PORTRAIT of the MOVEMENT

CCSA
California Charter Schools Association

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California Charter Schools Association

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Executive Summary

In 2014, the California Charter Schools Association (CCSA) released a "Portrait of the Movement" report that both celebrated the accomplishments made by charter schools during the previous five years and outlined the challenges and unknowns that lay ahead in the monumental transition to Common Core standards. The report documented the positive shift in performance that had taken place in California charter schools, from a U-shape in 2008 (with disproportionately more schools at the high and low ends of the performance spectrum), to an emerging J-shape in 2013 (with fewer underperforming and more outperforming schools). In that report, we highlighted that the state's transition to Common Core presented a moment of great promise and great risk for California's charter schools. Many questioned whether the transition to new state standards and accountability systems would lead to a significant loss of momentum, or worse yet, backsliding in our multi-year effort to improve the academic performance of the overall charter school sector. The 2017 Portrait of the Movement report in the pages ahead reveals that California's charter schools are successfully making progress towards full Common Core implementation and continue to outperform traditional public schools at disproportionately high numbers.

To better appreciate current performance and anticipate future trends, it is helpful to understand our past. Figure 1 on the next page shows the divergent distribution of charter schools in the 2007-08 Similar Students Measure (SSM) using the Academic Performance Index (API), illustrating a U-shape distribution of performance. By the conclusion of API testing five years later in 2012-13, the distribution of charter performance had improved, shifting into a J-shape such that many more charter schools were concentrated on the outperforming (right side) of the distribution.

The transition to Smarter Balanced assessments (SBAC) in 2014-15 resulted in a step back for charter schools, with proportionally fewer schools in the top 25% and an increase in underperforming charters. As this was the first administration of the new assessments and standards, these results may have reflected a variety of factors in addition to academic performance, such as new testing methodology or computer testing difficulties. The second administration of the SBAC in 2015-16 showed charter schools righting the ship to some degree, nearly returning to the performance seen in the last year of API testing. We hope to continue to see this trend in future years. While this comparison of charter performance over time provides a helpful look back, it is important to note that 2007-08 through 2012-13 are data based on API and a different set of standards, whereas 2014-15 and 2015-16 are based on SBAC tests. These key differences in both standards and assessments thus make the two distributions not directly comparable, and we've designated this on the below table to further highlight this distinction.

FIGURE 1
Historical Statewide Distribution on Top and Bottom Quartiles of Similar Students Measure (SSM)

	School Year	Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%
SBAC	2015-16	10%	16%	29%	32%	17%	11%
	2014-15	10%	17%	30%	31%	18%	12%
API	2012-13	9%	15%	26%	37%	21%	15%
	2011-12	12%	18%	33%	36%	23%	15%
	2010-11	11%	18%	32%	37%	22%	16%
	2009-10	13%	18%	34%	35%	22%	15%
	2008-09	13%	19%	34%	33%	21%	15%
	2007-08	15%	21%	35%	32%	22%	15%

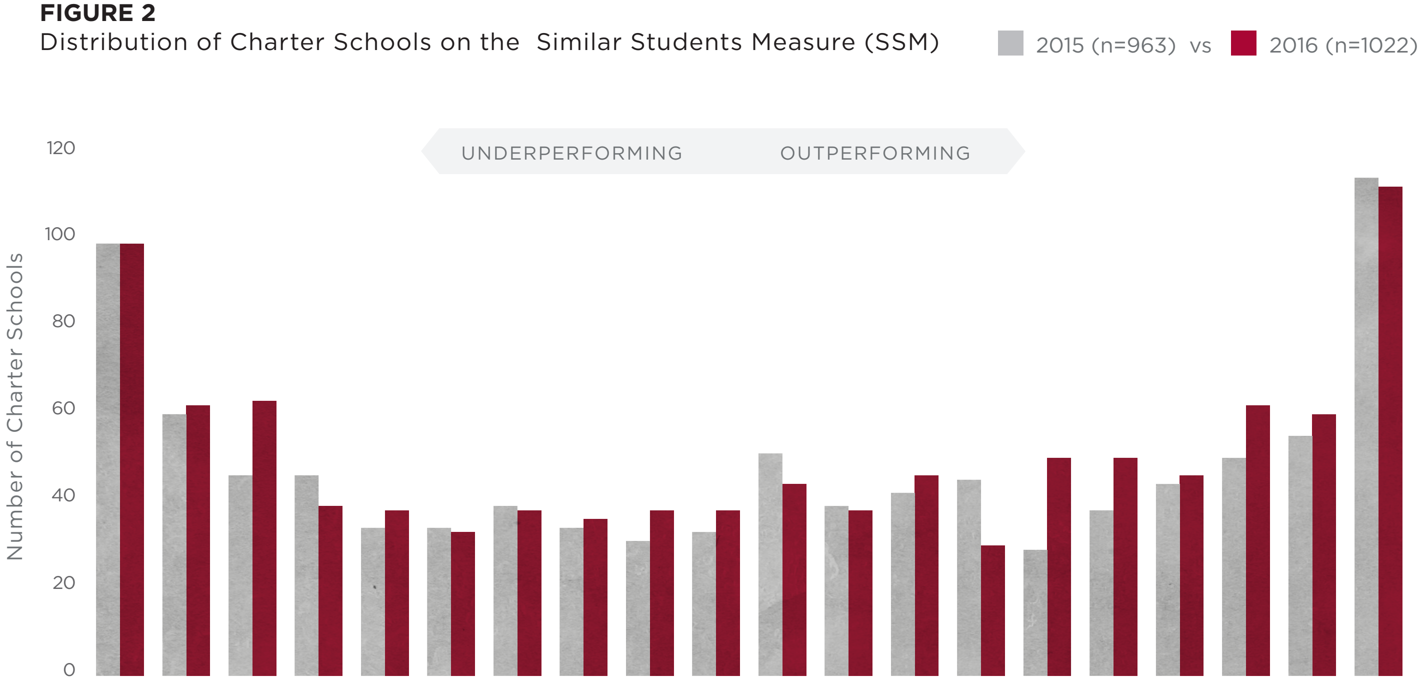
Key Findings

Using CCSA's Similar Students Measure (SSM) we find that charter schools are overrepresented at the highest (most outperforming) and lowest (most underperforming) ends of the distribution, making up the "Shape of the U" that we have historically seen for charter schools in California. As shown in Figures 1 and 2, in 2016, 11% of charter schools (over twice the expected proportion) performed in the top 5% of all schools statewide. While the degree of charter academic outperformance is not quite as pronounced as it was before the transition to Common Core, the growth seen over 2007-08 to 2012-13, or the last six years of API data, lead us to anticipate that charters are on the path towards academic success during this period of early standards transition.

In the absence of clear academic accountability criteria from the state, CCSA developed the Average Point Difference (APD) and has used this measure to help schools understand their SBAC scale score results and interpret performance for the last two years. The State Board of Education recently voted to adopt the methodology used in the APD measure as the metric for California's academic indicator (they refer to it as "Distance from Level 3"). Using the APD, we find that for most subgroups on average charter schools performed the same or better on Common Core state tests than did traditional public schools (TPS) (see Figure 8).

When we rank APD scores statewide into deciles, we see that the median charter school state rank of 6 out of 10 is statistically significantly higher than the TPS median rank of 5 (see Figure 3). This means that California charter schools are not only doing

FIGURE 2
Distribution of Charter Schools on the Similar Students Measure (SSM)



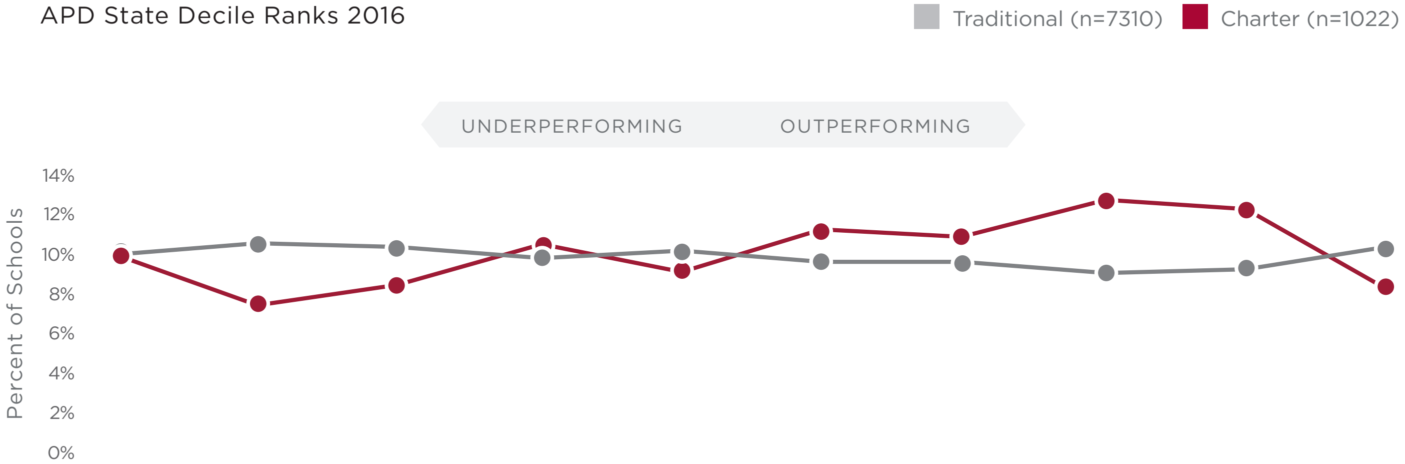
significantly better to help all students meet standards, but on average charter schools are ranking higher statewide.

Historically disadvantaged students are much more likely to achieve academic success in a charter school than if they attended a traditional school. Latino and African-American charter school students are twice as likely as their TPS peers to be attending a school in the top 10% statewide and over three times as likely to be attending a top 5% school statewide. While some bright spots emerge, there remain clear areas for improvement across the charter sector in creating equally positive outcomes for English Learners and students with disabilities. This is discussed in more detail in Part 2.

Findings for historically disadvantaged students are particularly notable in urban settings like Los Angeles Unified School District (LAUSD) where nearly half (43%) of LAUSD charter schools perform in the top quartile statewide – more than double the percent of LAUSD traditional public schools. Similarly in Oakland Unified School District (OUSD), 31% of charter schools perform among the top quartile statewide – nearly eight times the TPS percentage.

A closer look at charter school types show that charters operated by a Charter Management Organization (CMO) were highly concentrated in the top quartile. Also, consistent with API trends, classroom-based charter schools on average are

FIGURE 3
APD State Decile Ranks 2016



more likely to be higher performing than non-classroom based charters.

Taking Stock and Looking Forward

The 2017 Portrait of the Movement shows us that California's charter schools are successfully transitioning to Common Core and continue to outperform at disproportionately high numbers. On the one hand, we are reassured by the stability of charter school trends in performance since the transition from API. As such, this report celebrates the continued success of California charter schools in serving the most historically disadvantaged and vulnerable student groups. The findings show that charters are achieving academic success across various student demographic groups and geographies and within different charter school types. On the other hand, there are still areas for growth, as evidenced by the continued high number of underperforming charter schools, and even a minor uptick from 2012-13. We see room for continuous improvement and, as such, shine a light on areas for focus moving forward.

Overall, California's charter school movement has a robust foundation of success on which to build: charter schools have a stable history of outperformance, and CCSA presents a clear plan for how to address underperformance. For example, CCSA continues its academic accountability advocacy through the use of a clear, straightforward academic accountability framework and by providing constructive pressure on the California charter sector to accelerate at a faster pace to greater levels of academic performance. CCSA persisted with its Public Call for Non-Renewal to advocate for the closure of chronically underperforming charter schools in 2014-15, 2015-16, and 2016-17; years during which the state provided no definitive academic accountability metrics. CCSA's continued focus on our academic accountability framework thus maintained clear academic standards and accountability for charter schools during the academic accountability gap over the last three years. These consistent accountability efforts have helped positively impact the distribution of California charter school performance in the past and we believe we can continue the charge to improve performance in this early Common Core era.

As we embark on the 25th anniversary of California's Charter Schools Act, we celebrate the continued success of California's charter schools, particularly in serving the most historically disadvantaged and vulnerable student groups with high levels of success. The strength of the charter sector is evident in the trends, illustrated throughout this Portrait of the Movement, which have persisted over numerous years. We describe how these successes are spread among many different regions and types of charters detailed in this report, as well as highlighting areas of needed focus for improvement. Finally, we look to the work ahead in ensuring that charter schools are measured appropriately under California's new accountability system, prioritizing academic outcomes for students and ensuring that the next 25 years hold the same high standards and tremendous achievements for California's charter school movement.

Setting the Context

Before presenting current-year academic performance findings, we first provide historical context for why CCSA developed a Similar Students Measure and has used it as a primary lens for viewing charter performance in its annual Portrait of the Movement report. We describe charter schools' progress through 2012-13, explore early findings from 2014-15 and 2015-16, and describe differences in our performance analyses using data from the Smarter Balanced (SBAC) test as compared to the prior California Standards Tests (CST).

