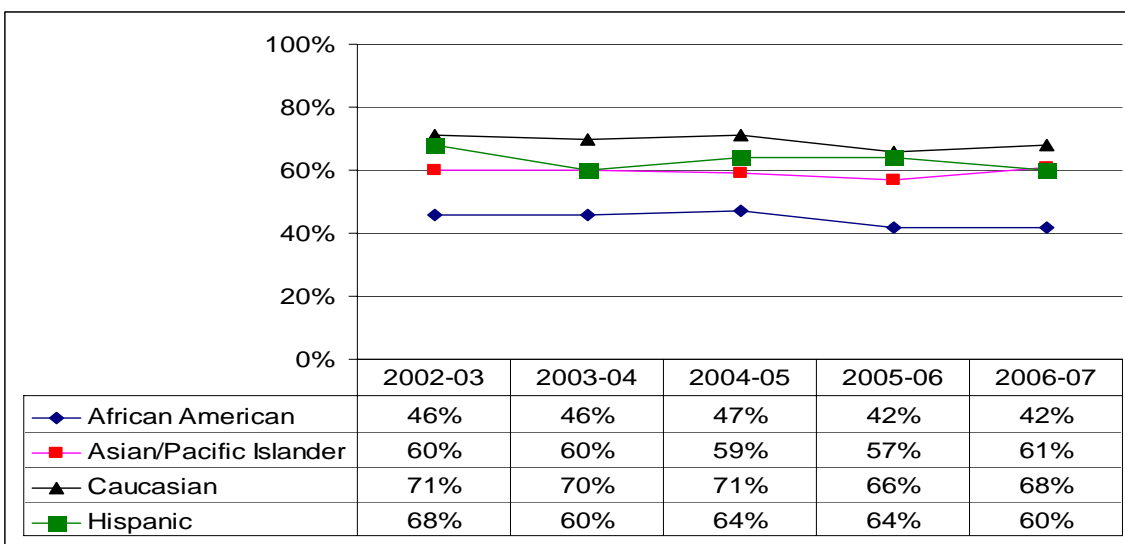


Sources: Advanced Placement Program Annual Data Analysis and Reports and VBCPS SASI Data System.

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 2002-03 to 2006-07, the AP exam performance of Caucasian students was higher than any other student subgroup. African-American exam takers showed slight decreases in the percentage of students with a score of 3 or higher over the five-year period, while Asian/Pacific Islander and Hispanic students showed mixed results over the five-year period.

Figure 5
Five-Year AP Exam Performance Trends in Virginia Beach by Ethnicity⁴
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.

⁴ 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 2006-07

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 2006-07. This is a 1 percent increase from the 2005-06 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	428	249	12%	15
Cox	947	497	24%	25
First Colonial	737	429	20%	23
Green Run	265	167	10%	17
Kellam	742	405	19%	21
Kempsville	618	340	17%	21
Landstown	745	451	20%	21
Ocean Lakes	989	490	19%	25
Princess Anne	655	436	23%	22
Salem	433	240	13%	16
Tallwood	479	285	14%	22
Total	7,038	3,989	18%	Average = 21

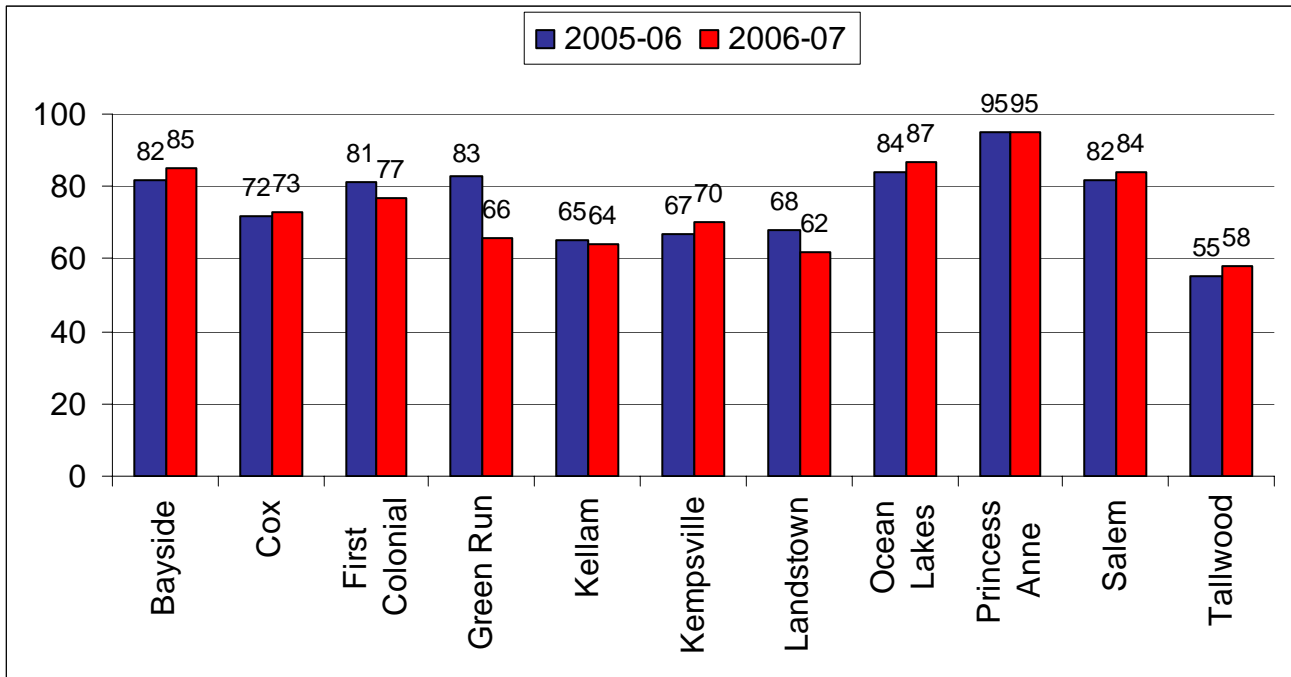
Source: VBCPS SASI Data System.

