

West Hartford Public School District

Agenda Item: High School Test Score Results –
SAT and Advanced Placement (AP)

Meeting Date: October 4, 2011

From: Eileen Howley, Assistant Superintendent for Instruction and Curriculum
Chip Ward, Director of Finance and Planning

Through: Karen L. List, Superintendent

Background:

This report presents the results of West Hartford's High Schools on the SAT and AP exams for the 2010-11 school year.

Dr. Howley and Mr. Ward will be available to answer questions.

SAT Scores:

The Class of 2011's overall performance on the SAT increased slightly last year. Combined math and critical reading (verbal) scores increased 167 points to a total of 1088. The average score on the writing portion of the SAT increased 5 points to 544. The overall participation increased to 86% for the class of 2011, up 3 points from last year.

In West Hartford

- The mean Math score increased 11 points to 544.
- The mean Critical Reading (Verbal) score increased 5 points to 544.
- The mean Writing score increased 5 points to 544.
- Participation rate increased 3 points to an estimated 86%
- Longer term trends show growth with combined SAT results up 36 points since 1992.

At Conard High School

- The mean Math score increased 7 points to 526.
- The mean Critical Reading (Verbal) score increased 11 points to 533.
- The mean Writing score increased 11 points to 525.
- Participation rate increased 4 points to 89%.
- Since 1995, combined scores for Conard have ranged from 1020 to 1081. The Class of 2011's scores are at the high end of that range.

At Hall High School

- The mean Math score increased 10 points to 559.
- The mean Critical Reading (Verbal) score decreased 1 point to 555.
- The mean Writing score increased 1 point to 543.
- The participation rate increased 2 points to 83%
- Since 1995, combined scores for Hall have ranged from 1090 to 1140. The Class of 2011's scores are at the middle of that range.

One of the difficulties in reporting on the SAT results is the wide swings in the scores from year to year as different groups of students take the test and as a consequence of random fluctuations in test scores. When we look at the test scores since 1992, each of Hall's and Conard's math and verbal SAT scores have changed by an average of 11 points from one year to the next. Sometimes the change is positive and the scores rise and sometimes the change is negative and the scores decline. It is important to note that the magnitude of these random swings can overwhelm the changes that result from curricular and instructional changes. The colored rectangles in the charts at the end of this memo highlight the normal range in SAT scores at both Hall and Conard.

Improvements in the performance on norm referenced standardized tests like the SAT due to curricular and instructional changes are slow and require many years of intervention. To raise SAT verbal scores, we have to expose students to more vocabulary and improved reading strategies over their entire secondary career (grades 6 to 12). To raise SAT math scores, we have to get more students to take more advanced math courses from grade 6 on. Students can not be accelerated into pre-calculus without completing two years of algebra and one of geometry. When we look at SAT test score improvements in response to curricular and instructional changes, we are really only looking for a change of 1 or 2 points a year.

The curricular and instructional improvements of 1 to 2 points a year are easily swamped by the 10 point or so random variation from year to year. That is why it is so important to look at the long term changes in the SAT scores and not the year to year variation.

The tables and charts on the following pages provide an historical perspective on the SAT performance since 1992.

ACT Results

In recent years more West Hartford high school students are taking the ACT test in greater numbers. The ACT, historically more popular in Midwestern and Southern states, measures a student's general educational development and ability to complete college level work through multiple choice tests that cover four skill areas – English, mathematics, reading and science. ACT scores range from 1 to 36, with a nationwide average of 21.1.

The table below summarizes the number of ACT test takers at Conard and Hall over the last 7 years of graduating classes and the average composite score. The Composite score is the average of the four scores in English, mathematics, reading and science.

Class of	Conard		Hall	
	N	Ave	N	Ave
2005	42	20.9	58	23.6
2006	60	23.9	57	24.1
2007	68	21.9	73	24.1
2008	76	23.2	97	24.1
2009	94	23.3	140	24.2
2010	122	23.2	156	24.6
2011	130	24.1	180	24.0

Participation has risen substantially from about 100 students per year 6 years ago to over 300 students per year now. Almost all of the students who took the ACT also took the SAT. There are only a handful of students who took just the ACT.

SAT Score Summary – 2011 results

Conard High School

Year	Math	Critical Reading (Verbal)	Writing	Participation	Total Score	Yearly Change	Cumulative Change from 1992
1992	518	505		89%	1023		
1993	513	517		89%	1030	7	7
1994	506	509		88%	1015	-15	-8
1995	521	526		87%	1047	32	24
1996	516	521		93%	1037	-10	14
1997	540	541		92%	1081	44	58
1998	535	524		93%	1059	-22	36
1999	524	521		89%	1045	-14	22
2000	530	520		86%	1050	5	27
2001	524	513		92%	1037	-13	14
2002	521	505		83%	1026	-11	3
2003	538	540		84%	1078	52	55
2004	512	508		92%	1020	-58	-3
2005	526	529		85%	1055	35	32
2006	536	535	527	81%	1071	16	48
2007	529	526	526	92%	1055	-16	32
2008	515	516	520	88%	1031	-24	8
2009	535	537	543	88%	1072	41	49
2010	516	522	524	85%	1038	-34	15
2011	529	533	535	89%	1062	24	39