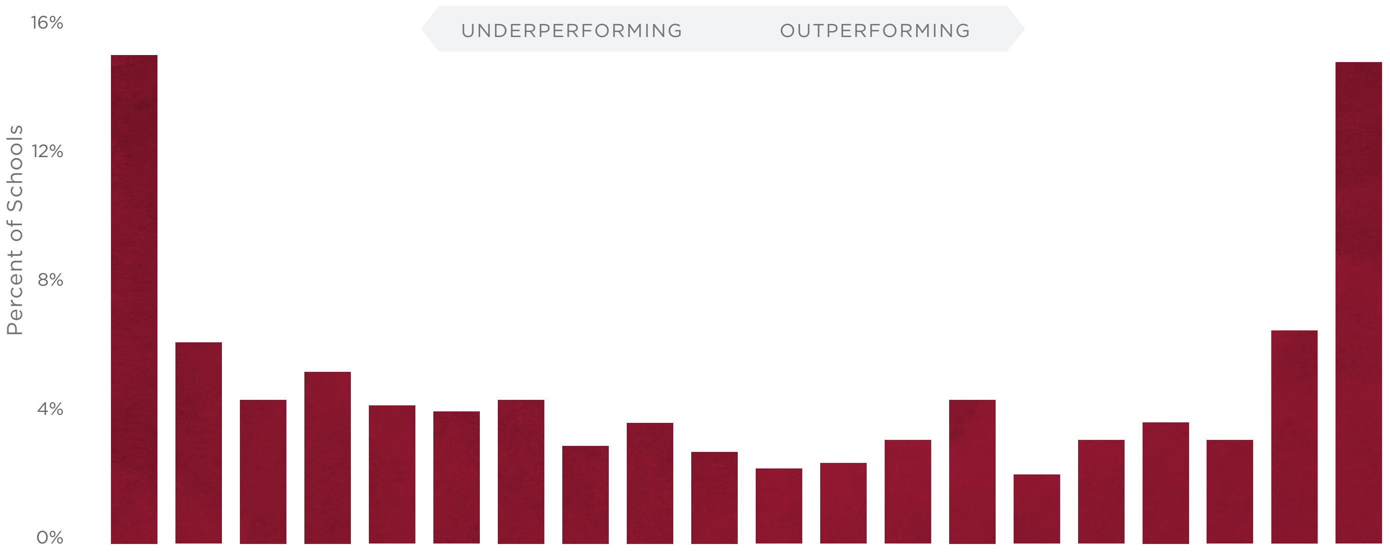
History of the Shape of the U

Since 2011, the California Charter Schools Association (CCSA) has issued the Portrait of the Movement to explore the academic outcomes charter schools were achieving in exchange for the greater flexibility and autonomy afforded under the Charter Schools Act. The Portrait of the Movement highlights the academic performance measure created by CCSA's research team in 2009, the Similar Students Measure (SSM). While the state-issued Academic Performance Index (API) was an important metric of overall proficiency, CCSA created the SSM to more directly evaluate schools' performance in comparison to other public schools across the state serving similar student demographics. Although student-level performance data is not publicly available and thus CCSA could not create a true student growth model, by controlling for student demographics, the SSM provided a clearer view of school impact than the API (which was highly correlated to the demographics of students served by the school).

While the API directly compared overall scores of all schools in the state, the SSM controlled for demographics of students served, helping to identify schools that out- and under-performed on API compared to schools serving similar students statewide. The initial 2009 SSM showed that a "Shape of the U" existed among charter school performance, indicating that a high concentration of charter schools scored among the highest and lowest performing schools in the state, with fewer charters in the middle.

The "Shape of the U" was a clear presentation of academic performance among charter schools which used a lens more illuminating than previous analyses primarily based on simple performance averages. It allowed CCSA to identify areas of success in the movement as well as areas of needed improvement. The measure clearly showed where great charter school achievements needed to be replicated in new schools and where stronger accountability was needed to address charter schools that repeatedly underperformed. The Portrait of the Movement earned national accolades for its contribution to charter school research, with the National Association of Charter School Authorizers (NACSA) naming the publication's first issue as national winner for Excellence in Advancing Knowledge.[1]

FIGURE 4
Distribution of Charter Schools on Percent Predicted API, 2007 – 2008 (n=561)

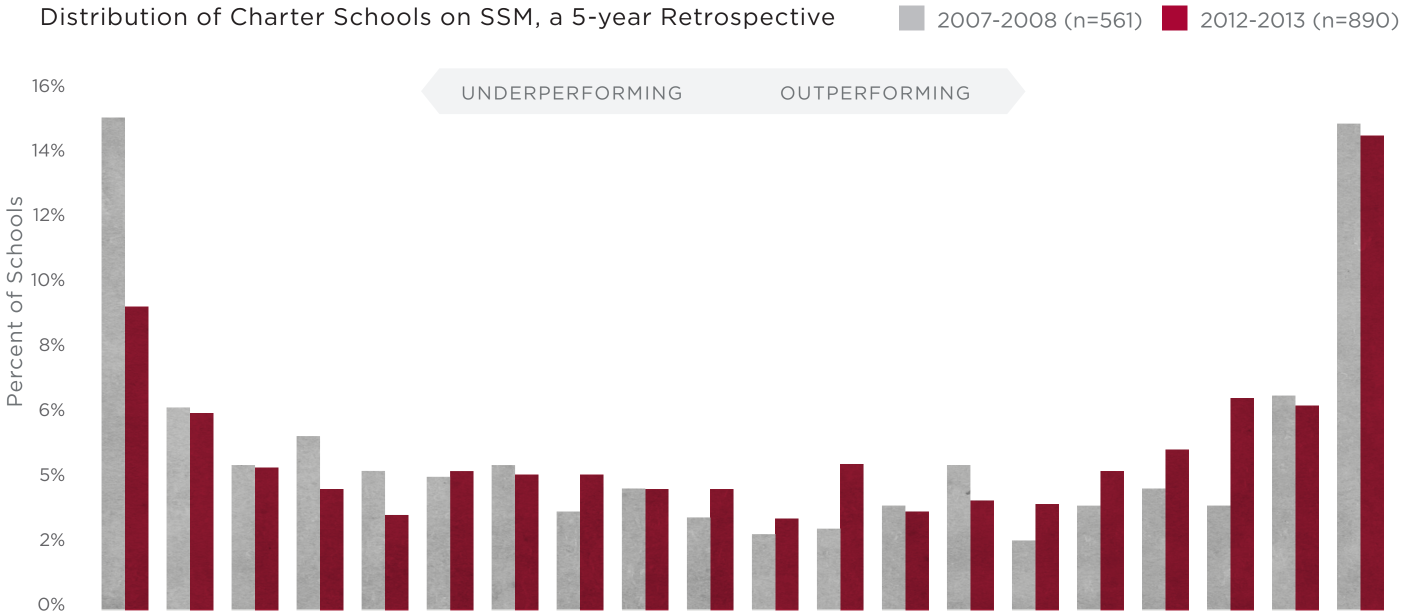


CCSA continued to publish Portrait of the Movement reports annually until the suspension of publicly reported testing data in the 2013-14 academic year as the state transferred to the new Common Core standards and Smarter Balanced Assessment Consortium (SBAC) tests.[2] The most recent Portrait of the Movement, issued in 2014, provided a five-year retrospective to illustrate how the charter school movement had made gains in growth and quality between 2007-08 and 2012-13. The 2014 Portrait of the Movement publication found that the charter school movement had made important strides in greatly reducing the number of schools on the underperforming side of the distribution while maintaining the high concentration of outperforming charter schools.

The 2013-14 academic year brought significant change to all California charter schools with the transition to Common Core State Standards and the implementation of new state testing via the California Assessment of Student Performance and Progress (CAASPP) system of assessments. The California State Board of Education stopped testing for a year to allow for schools to make the proper curriculum, teaching pedagogy, and testing accommodations needed for a successful transition to the Common Core standards and SBAC assessments.

Without any assessment data in 2015, CCSA was not able to publish our Portrait of the Movement report. Instead, in 2015 CCSA focused on studying what was happening in early Common Core implementation states to better understand what might happen for California charter schools. With the support of a

FIGURE 5
Distribution of Charter Schools on SSM, a 5-year Retrospective



National Leadership Activities grant from the U.S. Department of Education's Charter Schools Program, CCSA engaged with researchers and charter leaders to adapt our academic accountability framework to align with the new standards and assessments. Using these measures, CCSA continued with its Public Call for Non-Renewal to close chronically underperforming charter schools in 2014-15, 2015-16, and 2016-17 when there were no definitive academic accountability measures provided by the state.[3]

Now, with a baseline and growth year of SBAC testing results, we are again starting to be able to assess the current academic performance of charter schools. We have reason to approach the early trends both cautiously and with reason for optimism. The transition to the new standards will continue over the coming years and though we now have access to growth data across the two years of administering the new assessment, more time is needed to identify true trends in charter performance growth.[4] CCSA is hopeful that charter schools will demonstrate the same resilience and growth experienced between 2008 and 2013, and that future publications of the Portrait of the Movement will show a similar shift "from a U to a J shape" of performance for the charter school movement as more years of data become available.

Our early findings described in this report show that charter schools emerged from the monumental standards transition demonstrating relatively stable performance since the 2013 API results. Although the new assessment data shows a slight step back in academic performance from the previous testing results, charters are still achieving tremendous outcomes reflective of prior trends, especially with historically underserved student subgroups.

As with our past Portrait of the Movement reports, this report serves to shine a spotlight on the charter movement's many successes and reasons to continue charter school growth. It also serves as a catalyst to inspire the California charter school movement to undertake the difficult work of improving where challenges remain, including a continued focus on closing chronically underperforming charter schools.

Considerations During the Transition to SBAC

Starting with the first statewide administration in spring 2015, all public schools transitioned to the computer-based SBAC testing in English language arts (ELA) and mathematics. The new assessment was generally seen as an improvement over California's previous system, better measuring skills like critical thinking and preparedness for college and career, as well as now allowing teachers, students, and parents to measure student growth over time with the vertically aligned SBAC scale scores.[5] In order to maintain a consistent level of understanding for the public, CCSA made every attempt in this transition to retain a similar approach and methodology with our measures used in prior issues of the Portrait of the Movement.

Although for various technical reasons it was not completely possible to simply exchange the old Academic Performance Index (API) scores for SBAC scale scores, we preserved the intention of the SSM – evaluating schools' performance given the students served. One of the challenges we faced in the shift to SBAC was that only grades 3 through 8 and 11 are tested, meaning we no longer have testing data for grades 2, 9, and 10 as we did under the California Standards Tests (CSTs). This presents a problem, especially for high schools. Testing only 11th grade means the pool of students from which we previously drew student scores was reduced by about two-thirds. In the past, we required at least 50 test-takers across three grades tested for a high school to be included in our measure. We now include high schools having at least 30 test-takers in 11th grade. Also, data redactions required for student privacy also caused us to eliminate from our report the performance of a large number of high schools simply because they didn't have enough test takers to provide reliable results. Using 2016 enrollment by grade as a proxy, we see below that this change has resulted in excluding 86 schools from our analyses, including 58 charter high schools. We view the absence of data for this many schools as an urgent call for change and we hope the state takes action to address this lack of critical data soon.

The new test is fundamentally different from the prior system and makes reliable historical comparisons difficult. A positive outcome of the changes is that we were able to take the opportunity to improve upon our measures, adding improved demographic controls and grade level detail into the SSM.[6] We engaged with numerous external researchers to develop the SSM and ensure validity and reliability of our measure. In the end we have demonstrated that our updated SSM does have validity (see Appendix B) and still tells the big picture story of academic performance representative of what is happening in California charter schools.

FIGURE 6
Number of High Schools Included in Similar Students Measure After Applying Small School Filters (2015-16 CDE Confirmed Enrollment)

Type	9th +10th +11th >50 test-takers	11th >30 test-takers	Difference
Charter Schools	370	312	-58
Traditional Public Schools	1,057	1,029	-28
Total	**1,427**	**1,341**	**-86**

*Excludes Alternative/ASAM schools

PART 1

Charter School Performance Holds Steady in Transition

Understanding and Interpreting the SSM and APD

With the context of historic data and state assessment transition laid out in the previous section, Part 1 aims to not only explain CCSA's academic measures more in depth but to also provide a high-level analysis of how California charter schools and traditional public schools (TPS) perform on each of CCSA's metrics. In the absence of state metrics for academic performance since the last Portrait of the Movement was released, we believe that our measures provide a much needed look into student achievement to assess where we have outstanding quality and where additional focused work is needed.

In keeping with past Portrait of the Movement reports, this issue will focus largely on the Similar Students Measure "Shape of the U" graphs.

In addition, due to the transition to SBAC and suspension of state issued API scores, CCSA has developed the Average Point Difference (APD) measure to help schools and parents better understand their SBAC scale score results and interpret growth. CCSA was first to develop and report on two years of APD results and we are encouraged to see that the state has also recently voted to adopt "Distance from Level 3" for their academic performance measure, which uses the same methodology principles as CCSA's APD.[7] We believe it is worthwhile, then, to spend some time explaining how these measures are created and how to interpret the analyses and graphs and tables provided throughout this document. For a more technical detail on the measures, see Appendix A.