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 21 AP courses. This is much higher than the nine courses that were offered, on average, worldwide.⁵

Figure 5 displays the AP exam participation rates for students enrolled in AP courses at each of the high schools for the 2006-07 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 58 percent at Tallwood High School. The largest increases in participation rates from 2005-06 to 2006-07 was a tie among Bayside, Kempsville, Ocean Lakes, and Tallwood high schools. The largest decline in participation occurred at Green Run High School where the participation rate decreased from 83 percent in 2005-06 to 66 percent in 2006-07. The three schools with the lowest exam participation rates in 2006-07 were Tallwood, Landstown, and Kellam.

⁵ <http://professionals.collegeboard.com/data-reports-research>.

Figure 5
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

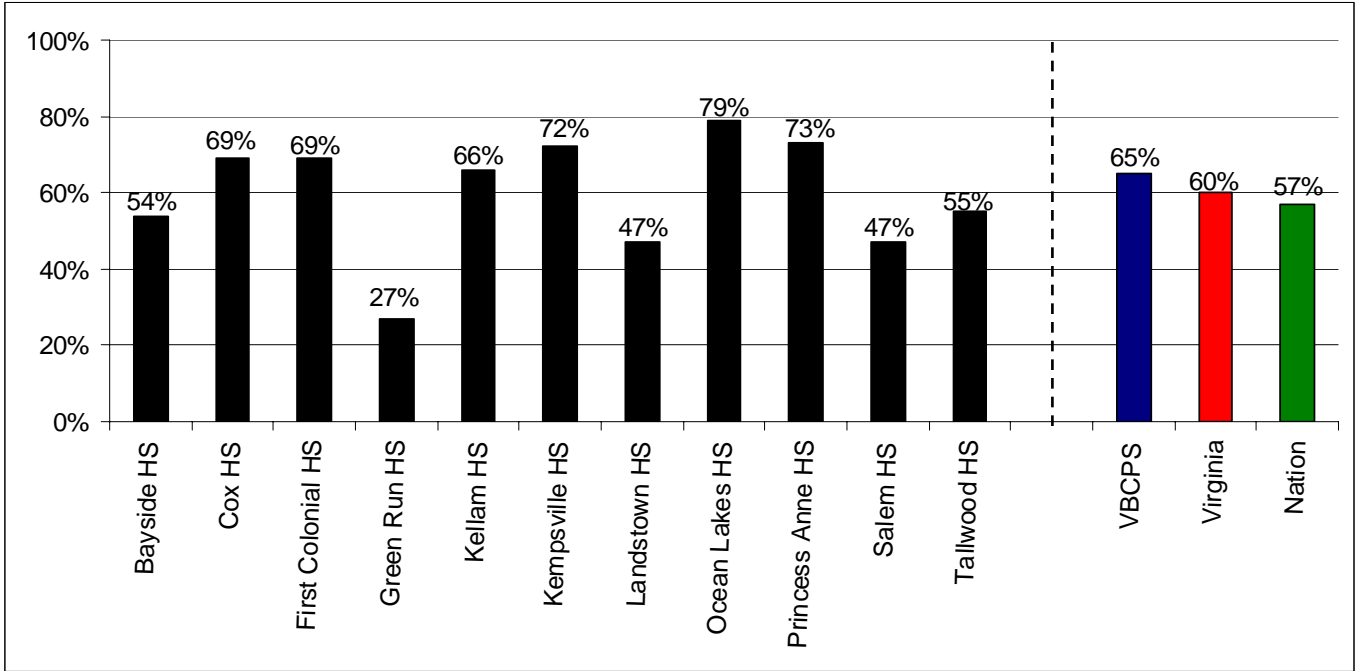
According to the College Board, each AP exam grade is a weighted combination of the student’s score on the multiple-choice section and the free-response section of the exam. Students completing the AP exams receive a final score reported on a five-point scale ranging from 1, no recommendation for advanced 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.⁶ In general, these studies indicate 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.

AP Exam Performance Across All Exam Areas for 2006-07 by High School

In the spring of 2007, a total of 5,509 AP exams were taken by Virginia Beach students. Of the exams taken, 65 percent were associated with a score of 3 or higher. Figure 6 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 79 percent at Ocean Lakes to a low of 27 percent at Green Run. Six of the high schools in Virginia Beach exceeded the VBCPS division performance rate. Figure 6 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 2006-07. When comparing the performance of individual high schools to the performance of state and national exam takers, six of the high schools in Virginia Beach exceeded the state (60%) and national (57%) performance levels, as reported in Figure 6. These schools were Cox, First Colonial, Kellam, Kempsville, Ocean Lakes, and Princess Anne.

⁶ Relevant research papers available at: http://apcentral.collegeboard.com/apc/public/exam/about_exams/11592.html.

Figure 6
High Schools AP Exam Performance Compared to the Division, State, and Nation Exam Takers
in 2006-07
Percentage of AP Exams with a Score of 3 or Higher



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