Hall High School

Year	Math	Critical Reading (Verbal)	Writing	Participation	Total Score	Yearly Change	Cumulative Change from 1992
1992	542	538		96%	1080		
1993	546	546		95%	1092	12	12
1994	548	546		99%	1094	2	14
1995	569	558		98%	1127	33	47
1996	554	548		98%	1102	-25	22
1997	554	558		97%	1112	10	32
1998	558	569		94%	1127	15	47
1999	561	562		95%	1123	-4	43
2000	577	566		96%	1143	20	63
2001	551	553		91%	1104	-39	24
2002	569	574		97%	1143	39	63
2003	554	557		92%	1111	-32	31
2004	569	567		88%	1136	25	56
2005	555	553		88%	1108	-28	28
2006	561	561	547	92%	1122	14	42
2007	552	554	554	88%	1106	-16	26
2008	549	545	548	87%	1094	-12	14
2009	559	563	561	83%	1122	28	42
2010	549	556	553	81%	1105	-17	25
2011	559	555	554	83%	1114	-8	34

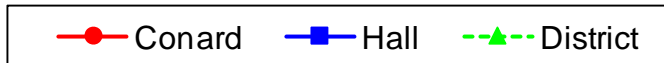
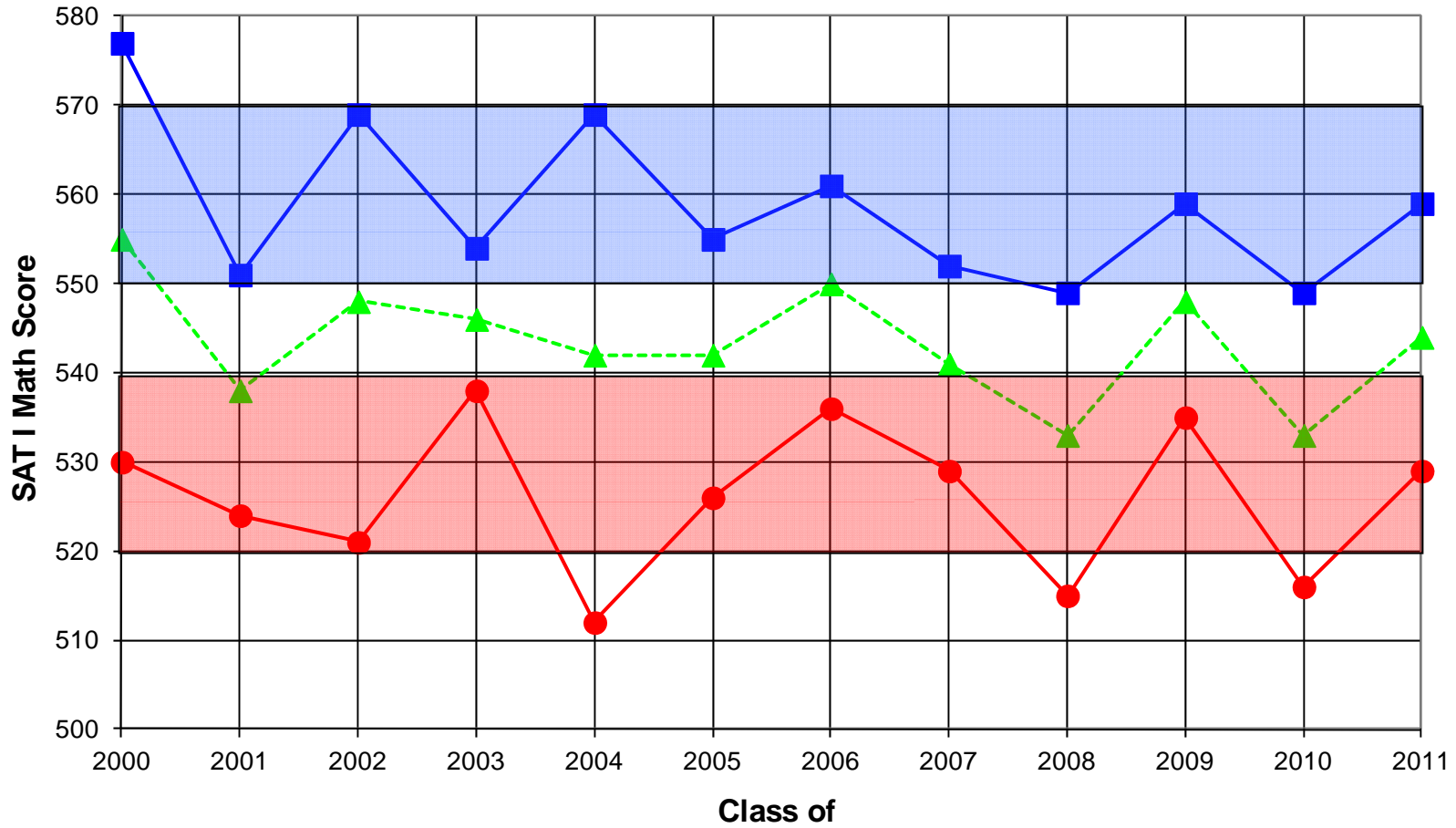
West Hartford District