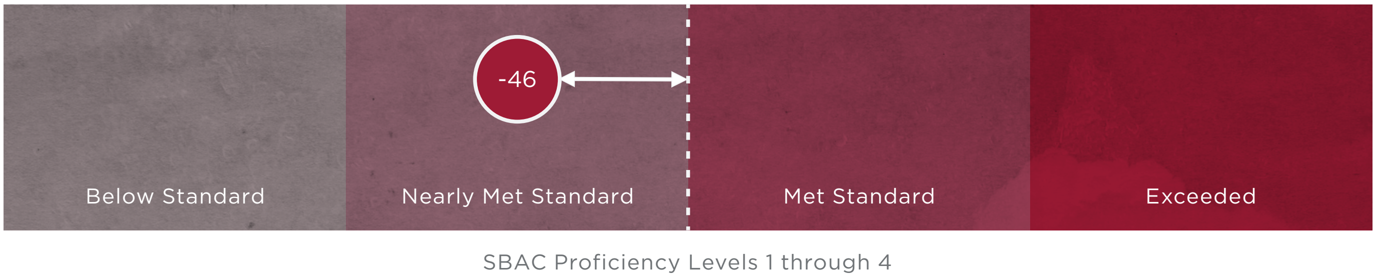
Average Point Difference

Understanding and Interpreting the APD

CCSA developed the Average Point Difference (APD) to better understand academic performance based on SBAC scale scores. Since establishing the APD in 2015 and publishing school- and district-level reports with this APD name, at this time we have not opted to rename it to match the state academic indicator, although it is essentially the same measure as the "Distance from Level 3" measure that the State Board of Education adopted in its January 2017 board meeting. Currently, SBAC results are reported in scale scores and in one of four performance levels: 1) Standard Not Met, 2) Standard Nearly Met, 3) Standard Met, and 4) Standard Exceeded.[8] The state academic indicator will be based in the same methodology as CCSA's APD measure, calculating a weighted average of school performance using the average student's distance from Level 3, however, CCSA uses publicly available school-level data which may produce slightly different results than what the state will generate with more precise student-level scale scores. Additionally, the California Department of Education has indicated it will calculate these metrics including only students continuously enrolled from fall norm day (when enrollment is officially counted) to the first day of testing, which may also lead to differing results.

In the absence of a state measure like the API, which helped interpret assessment results in aggregate at the school level, CCSA created the APD to provide an understanding of how a school is helping its students progress toward meeting grade level standards.[9] The measure uses the average scale scores, takes the difference from the met standard by grade and subject, and calculates an aggregated weighted score by school. The resulting APD means that the average student in the school scored that many scale score points above or below the met standard. In order to aid understanding and provide comparability, we also translate the school's APD into a 0-100 percentile rank so stakeholders can better contextualize school performance in comparison to other schools statewide. Figure 7 below provides a visual depiction of APD to help illustrate what it indicates.

FIGURE 7
Visual Demonstration of a School's (●) Average Point Difference Calculation

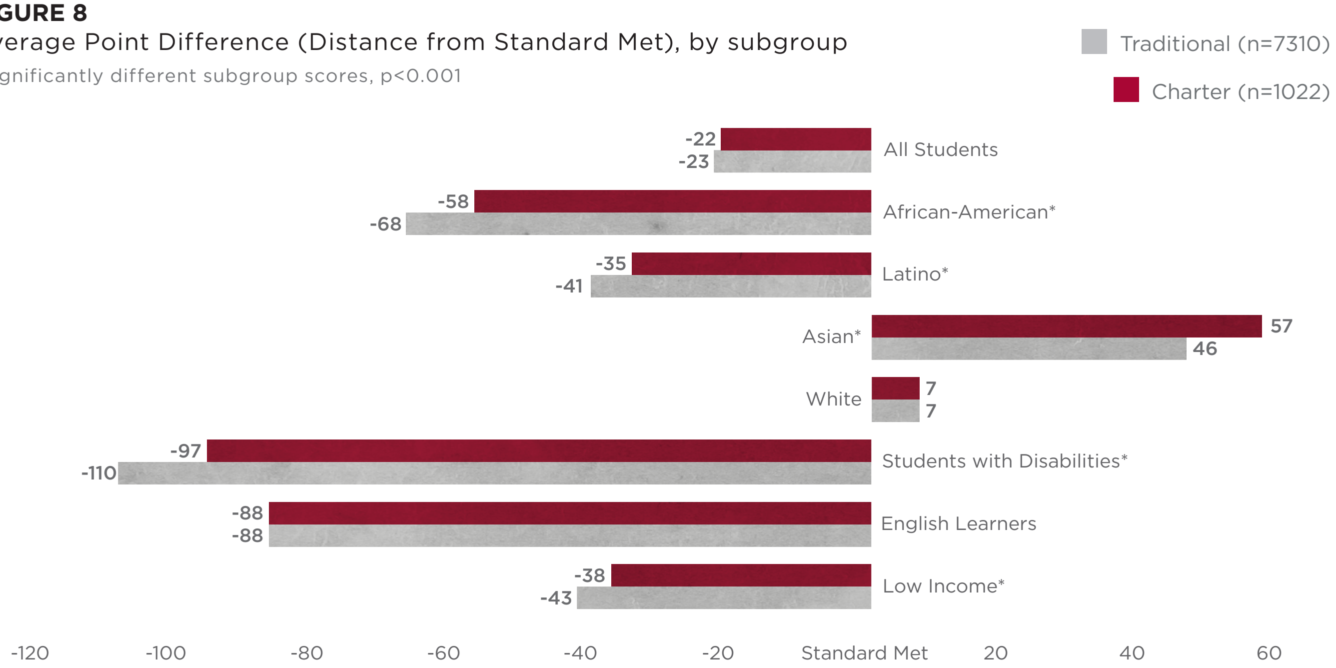


While much of the early reporting of schools' performance on SBAC only included the percent of students meeting and exceeding standards, research has criticized use of "percentage of proficient students" trends as being misleading.[10] We assert that rather than using only a "percent met or exceeded" measure that incentivizes schools to focus on students close to the proficient level, APD instead encourages schools to help each student raise his or her score as high as possible each year. The APD is a student-weighted average by grade and subject, allowing comparisons across all grade spans and subgroups. It also enables us to compare scores year to year and schools' growth toward proficiency for all students. In developing the APD, CCSA has positioned itself at the forefront of academic analysis and evaluation. While the state first released results from this academic indicator on status only in March 2017, CCSA already has two years of data from which to assess trends in the education landscape.

Summary of APD Findings

The graph below illustrates how we can use the APD to compare performance across subgroups. It shows that charter schools scored the same or better than traditional public schools on average for all subgroups in 2015-16. We see that overall both charter and traditional public school students average about 22 scale score points below the met

FIGURE 8
Average Point Difference (Distance from Standard Met), by subgroup
*Significantly different subgroup scores, p<0.001



Click this graph to interact with the data and learn more about results in your district.
snapshots.ccsa.org/pom-apd

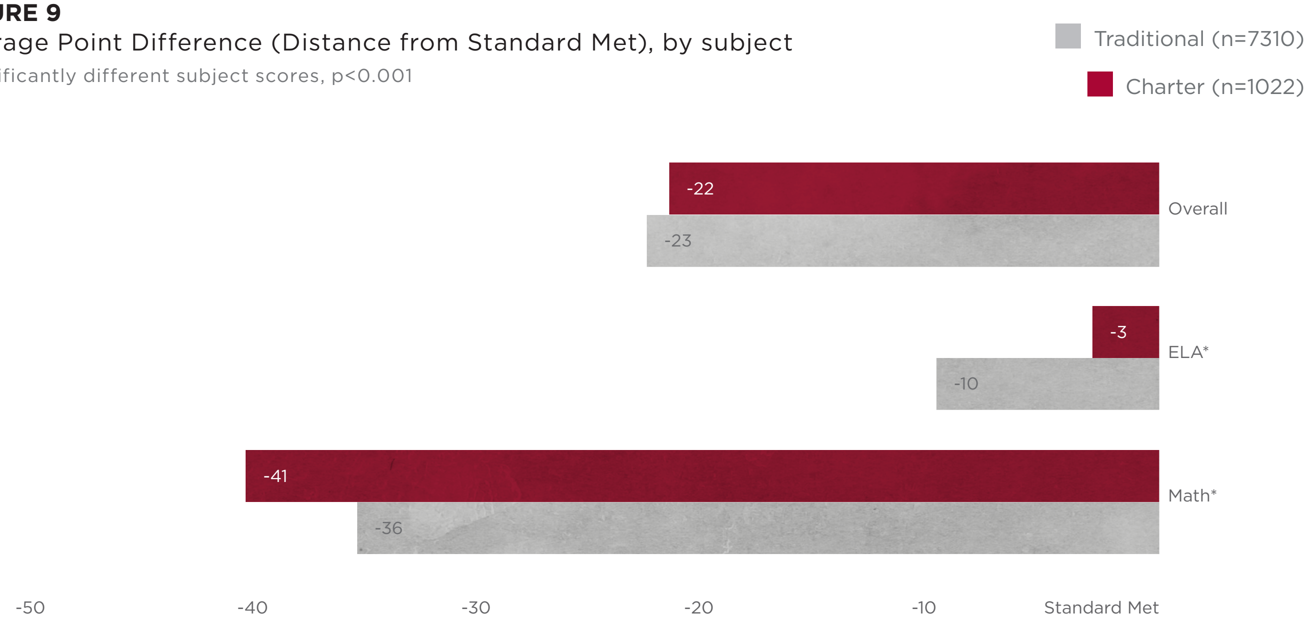
standard cut point (proficiency level 3). We also find that, statewide, African-American and Latino students score somewhat lower than the average for all students, but that for both subgroups charter schools are achieving statistically significantly higher results than their traditional public school peers. This means that there is less than a 1 in 1,000 chance that these findings occurred by statistical accident. The graph in Figure 8 shows that, unfortunately, all historically disadvantaged subgroups are performing below grade level, but charters are getting those students closer to the goal of proficiency.

Statewide, there has been a divergence in performance between ELA and math, with greater difficulties seen by all schools in the transition to the new math standards. If we look more closely at Average Point Difference by subject, it is clear that charters and traditional public schools have achieved substantially different results. In ELA, charters continue to achieve strong results, with the average student scoring only three scale score points below met, nearly achieving the standard in only the second year of testing. Not only is this a statistically significantly higher APD over traditional schools, the charter APD of 3 below met represents a 10-point growth over the 2015 APD for charter students in ELA (see Appendix E for 2015 results). The story is less encouraging for math as charter students average 41 points below the grade standard. While this is a 7-point growth over 2015 math scores and we are pleased to see positive progress, all schools certainly have room for further improvement. Building on the strengths of literacy achievement, charters should next turn their efforts towards increasing math fluency and mastery.

FIGURE 9

Average Point Difference (Distance from Standard Met), by subject

*Significantly different subject scores, p<0.001



Predicting Future Success with Grade 3 Achievement

Using the APD to assess average distance from met allows for analysis of key grade level benchmarks for student success. While the overall average APD for math is in need of improvement, we find that charter schools are actually excelling in elementary school grades (see Appendix C for all grade level results). This becomes exceedingly important given the body of research concluding that third grade is a crucial point in a child's learning that predicts their entire academic trajectory.[11] Students who do not achieve proficiency by third grade are much more likely not to graduate from high school, and the findings are even more impactful for students of color.

It is important then to look more closely at SBAC scores for grade 3 and encouraging to see what the grade-level APD results show for charter students. We find that charter schools are supporting their students to achieve levels much closer to proficiency than traditional schools overall and in nearly all subgroups. In contrast to the statewide charter average for math, which was 41 points below met, charter school third graders are able to achieve a much higher average of 9 scale score points below standard. Additionally, the average APD for charter schools in ELA is 12 scale score points below met. Both are significantly higher than traditional school averages for third graders, at 13 points below math standard and 19 points below ELA standard.

FIGURE 10
Average Point Difference (Distance from Standard Met), Math Grade 3
Significantly different subgroup scores, **p<0.01, *p<0.05