Year	Math	Critical Reading (Verbal)	Writing	Participation	Total Score	Yearly Change	Cumulative Change from 1992
1992	530	522		92%	1052		
1993	530	532		92%	1062	10	10
1994	530	530		94%	1060	-2	8
1995	547	543		93%	1090	30	38
1996	535	535		95%	1070	-20	18
1997	548	551		95%	1099	29	47
1998	546	547		93%	1093	-6	41
1999	544	543		92%	1087	-6	35
2000	555	544		91%	1099	12	47
2001	538	534		91%	1072	-27	20
2002	548	543		90%	1091	19	39
2003	546	549		88%	1095	4	43
2004	542	539		90%	1081	-14	29
2005	542	542		86%	1084	3	32
2006	550	550	538	87%	1100	16	48
2007	541	540	540	90%	1081	-19	29
2008	533	531	535	87%	1064	-17	12
2009	548	551	553	85%	1099	35	47
2010	533	539	539	83%	1072	-27	20
2011	544	544	544	86%	1088	16	36

Connecticut Public Schools (All Schools prior to 2001)

Year	Math	Critical Reading (Verbal)	Writing	Participation	Total Score	Yearly Change	Cumulative Change from 1992
1992	501	500			1001		
1993	503	500			1003	2	2
1994	504	499			1003	0	2
1995	506	504		81%	1010	7	9
1996	504	507		79%	1011	1	10
1997	507	509		79%	1016	5	15
1998	509	510		81%	1019	3	18
1999	509	510		80%	1019	0	18
2000	509	508		80%	1017	-2	16
2001	503	502		82%	1005	-12	4
2002	503	502		83%	1005	0	4
2003	508	504		84%	1012	7	11
2004	508	508		85%	1016	4	15
2005	512	510		86%	1022	6	21
2006	510	505	504	84%	1015	-7	14
2007	503	500	501	84%	1006	-9	5
2008	507	503	506	83%	1011	4	9
2009	508	503	506	70%	1015	1	10
2010	509	504	508	73%	1015	4	14
2011	505	502	506	81%	1007	-8	6

SAT I - Math Score Long Term Trends

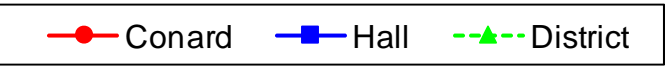
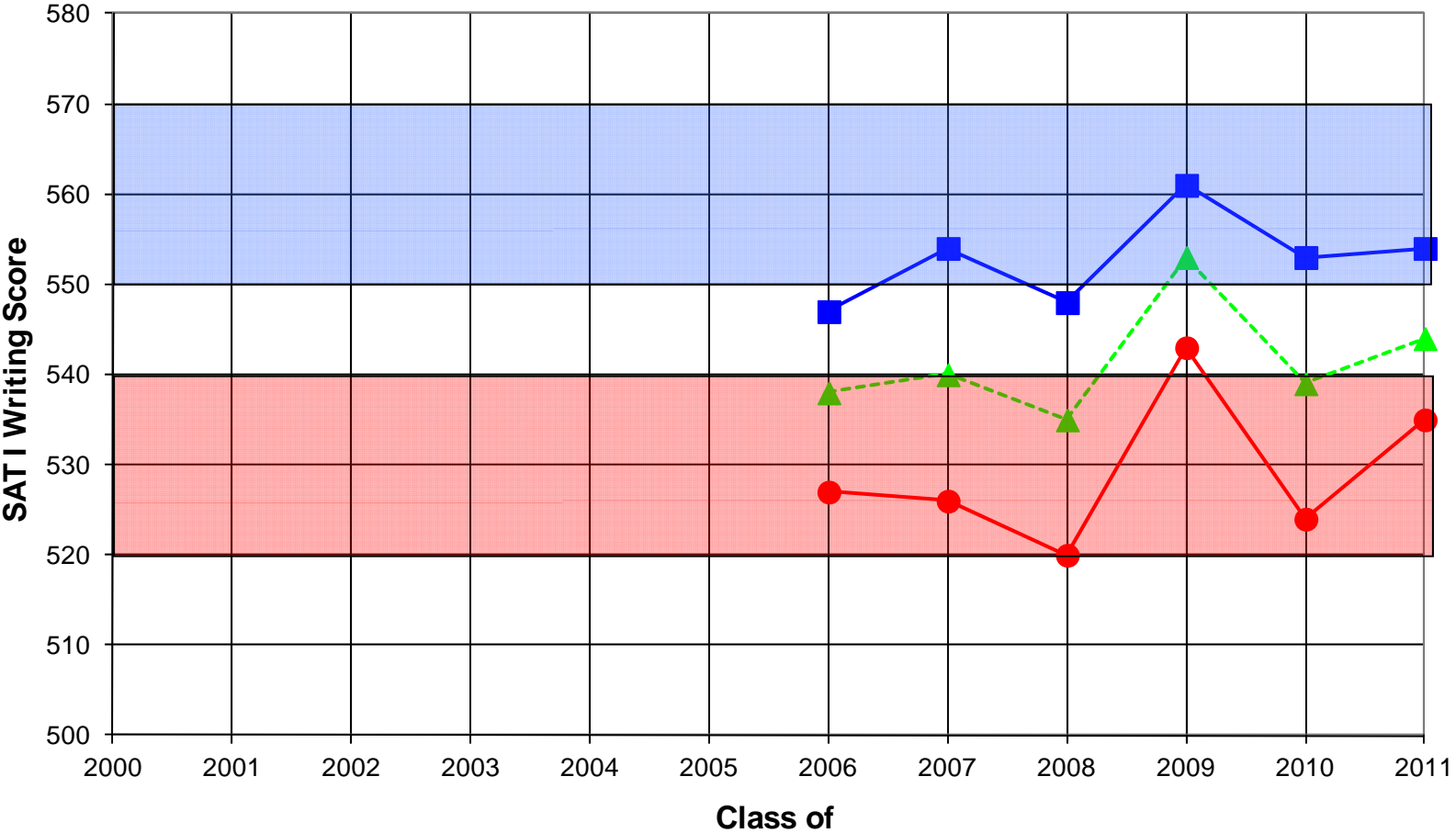


SAT I - Critical Reading Score Long Term Trends



—●— Conard —■— Hall - -▲- - District

SAT I - Writing Score Long Term Trends



Advanced Placement (AP) Scores:

The attached tables summarize the results of the 2011 administration of AP exams. The AP program gives students the opportunity to pursue college-level studies while still in high school and to receive advanced placement, credit, or both in college. The courses are very challenging and provide the student an opportunity to learn a subject in depth, to develop analytical reasoning skills, and to form disciplined study habits that can contribute to continued success in college.

Each exam is scored on a 5-point scale, where a 5 represents the highest score possible and 1 is the lowest. Each individual college decides which AP exam grades they will accept for advanced placement and/or credit in which subject area; many accept 3 or above and almost all accept a score of 4 or 5.

2011 was another in a string of record breaking years for the AP Program in WHPS – we had a total of 1,004 students take 1,992 AP exams. That is an increase of 95 students and 230 exams from 2010's record levels. The participation rate, which is the total number of exam takers divided by the grade 11 and 12 enrollment, averaged 66.75% for the district, which was the highest it has ever been. European History, Psychology, Biology and Environmental Science saw substantial increases in the number of exams taken this year. In total AP exams were taken in 25 different subjects.

Conard Results:

- 547 students took 1,104 exams. Average score was 3.11 and 69% received a 3 or higher
- Number of exam takers increased by 7%, and the participation rate increased to 76% - an all time high
- Number of exams increased 13%
- Most popular exam – Psychology – 164 students, mostly juniors took exam, 86% received a 3 or higher
- 59.2% of the class of 2011 earned a 3 or higher on at least one AP exam according to the College Board's data set – the highest ever

Hall Results:

- 457 students took 888 exams. Average score was 3.38 and 74% received a 3 or higher
- Number of exam takers increased 15% and participation increased to 58.7%
- Number of exams increased by 13%
- Most popular exam – Psychology – 176 students took exam, 64% received a 3 or higher
- 46.9% of the class of 2011 earned a 3 or higher on at least one exam according to the College Board's data set.

A final note about average scores and percent of students earning a 3 or higher - this is the one area of test reporting where higher is not always better. It is easy to get high average scores on the AP exam – just limit the test takers to students who will score a 5. But enrollment in AP courses should be much more than getting a 5 on the exam. Many

students, who will not get 5's or 4's or even 3's on the exam can benefit from the challenging curriculum and content provided by these courses.

2011 AP Exam Results

Exam	Conard		Hall	
	Number of Tests	% 3 or higher	Number of Tests	% 3 or higher
Art (All)	10	80%	18	83%
English Language	136	82%	67	96%
English Literature	128	70%	64	73%
French Language	27	26%	12	67%
Spanish Language	42	100%	37	89%
Spanish Lit	17	94%	0	N/A
Calculus AB	54	72%	69	77%
Calculus BC	11	91%	23	100%
Statistics	35	77%	34	50%
Biology	87	68%	44	91%
Chemistry	30	73%	52	90%
Physics B	37	70%	37	97%
Environ. Science	66	45%	22	68%
Econ. – Micro	49	45%	36	50%
Econ. – Macro	49	47%	36	50%
European History	88	70%	68	74%
US History	83	64%	88	61%
Psychology	146	71%	176	64%
Other exams taken	Phys C: Mech (1), Chinese (1). Govt. US (4)		Music Theory(1), Chinese (2), Physics C (1), Comp Sci (1)	
Totals	1,104	69%	888	74%

AP Scholars

The College Board as part of its AP program recognizes students for excellence in both participation and scores on the students' AP exams. Students were recognized at Conard and Hall based on their cumulative results through the 2011 AP examinations.

Level	Conard	Hall
AP Scholar – Students who have earned a 3 or higher on 3 AP exams	64	45
AP Scholar with Honor – Students who have earned a 3 or higher on 5 AP exams and an average of at least 3.25 on all AP exams taken	29	34
AP Scholar with Distinction – Students who have earned a 3 or higher on 5 AP exams and an average of at least 3.5 on all AP exams taken	61	43
National AP Scholar – Students who have earned a 4 or higher on 8 AP exams and an average of at least 4.0 on all AP exams taken	12	6

UConn Early College Experience (ECE)

UConn Early College Experience (ECE) is an opportunity for students to take UConn courses while still at Conard or Hall. Every UConn ECE course is equivalent to the same course at the University of Connecticut. Courses are taught at Conard and Hall by teachers who have been certified as adjunct faculty members by the University of Connecticut. Our students earn UConn credits for a fraction of the cost (\$25 per credit) had the same course be taken on a college campus. Students must receive a grade of C or above to earn UConn ECE credit. While not all colleges and universities accept the UConn ECE credits, many do.