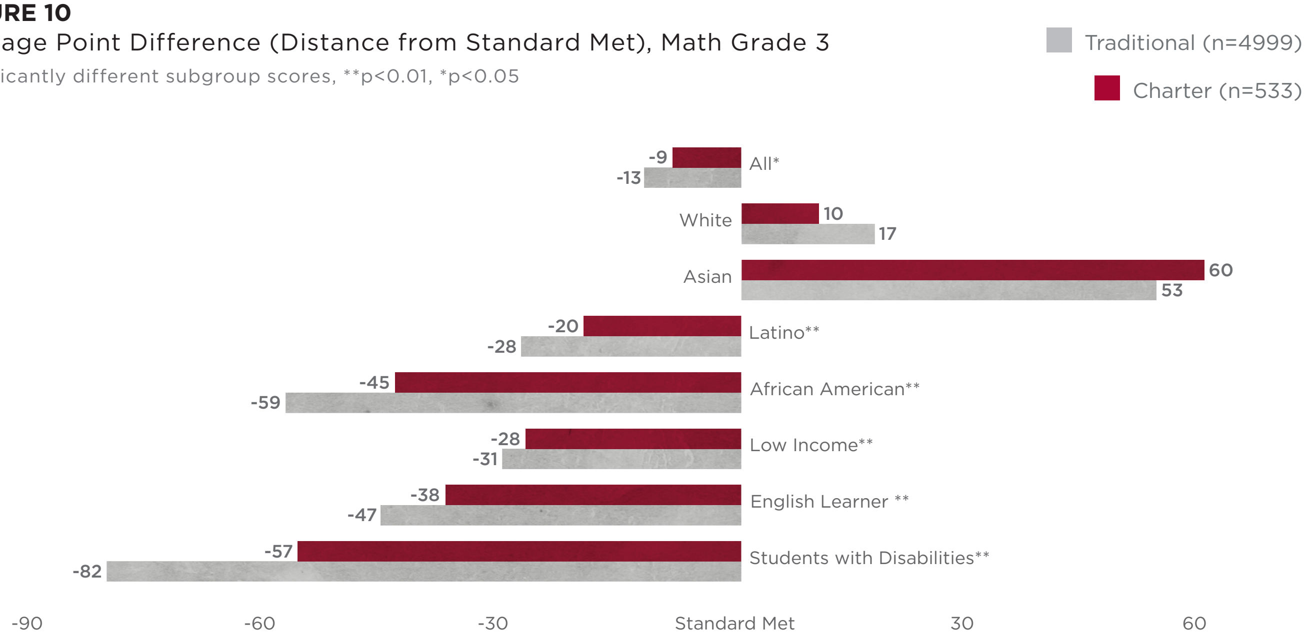
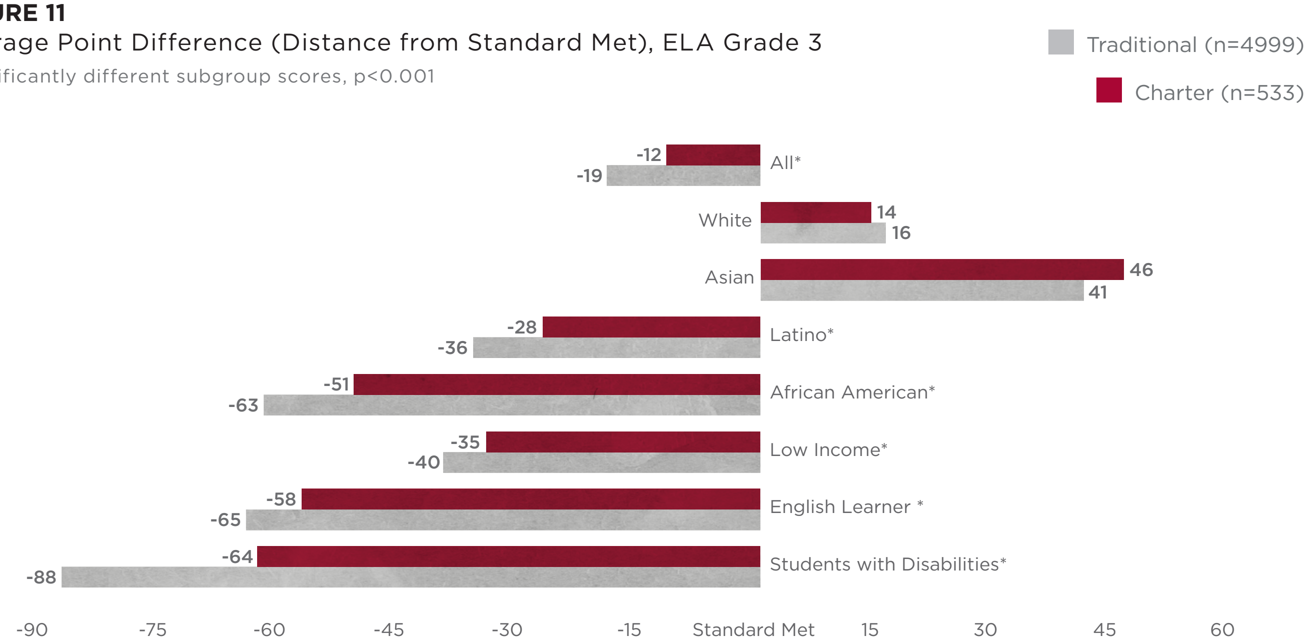


FIGURE 11

Average Point Difference (Distance from Standard Met), ELA Grade 3

*Significantly different subgroup scores, p<0.001



Figures 10 and 11 above show white and Asian students are performing at and above proficient levels. Research indicates that achieving third grade proficiency puts these students on pace for high school graduation.[12] However, this same research also indicates that the impact on African American, Latino, and low income students of performing below the third grade standard can be more than twice as detrimental for future academic success than that of white students. It is encouraging then to see that historically underserved students are achieving statistically significantly higher results if they attend charter schools than if they had attended traditional schools both in ELA and math. While these data indicate that charter schools are working to meet these benchmarks, it is urgent that we do more to close achievement gaps and ensure every student achieves proficiency. As we continue to transition to the new testing era, charter schools should look to not only maintain these successes, but also build upon them to ensure all students are proficient by third grade and beyond.

Similar Students Measure

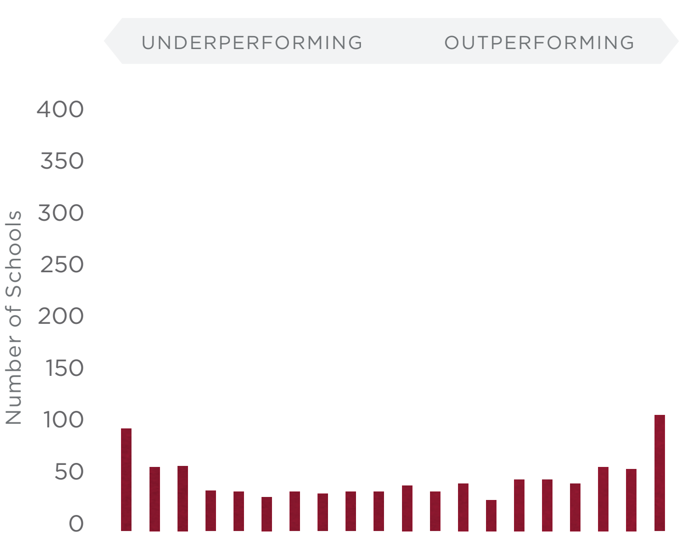
Understanding and Interpreting the SSM

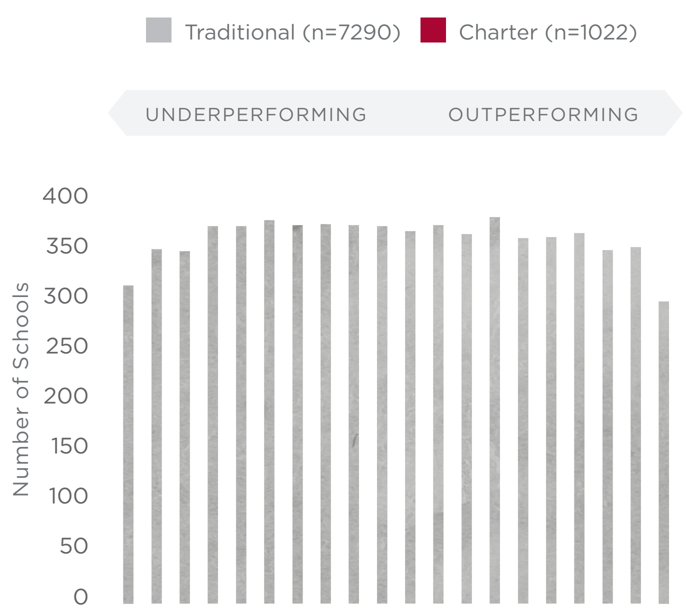
As shown in the subgroup APD graphs (see Figure 8 above), some student demographic groups performed better on average than other groups. A wide body of research documents that certain demographic characteristics are highly correlated with academic achievement.[13] CCSA's Similar Students Measure supports school accountability by using demographic data to identify schools that are outperforming or underperforming compared to other public schools across the state given the students they serve. CCSA developed the Similar

Students Measure to assess school performance while filtering out many of the non-school effects on student achievement. The process uses publicly available data from the California Department of Education (CDE), including each school's average SBAC scale score and the demographic characteristics of the students tested at the school. We then input those test scores and demographics for each school (charter and traditional) into a series of regression models by grade and subject.[14] The regressions then generate a predicted scale score for each school. In other words, SSM takes into consideration the average parent education level, mix of ethnicities, percentage of low income students, and other factors for the portfolio of students in a school and predicts how the school should perform based on how schools serving similar students performed statewide.

We then compare each school's actual scale scores to their predicted scale scores. Looking at actual versus predicted scores we use the gap to determine if, given a school's portfolio of students, the school is outperforming what the regression would predict considering how every other school in the state performed with similar student demographics. We then rank all schools in the state by this gap score and divide the list into twenty equal groups of five percent (schools whose actual scale scores are higher than predicted are on the right and lower than predicted on the left). The schools on the far right of the distribution are far outperforming on this metric. In the graphs below, the gray and red bars together represent all public schools in California. In both graphs, schools in the far left bar are among the bottom five percent in California on the Similar Students Measure, while schools in the far right bar are among the top five percent.

FIGURE 12
Statewide Distribution of Public Schools on SSM





Click this graph to interact with the data and learn more about results in your district.
snapshots.ccsa.org/pom-ssm

Summary of SSM Findings

The table below provides a closer look at the bars depicted in the SSM graphs above. It shows that though there are fewer charter schools in the state than traditional schools, the percentages illustrate that charters are overrepresented at the highest (most outperforming) and lowest (most underperforming) percentiles. These over-concentrations of charter schools at the high and low ends of the performance continuum make up the "Shape of the U" that we have historically seen for charter schools in California. This shape can be visually seen in the charter graph above. We find that traditional schools follow an even distribution, with the predicted number of schools falling within each percentile bar as seen in the graph on the right above. In other words, where we would expect 25% of schools in the top 25% column, we see that traditional schools in fact have 24% of schools in that top quartile. Charter schools, on the other hand, have higher concentrations at the tails, with 11% of charters, over twice the expected proportion, performing in the top 5% statewide. This indicates that charters have a higher proportion of outperforming schools than traditional schools.

FIGURE 13
Statewide Distribution on Top and Bottom Quartiles of SSM
*p<0.05, **p<0.01, ***p<0.001

		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter Schools	%	10%	16%	29%	32%	17%	11%	1022
	#	99***	161***	301*	330***	172***	112***	
Traditional Public Schools	%	4%	9%	24%	24%	9%	4%	7290
	#	318*	672	1778	1747	658*	302**	

Overall SSM Results Consistent for Charter Schools in First Two Years of SBAC

Based on testing trials in California and results in early adoption states using the SBAC assessment, many anticipated a dip in the number of students achieving proficiency under the new standards compared to what was reported for pre-SBAC proficiency levels.[15] The 2014-15 scores established a baseline by which to measure future progress under the new system. Given that schools and students are still adjusting to the new SBAC assessments and the Common Core standards on which they are based, we anticipate it will take a few more years to establish clear trends in charter performance. That said, two years of the new SBAC-based SSM show that while charter schools continue to perform in a "Shape of the U" pattern, the tail end concentrations are less prominent, creating a more evenly distributed "flattened U" shape, although we continue to see a disproportionate number of charter schools at the high and low end of the continuum. As shown in Figures 14 and 15 below, about 5% more than the expected proportion is seen in each column of the table, both on the out-performing and under-performing ends. For example, where we would predict 10% of charter schools to perform in the top 10% statewide, we actually see nearly 17% of charter schools scored in this top decile of all public schools in California.

FIGURE 14
Distribution of Charter Schools on SSM

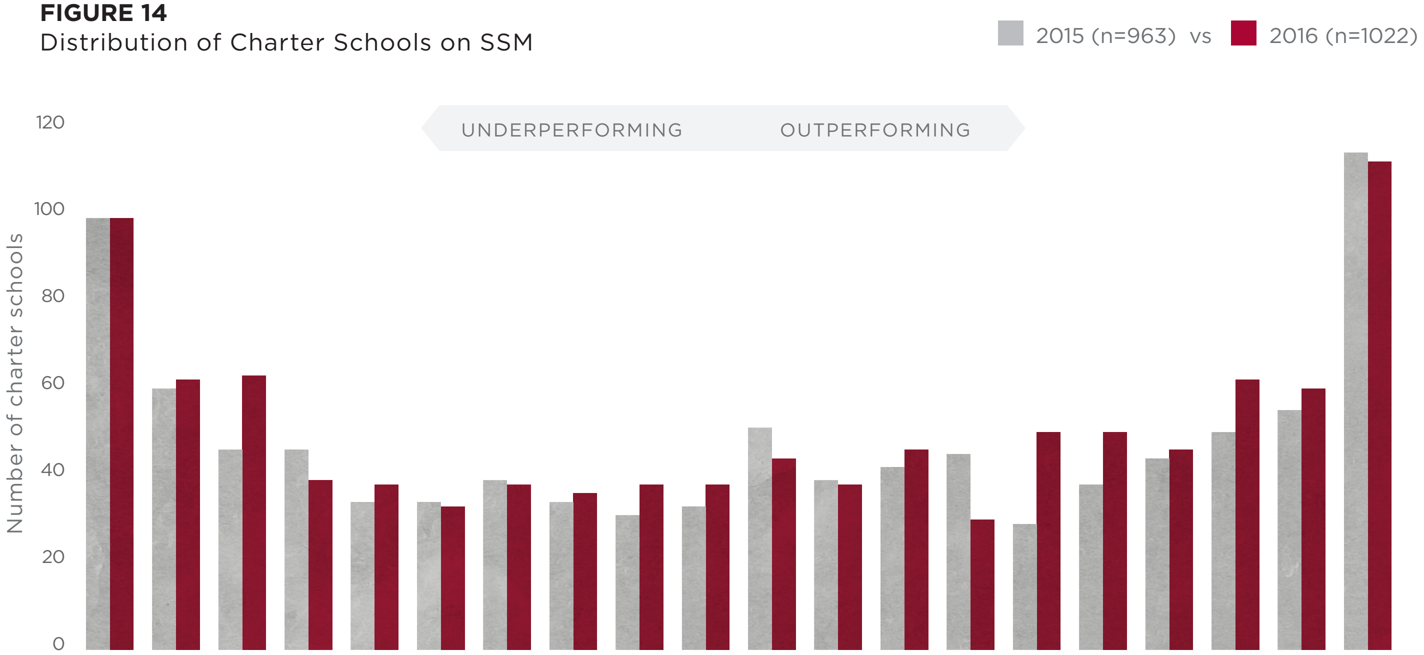


FIGURE 15
Charter School Distribution on Top and Bottom Quartiles of SSM, 2015 versus 2016

	Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
2014-2015	10.3%	16.5%	29.6%	31.3%	17.5%	11.8%	963
	99	159	285	301	169	114	
2015-2016	9.7%	15.8%	29.5%	32.3%	16.8%	11.0%	1022
	99	161	301	330	172	112	
Change	-0.6%	-0.8%	-0.1%	1.0%	-0.7%	-0.9%	