UConn ECE credits are offered in 15 courses combined across Conard and Hall including both AP Courses and non AP courses such as Discrete Math. The table below shows the total numbers of students who earned UConn ECE credit in the last 4 school years. The popularity of this option has grown by about 70% over the last three years.

Course	2007-08	2008-09	2009-10	2010-11
21 st Century Lit*	N/A	N/A	N/A	4
Biology	63	74	48	67
Calculus AB	39	32	45	51
Calculus BC	13	10	10	4
Discrete Math*	N/A	N/A	2	71
Economics Macro	22	19	25	19
Economics Micro	22	19	25	19
English Language	23	27	28	52
English Literature	51	44	56	67
Environmental Science	N/A	10	18	37
European History	11	5	12	32
French Language	11	9	9	5
Ind. Family Development*	N/A	28	63	63
Physics B	14	7	6	6
Spanish Language	16	15	24	15
Statistics	59	36	51	27
Total Tests	344	335	422	539

* No AP Exam in this course

Performance on the Board Goal:

The Board Goal states that 60% of high school graduates who enter high school as 9th graders will successfully complete at least 1 Advanced Placement course during high school. The table below shows the calculation of the AP statistic for the Classes of 2004 through 2011 at Conard and Hall. In this calculation we look at graduating seniors who were enrolled in West Hartford Public Schools at the start of their 9th grade year and count how many successfully completed 1 or more AP courses during their years in West Hartford Public Schools. Successfully completed was defined as earning a C or higher in the AP course. At Conard we have seen a steady proportion of about 70% of students successfully completing an AP course in 4 of the last 5 years. At Hall, the strong performance continues

with 74% of 2011 graduates successfully completing one or more AP courses. We have met this Board goal five straight years at both high schools.

School	Year	Grads who entered as 9 th graders	Number of grads who successfully completed 1 or more AP courses	Percent
Conard	Class of 2004	260	144	55%
	Class of 2005	281	146	52%
	Class of 2006	276	163	59%
	Class of 2007	318	226	71%
	Class of 2008	283	182	64%
	Class of 2009	273	194	71%
	Class of 2010	315	226	72%
	Class of 2011	338	241	71%
Hall	Class of 2004	308	185	60%
	Class of 2005	319	190	60%
	Class of 2006	317	198	62%
	Class of 2007	353	249	71%
	Class of 2008	323	212	66%
	Class of 2009	354	250	71%
	Class of 2010	340	232	68%
	Class of 2011	341	252	74%

Number of AP Exams taken by Subject Area

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Art (Drawing/General)	23	16	17	19	13	7	6	21	40	28
Biology	114	131	146	181	189	115	110	130	96	131
Calculus - AB	43	37	40	35	60	78	98	93	116	123
Calculus - BC	36	31	30	29	34	27	27	34	25	34
Chemistry	32	73	54	40	85	74	68	70	84	82
Economics - Macro	65	54	38	53	30	47	53	70	65	85
Economics - Micro	43	47	33	48	30	45	53	52	77	85
English Lit. & Comp.	133	121	78	102	116	101	155	144	182	192
English Language	155	151	147	171	205	201	210	244	221	203
Environmental Science						35	36	47	62	88
European History	106	102	56	103	64	72	80	56	47	156
French Language	24	25	25	25	34	49	40	37	43	39
Physics B	70	30	36	47	48	40	54	48	51	74
Psychology	40	31	116	115	151	202	162	190	247	322
Spanish Language	56	38	47	53	79	81	97	106	88	79
Spanish Literature			0	15	7	16	8	25	15	17
Statistics	49	35	30	44	42	55	41	56	79	69
U.S. History	149	94	158	131	171	161	196	188	204	171
Other	18	31	16	18	19	31	20	27	20	14
Total	1156	1047	1067	1229	1377	1437	1514	1638	1762	1992

AP Exam Scores - Historical Summary

Conard High School

<u>Year</u>	<u>Subjects</u>	<u>Exams</u>	<u>Avg Score</u>	<u>Percent 3 or higher</u>	<u>Candidates</u>	<u>11-12 Enrollment</u>	<u>Participation Rate</u>	<u>State Rank</u>	<u>AP Equity & Excellence</u>
1994	11	204	2.99	63%	173	473	36.6%	1st	
1995	11	249	3.07	64%	186	503	37.0%	2nd	
1996	11	203	3.14	71%	146	532	27.4%	6th	
1997	11	198	3.44	80%	153	571	26.8%	4th	
1998	14	257	3.04	66%	181	619	29.2%	6th	
1999	17	381	3.31	76%	238	601	39.6%	2nd	
2000	17	434	3.24	74%	257	633	40.6%	3rd	
2001	19	544	3.08	67%	320	681	47.0%	2nd	
2002	20	587	3.13	72%	322	710	45.4%	2nd	
2003	22	575	3.21	74%	333	669	49.8%	2nd	
2004	21	521	3.36	75%	314	627	50.1%	3rd	
2005	21	663	3.23	71%	384	646	59.4%	1st	38.4%
2006	21	776	3.24	71%	417	678	61.5%	1st	49.4%
2007	26	778	3.25	74%	407	697	58.4%	1st	47.8%
2008	23	887	3.09	68%	433	652	66.4%	NA	50.6%
2009	22	961	3.21	71%	482	681	70.8%	1st	52.7%
2010	23	978	3.26	73%	512	747	68.5%	1st	59.5%
2011	23	1104	3.11	69%	547	726	75.3%		58.5%

Hall High School

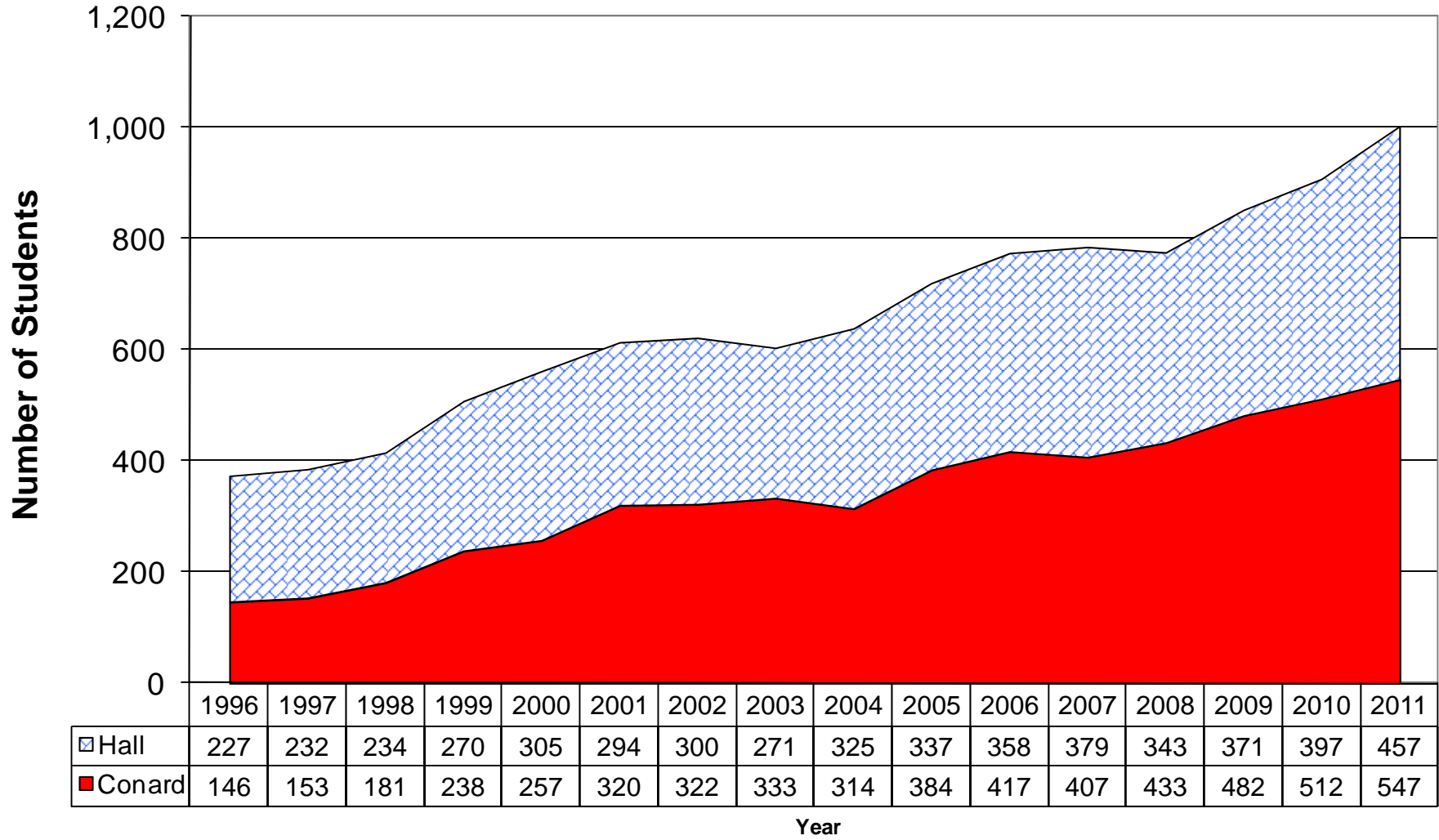
<u>Year</u>	<u>Subjects</u>	<u>Exams</u>	<u>Avg Score</u>	<u>Percent 3 or higher</u>	<u>Candidates</u>	<u>11-12 Enrollment</u>	<u>Participation Rate</u>	<u>State Rank</u>	<u>AP Equity & Excellence</u>
1994	16	283	3.63	86%	189	559	33.8%	2nd	
1995	18	363	3.64	84%	209	486	43.0%	1st	
1996	14	396	3.48	81%	227	553	41.0%	1st	
1997	15	425	3.68	88%	232	563	41.2%	1st	
1998	18	406	3.69	85%	234	604	38.7%	1st	
1999	19	498	3.66	84%	270	583	46.3%	1st	
2000	18	507	3.62	83%	305	596	51.2%	1st	
2001	23	536	3.60	84%	294	678	43.4%	4th	
2002	22	569	3.77	89%	300	691	43.4%	3rd	
2003	18	472	3.82	88%	271	718	37.7%	9th	
2004	18	546	3.95	92%	325	739	44.0%	4th	
2005	22	566	3.75	86%	337	731	46.1%	4th	46.3%
2006	21	601	3.84	89%	358	745	48.1%	4th	47.9%
2007	23	668	3.81	88%	379	769	49.3%	7th	54.0%
2008	20	627	3.82	87%	343	754	45.5%	NA	44.7%
2009	22	677	3.88	87%	371	763	48.6%	6th	50.4%
2010	23	784	3.43	76%	397	781	50.8%	9th	52.9%
2011	23	888	3.38	74%	457	779	58.7%		46.9%