*p<0.05, **p<0.01, ***p<0.001

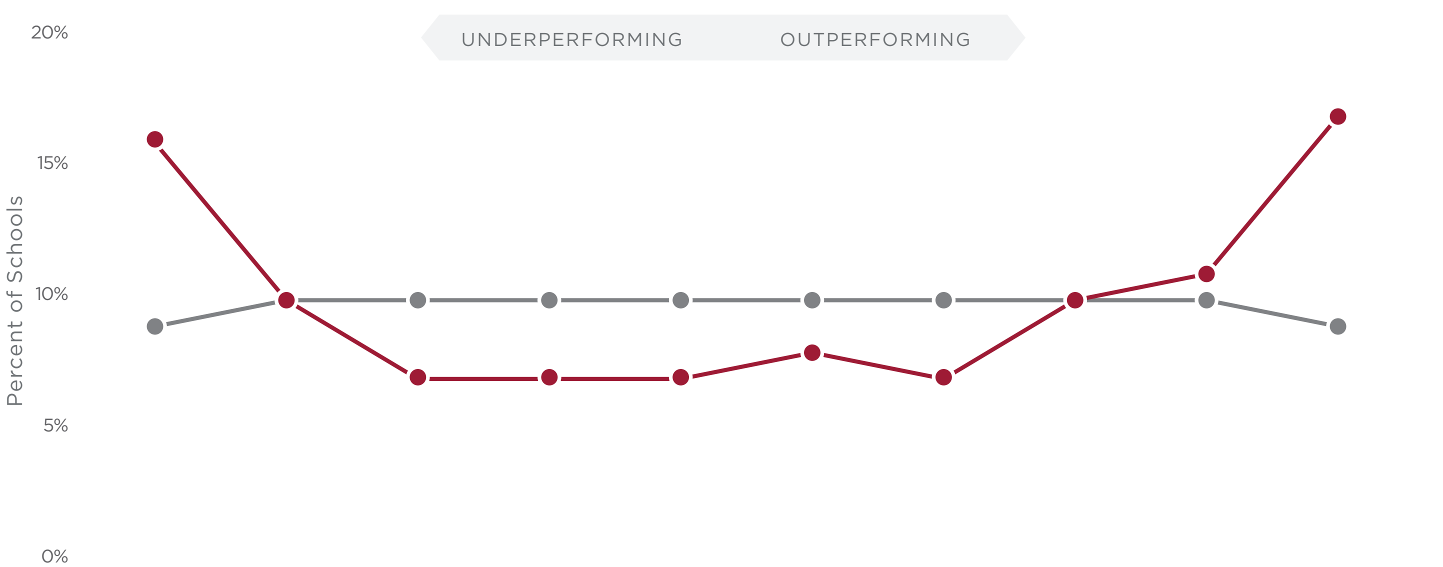
When comparing the first and second administrations of the SBAC, we see that there has been a slight reduction on both ends of the charter distribution. Of the charter schools that started in the bottom 10% as well as for those starting in the top 10% in 2015, we found about a 1% reduction of charter schools on these tail ends in 2016. This may reflect an effect referred to as a "regression to the mean", which is commonly seen in statistical analyses.[16] In other words, if a test score, in this case an SSM score, was an extreme in its first measurement, either positively or negatively, it will tend to be closer to average on the second measurement. It is possible that the "flattening of the U" that we see among charters moving closer to the center between 2015 and 2016 may be a reflection of this phenomenon. In fact, a similar adjustment was also seen in the first two years of the SSM as shown in the premiere Portrait of the Movement.[17] Another potential explanation for the change could be adjustments and corrections happening for students adapting to the new computer-based test. Unfortunately, only having two years of data doesn't easily allow for declaration of trends in the data with great certainty. What we do know is that charter schools are resilient and their ability to adapt quickly on behalf of students provides optimism that we can again move the performance of charter schools back towards a "J Shape" that would indicate progress towards our goal of all high quality charter schools.

A Better Understanding Through the Use of Deciles

CCSA's SSM and APD measures aim to improve understanding of academic achievement for the general public. The state testing hiatus and the subsequent delay in producing a statewide academic measure has caused an absence in data that has been very challenging for charter schools to navigate. Unlike traditional schools who continue to operate irrespective of performance, charter schools, in accordance with the Charter Schools Act are granted increased flexibility in exchange for increased accountability and are required to renew their charter with their authorizer every five years. It is difficult for charters to make a clear case when they lack standardized data. Additionally, without clear standards, authorizers are more easily able to inappropriately renew underperforming charter schools or deny renewal for notably successful schools. In an attempt to help schools and the public better understand the SSM and APD metrics as well as to more easily contextualize performance in the context of the statewide big picture, CCSA also translated its APD and SSM measures into decile rankings.

The APD was divided into ten "state ranks" and the SSM into ten "similar school ranks." CCSA then publicly released a sortable spreadsheet of all schools' results.[18] The SSM was created to emulate the CDE's School Characteristics Index (SCI) and so this comparability provides charters with a decile rank understandable by their authorizers. Since the similar schools ranks are comparable to the percentile distribution of SSM that we've reviewed already in this document – SSM distribution is graphed into twenty 5% bins while the Similar Schools Ranks are the same SSM measure in ten equal deciles – we see a familiar "Shape of the U" for charter schools, as illustrated in the red line in Figure 16. There is a concentration of charter schools both in the top and bottom deciles with fewer along the center of the distribution.

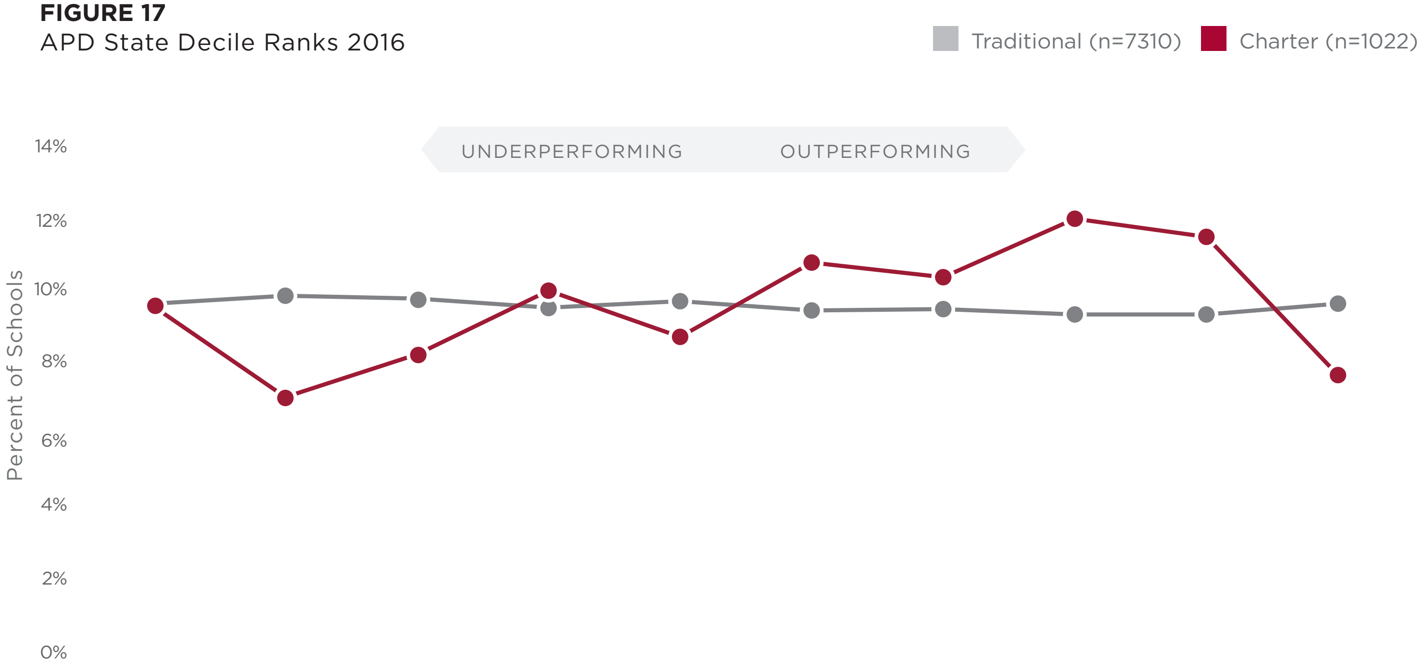
FIGURE 16
SSM Similar Schools Decile Rank 2016



Click this graph to interact with the data and learn more about results in your district.
snapshots.ccsa.org/pom-deciles

The State Ranks, on the other hand, unveil a comparable yet slightly more encouraging picture. Using APD, which does not take demographics into account, we still find that charter schools are performing better on average than traditional schools. We see from Figure 17 below, that there is a vertical trajectory for charter school performance with fewer charters in the bottom third, and a higher concentration in the top half of the rankings. In fact, we find the median charter rank to be 6 – a statistically significantly higher rank than traditional schools (median=5). In other words, charters have tipped the scale with half of all charter schools performing in the top four deciles statewide.

FIGURE 17
APD State Decile Ranks 2016



Click this graph to interact with the data and learn more about results in your district.
snapshots.ccsa.org/pom-deciles

The Similar Students Measure as well as the SSM decile ranks provide a visual summary of the divergent performance of charter schools. With the added context provided by the Average Point Difference and APD state ranks, we start to see a more complete picture of how charter schools are improving outcomes for all students as well as for student subgroups. These findings indicate that charter schools remain on the right track for academic performance and are poised to improve even more as we continue on the transition to SBAC. This is further demonstrated in the next section which focuses on performance of charters for subgroups of students.

California Charter Schools Association

PART 2

Charter Schools Are Making Strides to Address the Achievement Gap

Charter schools have served the same if not increasingly diverse populations over time, but have still maintained and in fact achieved academic growth for all students. This section assesses performance among historically disadvantaged student groups in charter schools, including an in depth look at students in traditionally underserved urban districts. Many charters strive to reach those students most in need, opening in urban areas and low income neighborhoods, and working diligently to recruit families from within the school community to attend the charter school. The result is enrollment that is largely reflective of California's student demographics, as seen in Figure 18.

FIGURE 18
2015-16 California Student Enrollment by Demographic Subgroup
(Source: CDE)

Student Group	Charter Public School Percent of Enrollment	Traditional District School Percent of Enrollment
African American	8%	6%
Latino	50%	54%
Asian	5%	9%
White	29%	24%
Other	8%	7%
English Learner	17%	24%
Free or Reduced Lunch	57%	59%
Students with Disabilities*	10%	11%

*Demographics of tested students is the only public source of school-level enrollment data for students with disabilities. Students with disabilities percentage listed is of 2016 SBAC test-takers; may not be a direct reflection of actual enrollment

The SSM results show that historically disadvantaged students are much more likely to achieve academic success in a charter school than if they attended a traditional school. Figures 19 and 20 below weight school-level scores by the number of Latino and African-American students tested. The result is a striking concentration on the outperforming side of the graph, showing that Latino and African-American charter school students are twice as likely as their traditional school peers to be attending a school in the top 10% in the state and over three times as likely to be attending a top 5% school. Likewise, a full third of low-income charter students, 33%, attend a school in the top quartile statewide compared to only 22% of low-income traditional school students.

FIGURE 19

Student-Weighted Distribution on SSM, African American and Latino students

Traditional (n=1,710,197) Charter (n=156,701)

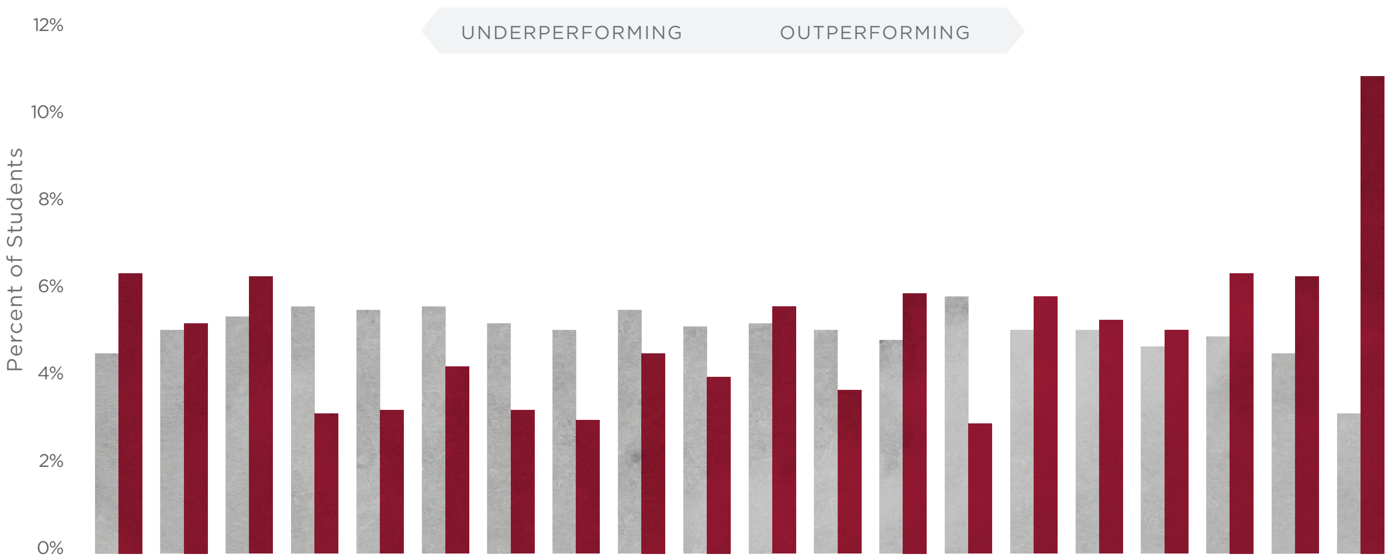


FIGURE 20

Statewide Distribution on Top and Bottom Quartiles of SSM, historically disadvantaged student subgroups

			Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Latino Students	Charter	%	6%	11%	24%	34%	17%	11%	134,956
		#	8,110	15,426	31,893	45,432	23,194	14,713	
	TPS	%	4%	9%	26%	22%	8%	3%	1,558,067
		#	68,589	145,823	403,026	345,432	118,959	49,101	
African American Students	Charter	%	8%	12%	26%	32%	16%	10%	21,745
		#	1,768	2,504	5,679	7,011	3,378	2,117	
	TPS	%	5%	11%	26%	22%	8%	3%	152,130
		#	7,757	16,518	39,443	33,998	12,014	5,183	
Low Income Students	Charter	%	6%	11%	24%	33%	17%	11%	158,334
		#	9,894	17,854	37,535	52,780	27,429	16,814	
	TPS	%	5%	10%	26%	22%	8%	3%	1,773,854
		#	80,116	171,690	461,466	393,829	136,544	57,796	

Regional Impact

So far within this report, we have explored charter and traditional public schools' performance both on APD and SSM measures. The relative outperformance we see in charter schools, particularly with traditionally underserved student groups, is particularly true in urban school districts, where larger percentages of students tend to be from historically disadvantaged backgrounds and the achievement gaps are particularly stark. Here we see charter students substantially outperform compared to their traditional public school peers. We look at two regions with high concentrations of charter schools in this section: Los Angeles Unified School District (LAUSD) and Oakland Unified School District (OUSD).

Los Angeles Unified School District

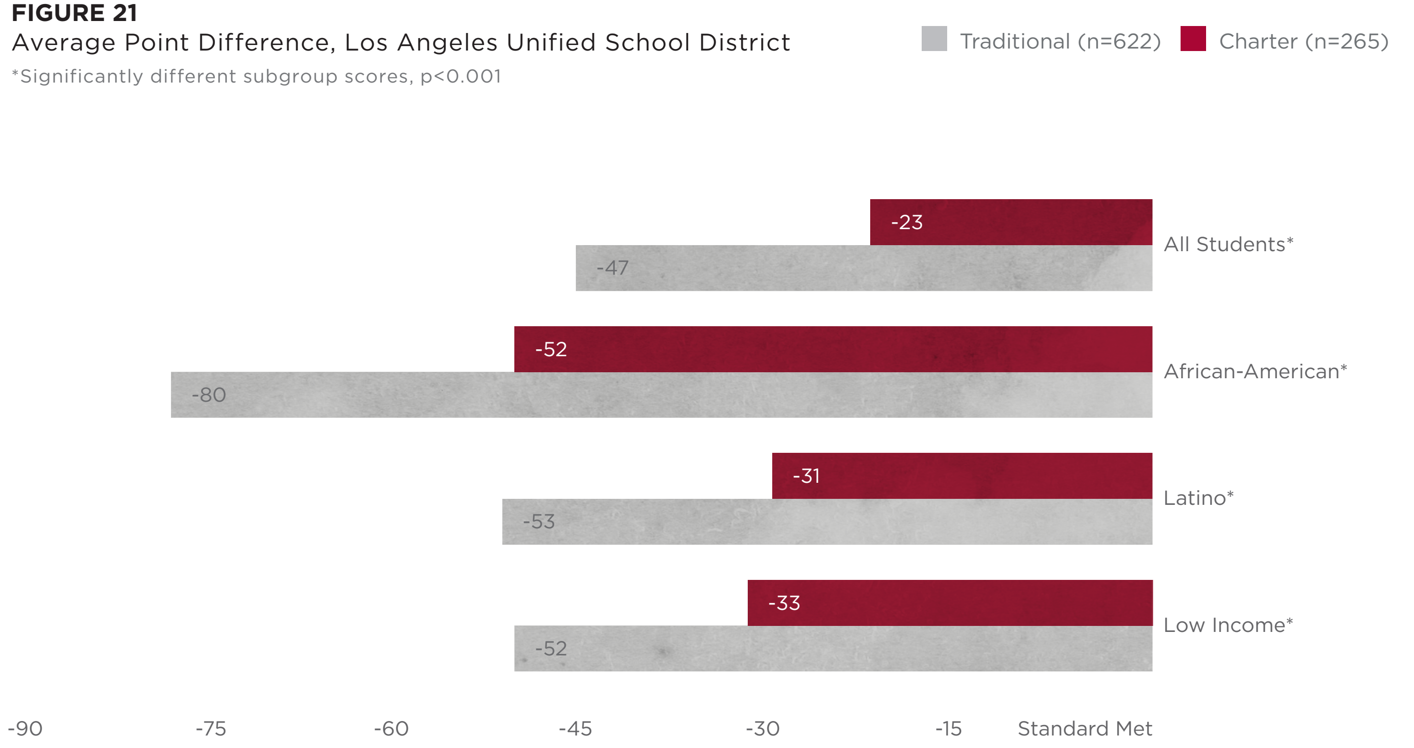
Los Angeles Unified School District is the second largest district in the country and serves nearly 650,000 students. In 2015-16, 290 charter schools enrolling over 156,000 students were located within the LAUSD district boundaries. One of every twenty students attending a charter school in the United States is enrolled in a charter school in LAUSD.[19] Of these LAUSD charter students, 71% are African American or Latino, and over two-thirds are socioeconomically disadvantaged.

Given how widespread charter schools are in Los Angeles, it is even more striking the success they are achieving. On average, students in LA charter schools obtained an Average Point Difference of 23 scale score points below met, which is 24 scale score points closer to the met standard than their peers in traditional schools. Similarly, historically disadvantaged student subgroups are also closer to achieving proficiency if they attend charter schools. In 2015-16 African American charter students scored 28 scale score points higher than their TPS peers, and Latino charter students scored 22 scale score points higher than traditional public school Latino students. Moreover, low income charter students scored 19 scale score points closer to grade level standards than their traditional school peers. All of these differences are statistically significant, meaning it is unlikely these differences are due to chance, providing evidence that charter schools are outperforming even when we do not take student demographics into account.

FIGURE 21

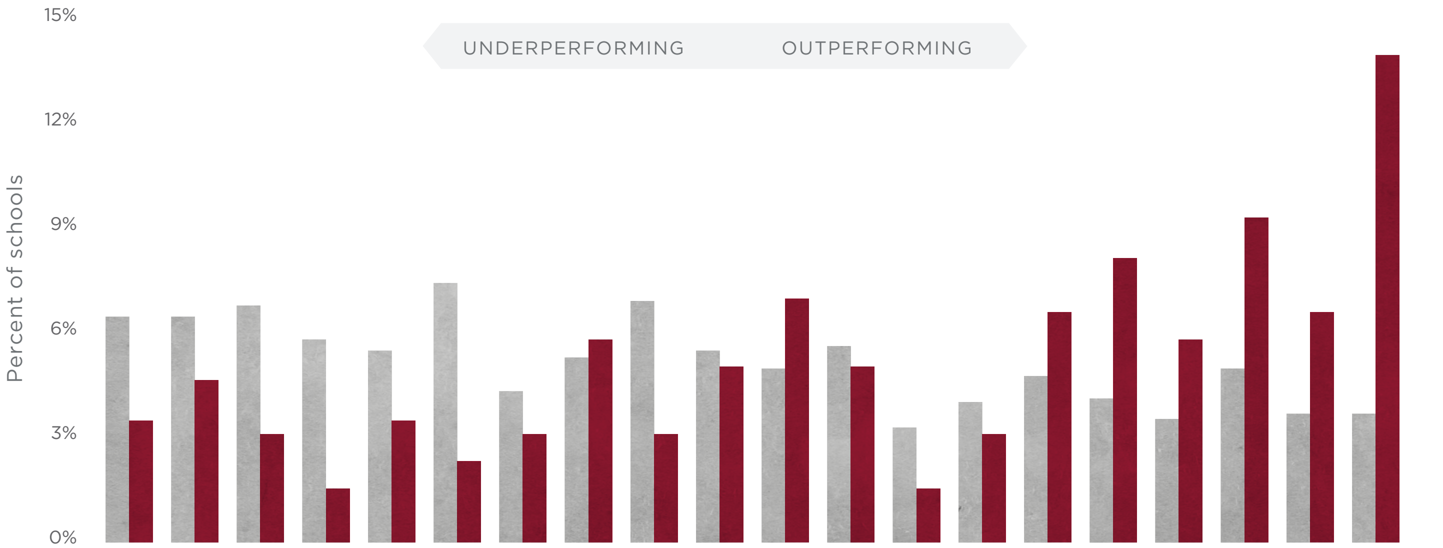
Average Point Difference, Los Angeles Unified School District

*Significantly different subgroup scores, p<0.001



As shown in the graph below, when looking at the Similar Students Measure, which controls for student demographics, we see a distinct "J-Shaped" distribution for LAUSD charter schools' performance. An incredible 43% of Los Angeles charter schools perform in the top quartile statewide – more than double the percent of LAUSD traditional public schools in this top tier (19%). In addition to this high concentration of charter schools outperforming predicted outcomes, only 16% of charter schools are in the bottom quartile, which is half the percentage of traditional public schools among the most under-performing 25% of schools in the state. Moreover, if we look specifically at African American and Latino students and low income students, we find they are five times more likely than their peers to attend a school among the most outperforming 10% of schools in the state if they attend an LAUSD charter school (see Appendix C for more detail). In other words, if these historically underserved students attend a charter school instead of their local traditional public school, they are far more likely to attend one of the top schools in California.

FIGURE 22
Distribution of Los Angeles Public Schools on SSM



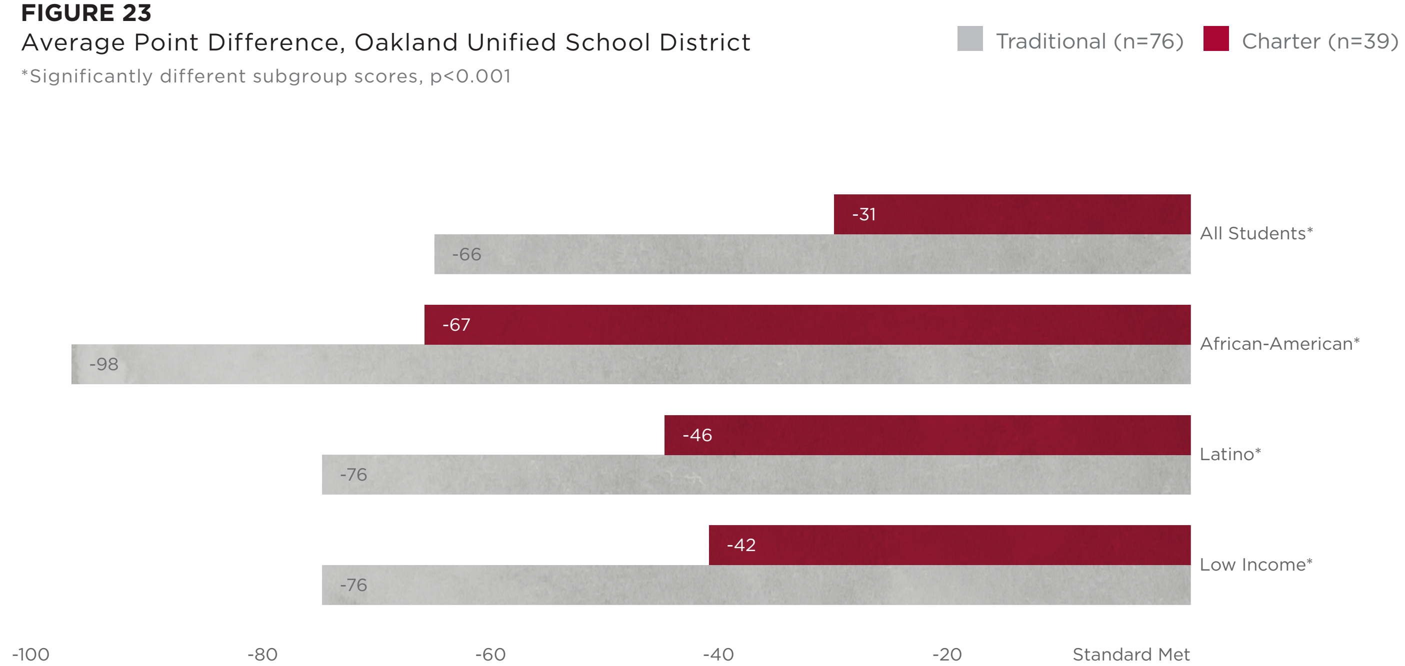
Type		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter Schools	%	3%	8%	16%	43%	20%	14%	265
	#	9	21	42*	113***	53**	36***	
Traditional Schools	%	6%	13%	30%	19%	7%	4%	622
	#	39	78	187	120**	44*	22	