AP Exam Scores - Historical Summary

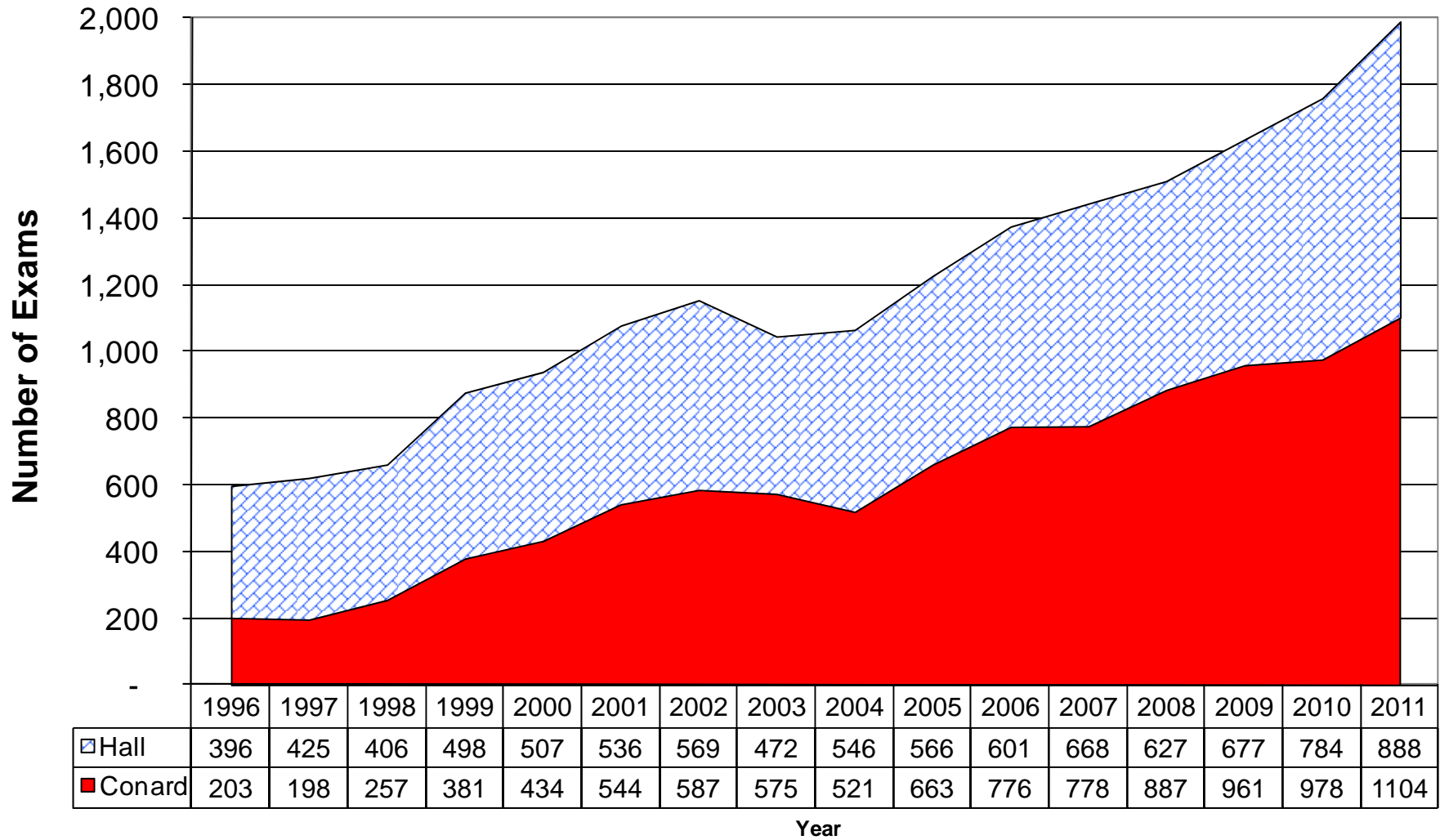
West Hartford Public Schools

	<u>Subjects</u>	<u>Exams</u>	<u>Avg Score</u>	<u>Percent 3 or higher</u>	<u>Candidates</u>	<u>11-12 Enrollment</u>	<u>Participation Rate</u>	<u>State Rank</u>	<u>AP Equity & Excellence</u>
1994	16	487	3.36	76%	362	1032	35.1%	1st	
1995	18	612	3.41	76%	395	989	39.9%	1st	
1996	14	599	3.36	78%	373	1085	34.4%	2nd	
1997	15	623	3.60	85%	385	1134	34.0%	1st	
1998	18	663	3.44	78%	415	1223	33.9%	3rd	
1999	19	879	3.51	81%	508	1184	42.9%	1st	
2000	18	941	3.44	79%	562	1229	45.7%	1st	
2001	24	1080	3.34	75%	614	1359	45.2%	1st	
2002	24	1156	3.44	80%	622	1401	44.4%	2nd	