*p<0.05, **p<0.01, ***p<0.001

Oakland Unified School District

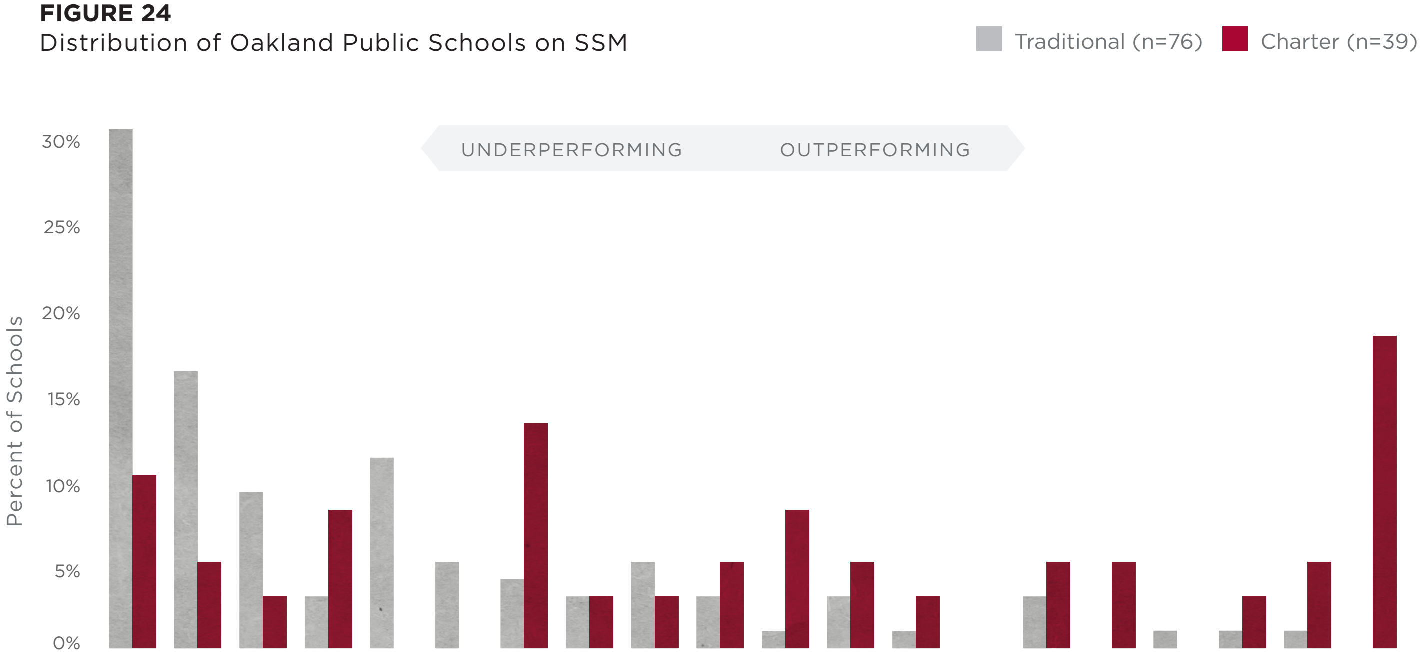
Oakland Unified School District is a large urban school district in the East Bay of the San Francisco Bay Area of California. In 2015-16, 44 charter schools served 27% of OUSD's over 51,000 students, three-fourths of which are African American or Latino and 73% are low income. The performance data for Oakland's charter schools show that their students are far more likely to outperform than they would be had they remained in their neighborhood schools. Overall, students in charter schools average an APD of 31 scale score points below the grade level standard. This is a statistically significant difference of 35 scale score points higher than the traditional school average. Likewise, African American, Latino, and low income charter school students average upwards of thirty scale score points closer to the met standard than their traditional school peers.

FIGURE 23
Average Point Difference, Oakland Unified School District
*Significantly different subgroup scores, p<0.001



The picture comes into even clearer focus when viewed through the lens of the SSM distribution. Substantially more Oakland charter schools are among the highest performing schools in the state, while only three traditional schools perform in the entire top quartile. Thirty-one percent of charter schools in OUSD perform among the top quartile statewide—nearly eight times the percentage of traditional public schools in the top tier! Unfortunately, 30% of Oakland's traditional public schools perform in the bottom 5% statewide, meaning one in four of OUSD TPS students – over 4,000 kids – are enrolled in some of the most underperforming schools in the state – even when controlling for student demographics. Charter schools in Oakland are providing opportunities for students to succeed in great contrast to students attending traditional public schools.

FIGURE 24
Distribution of Oakland Public Schools on SSM



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter Schools	%	10%	15%	26%	31%	23%	18%	39
	#	4	6	10	12**	9**	7*	
Traditional Public Schools	%	30%	46%	68%	4%	1%	0%	76
	#	23	35	52	3	1	0	

*p<0.05, **p<0.01, ***p<0.001

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Not only are charter schools achieving significantly higher results for all students, they continue to bolster achievement of historically disadvantaged student subgroups. The findings for Los Angeles and Oakland further highlight the benefits of charter schools in providing an alternative to failing traditional public schools. Charter schools provide valuable opportunities for all students and open doors of possibility for their futures.

The Next Frontier for Growth: English Learners and Students with Disabilities

While we applaud the successes of charter schools in the regions highlighted in the preceding section, there remain clear areas for improvement across the charter sector in creating equally positive outcomes for English Learners and students with disabilities. Across California, 22% of all students are English Learners, and the number of English Learners in charter schools continues to grow. When we look at the achievement of this particular student subgroup however, we see both charter and TPS students far below standards, averaging an APD of 88 scale score points below met in 2016. The SSM sheds some light on the issue, showing in Figure 26 below that English Learners attending charter schools are three times as likely to be attending a school in the top 5% statewide than those attending traditional schools. This indicates that, although the transition to SBAC may be a longer struggle towards proficiency for English Learners, there are great opportunities for growth available for English Learners that attend charter schools. However, while we can celebrate the degree to which charters are outperforming traditional public schools in English Learner performance, we still see that everyone has much farther to go in helping English Learners achieve grade-level proficiency.

FIGURE 25
Average Point Difference, English Learners
*Significantly different subject scores, p<0.001

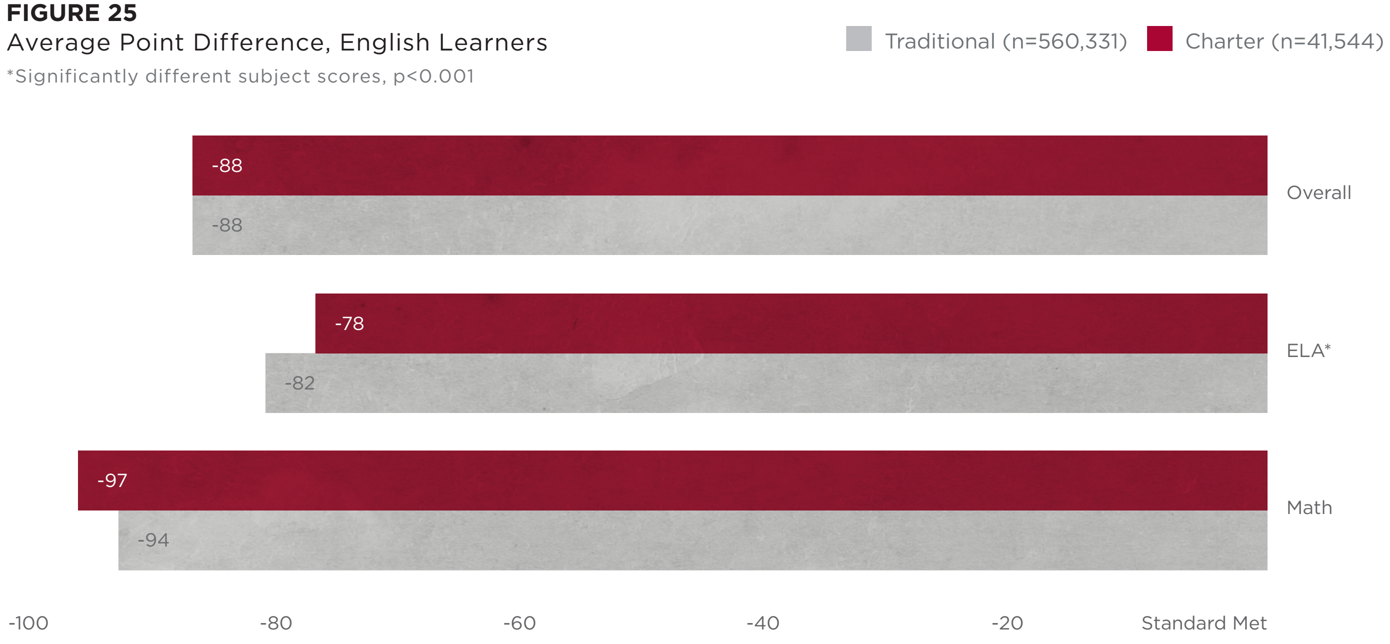
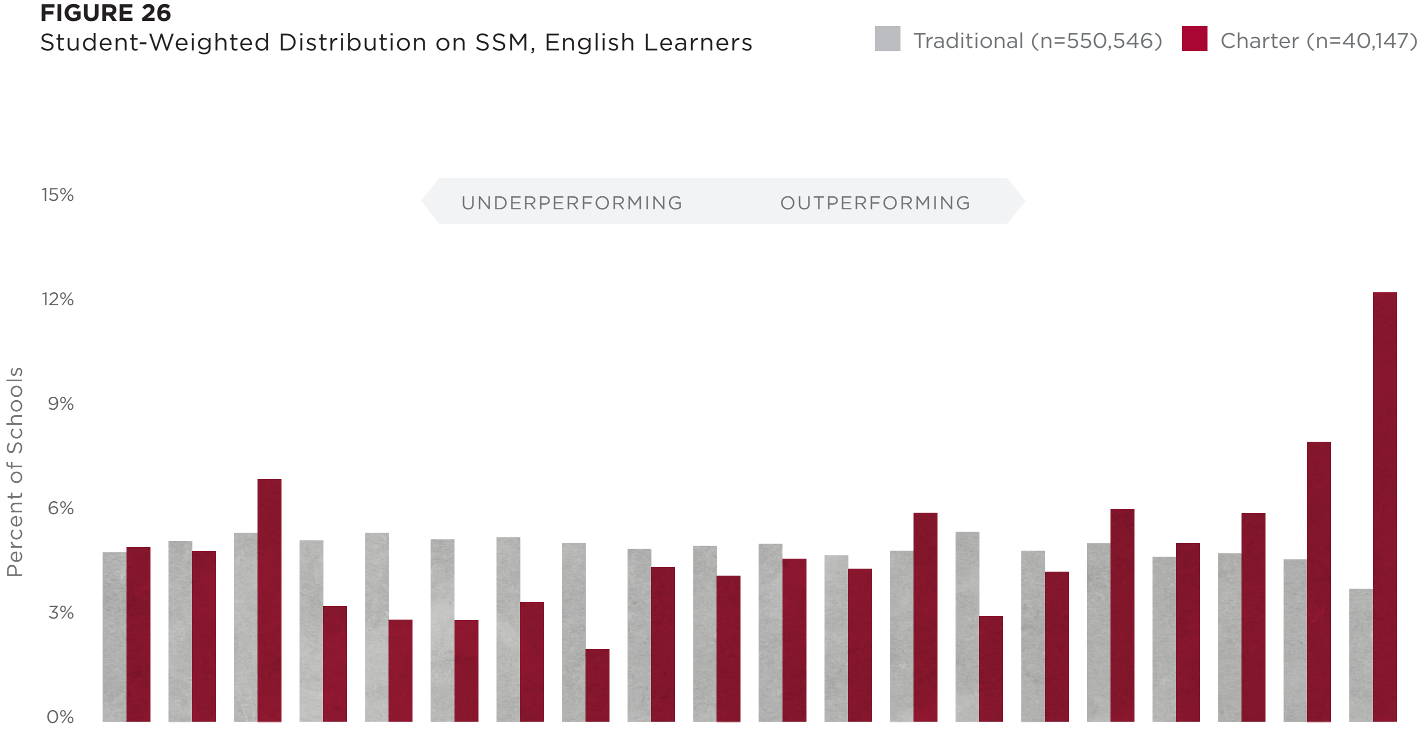


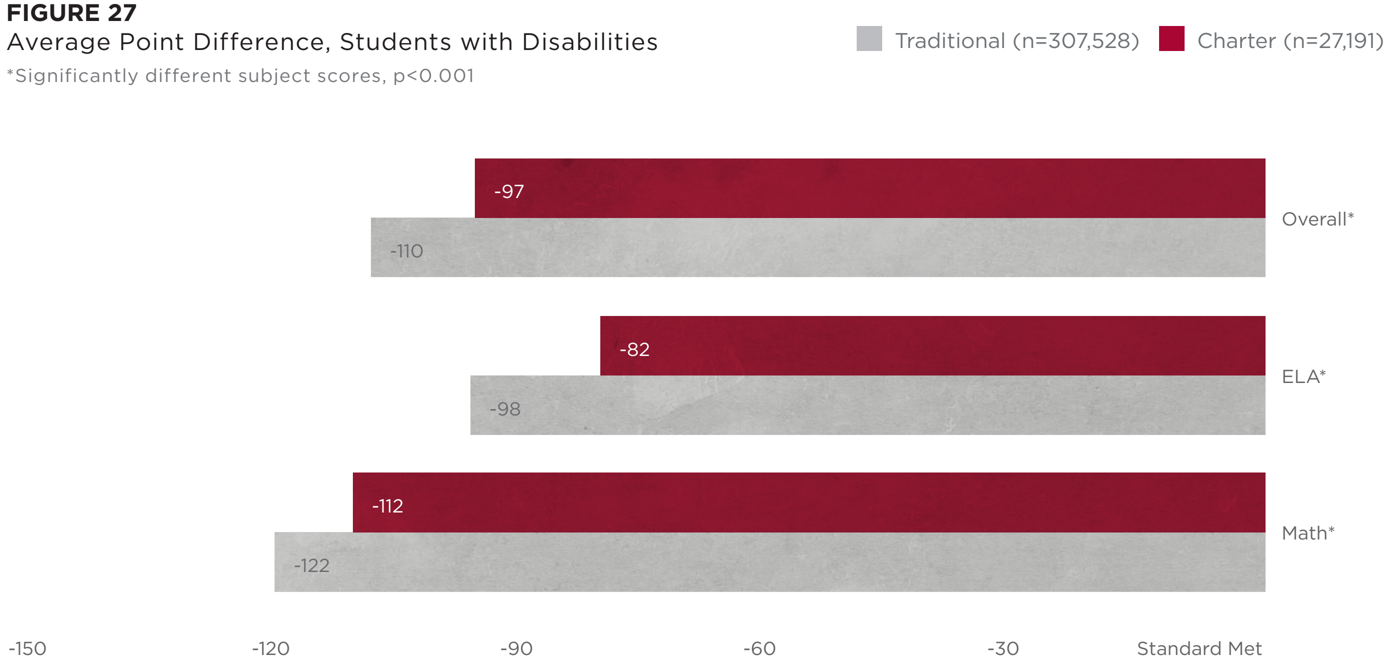
FIGURE 26
Student-Weighted Distribution on SSM, English Learners