2003	22	1047	3.49	80%	604	1387	43.5%	5th	
2004	22	1067	3.66	84%	639	1366	46.8%	3rd	
2005	22	1229	3.47	78%	721	1377	52.4%	2nd	42.4%
2006	22	1377	3.50	79%	775	1423	54.5%	1st	48.7%
2007	29	1446	3.51	80%	786	1466	53.6%	2nd	50.9%
2008	25	1514	3.39	76%	776	1406	55.2%	NA	47.7%
2009	26	1638	3.49	78%	853	1444	59.1%	4th	51.6%
2010	27	1762	3.33	75%	909	1528	59.5%	4th	56.2%
2011	25	1992	3.23	71%	1,004	1505	66.7%		52.7%

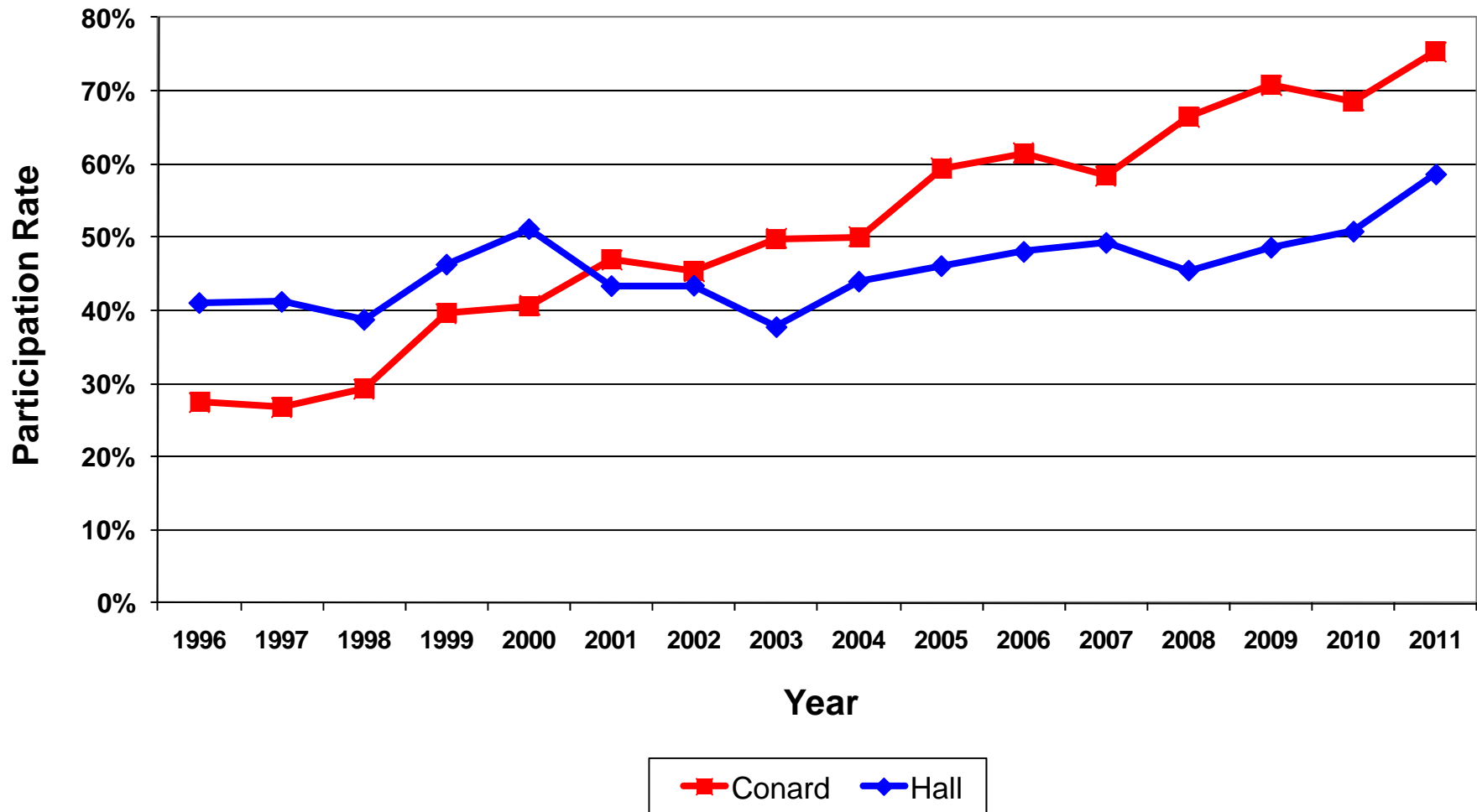
Number of Students Taking AP Exams



Number of AP Exams Taken



"Participation" Rate - Number of students taking an AP exam/Number of 11th and 12th graders



Average AP Exam Score