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter School Students	%	5%	10%	23%	38%	20%	12%	40,147
	#	2,007	4,015	9,234	15,256	8,029	4,818	
Traditional Public School Students	%	5%	10%	26%	23%	8%	4%	550,546
	#	27,527	55,055	143,142	126,626	44,044	22,022	

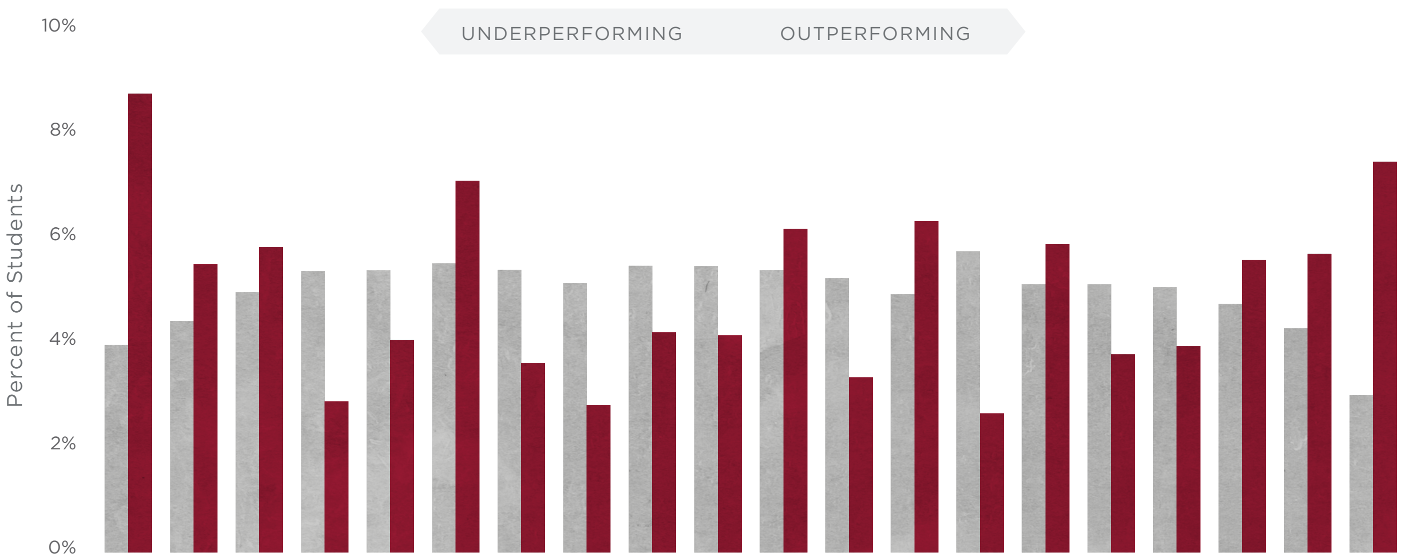
California charter schools are increasingly achieving autonomy in special education and seeking to develop innovative programs to serve students with disabilities. CCSA recently published "Meeting the Needs of Every Student Through Inclusion: A Qualitative Study of Ten California Charter Schools" detailing results of a year-long study of some of the highest-performing charter schools in California, and offering valuable insight into innovative practices and potential solutions to the state's special education system.[20] Thanks to the efforts of these and many other charter schools, we find that, although still the lowest performing subgroup, the average charter APD for students with disabilities is significantly higher than that achieved for the students in traditional public schools. The SSM, however, shows much more mixed results for students with disabilities. CCSA's special education report is leading the way in an effort to uncover best practices for continuing to increase the achievement of students with disabilities in charter schools as we transition through additional years of SBAC testing. All have further to go in service of students with disabilities, and it is important to note that the SBAC results outlined in this report do not yet take into account the California Alternate Assessment (CAA) modified tests option.

FIGURE 27
Average Point Difference, Students with Disabilities
*Significantly different subject scores, p<0.001



California Charter Schools Association

FIGURE 28
Student-Weighted Distribution on SSM, Students with Disabilities



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter School Students	%	9%	14%	27%	27%	13%	7%	26,121
	#	2,351	3,657	7,053	7,053	3,396	1,828	
Traditional Public School Students	%	4%	8%	24%	22%	7%	3%	301,355
	#	12,054	24,108	72,325	66,298	21,095	9,041	

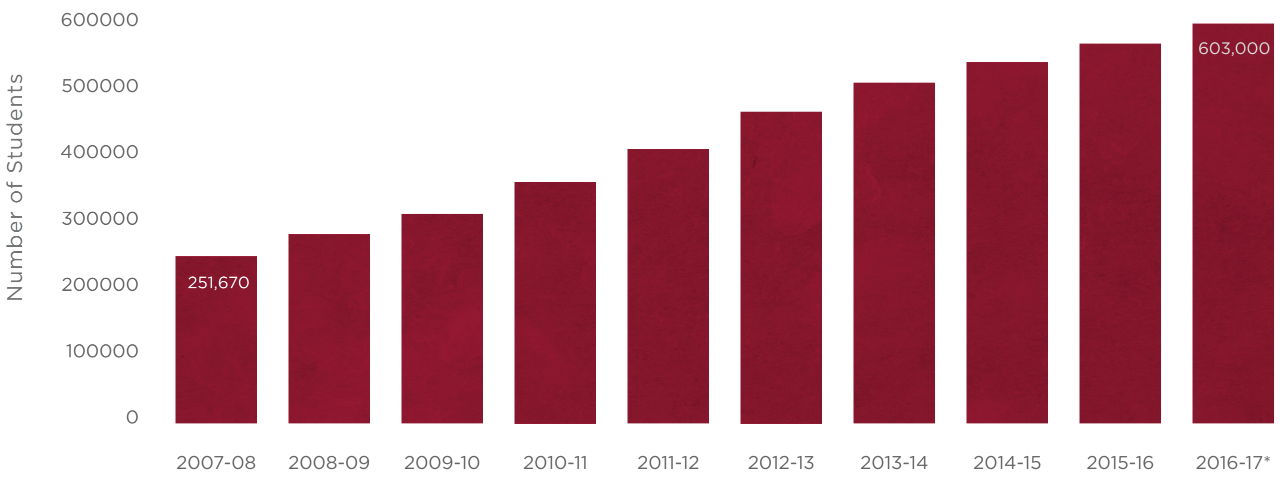
PART 3

A Look at Performance by Charter School Type

Now that we have established the historical context for the Portrait of the Movement, explored CCSA's metrics, and understood performance for all schools and for subgroups, this next section aims to further portray charter performance by charter school characteristics. The California charter school movement includes a diverse group of school types that represents varying levels of autonomy, different governance structures, and classroom settings (including many non-classroom-based and blended learning schools), while that less than 3% of all CA charters are run by for-profit companies.

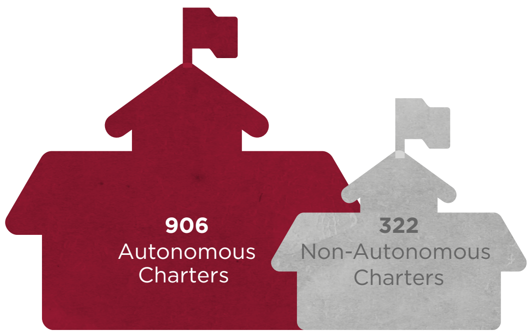
This variety of charter types has offered options for families as to the best fit for their students' needs, resulting in a tremendous rate of growth in the charter sector. While in 2007-08 only 4% of all K-12 public school students attended a California charter school, by 2015-16 the percent of charter students more than doubled to over 9% of the state's public school students.

FIGURE 29
Growth in Charter School Enrollment, 2007-08 to 2016-17
*Estimated



A closer look at the options provided by this array of charter school models creates a more complete picture of charter school successes and areas in need of continued improvement. The following section describes the performance of charter schools within these cross-sections of different charter types, starting with levels of autonomy and management model, followed by start type and site type.

FIGURE 30
Proportion of Charter Schools by Autonomy, 2015-16 (n=1228)

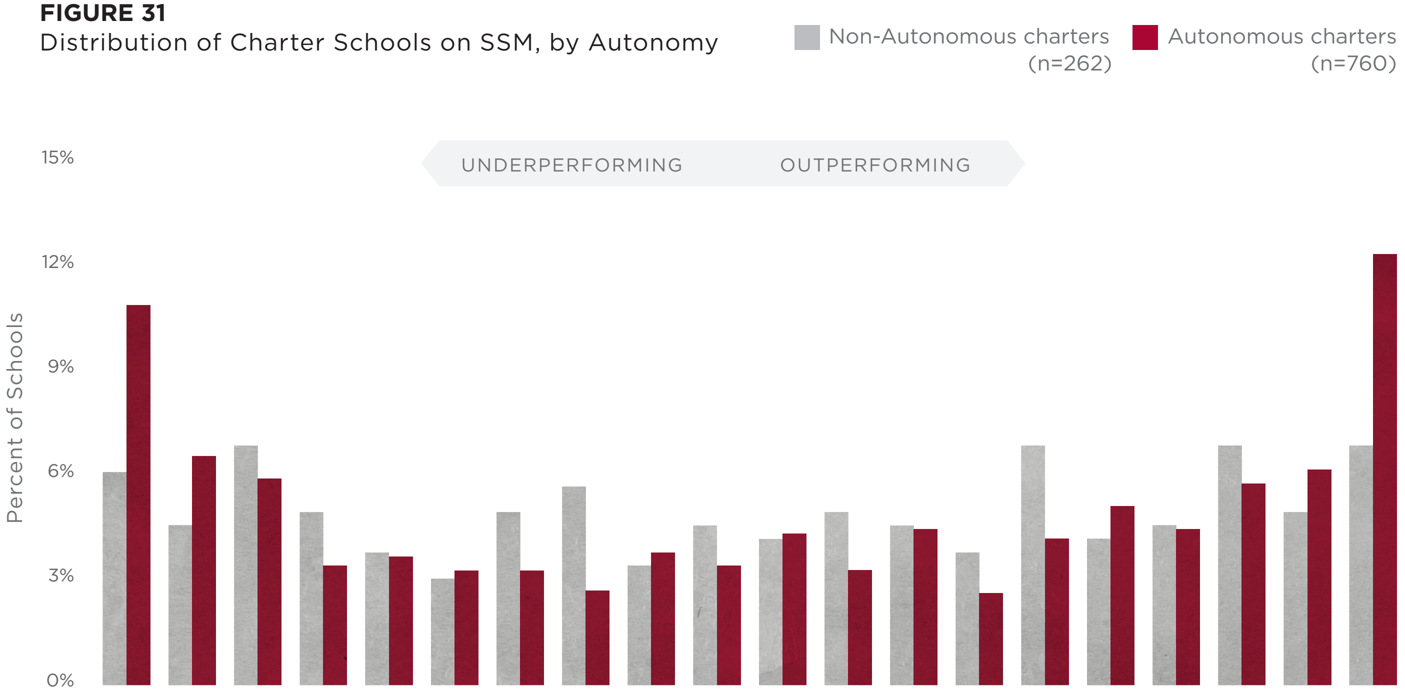


Performance of Autonomous and Non-Autonomous Charter Schools

Charter schools have varying levels of autonomy. As shown in Figure 30 below, nearly three-fourths of California's charters (74%) are autonomous or semi-autonomous as of 2016. Autonomous charter schools are those that appoint their board of directors, do not use their district's collective bargaining agreement (though they may have a separately negotiated union contract) and are directly funded by the state. Non-autonomous charters, are those schools that have the majority of their board appointed by their authorizer or are under a school district's collective bargaining agreement and receive their funding indirectly from the state. Semi-autonomous charters have some aspects of each category (see Appendix D for full definitions).

Since non-autonomous charter schools are managed and operated by their authorizing district, it makes sense that their performance mirrors that of traditional public schools. We see a similarly even distribution of performance of non-autonomous charter schools with about the percent of schools we would predict falling within each percentile column in the table in Figure 31 below. Autonomous charter schools, on the other hand, reflect more closely the "Shape of the U" commonly seen among charter schools. Far more than expected outperform, with 12% of autonomous charters achieving the top 5% statewide, while a persistent number of autonomous charter schools are also underperforming, with another 11% falling in the bottom 5%.

FIGURE 31
Distribution of Charter Schools on SSM, by Autonomy



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Autonomous Charter Schools	%	11%	18%	31%	34%	19%	12%	760
	#	83	133	232	258	141	94	
Non-Autonomous Charter Schools	%	6%	11%	26%	27%	12%	7%	262
	#	16	28	69	72	31	18	

*p<0.05, **p<0.01, ***p<0.001

Performance of Charter Schools by Management Model

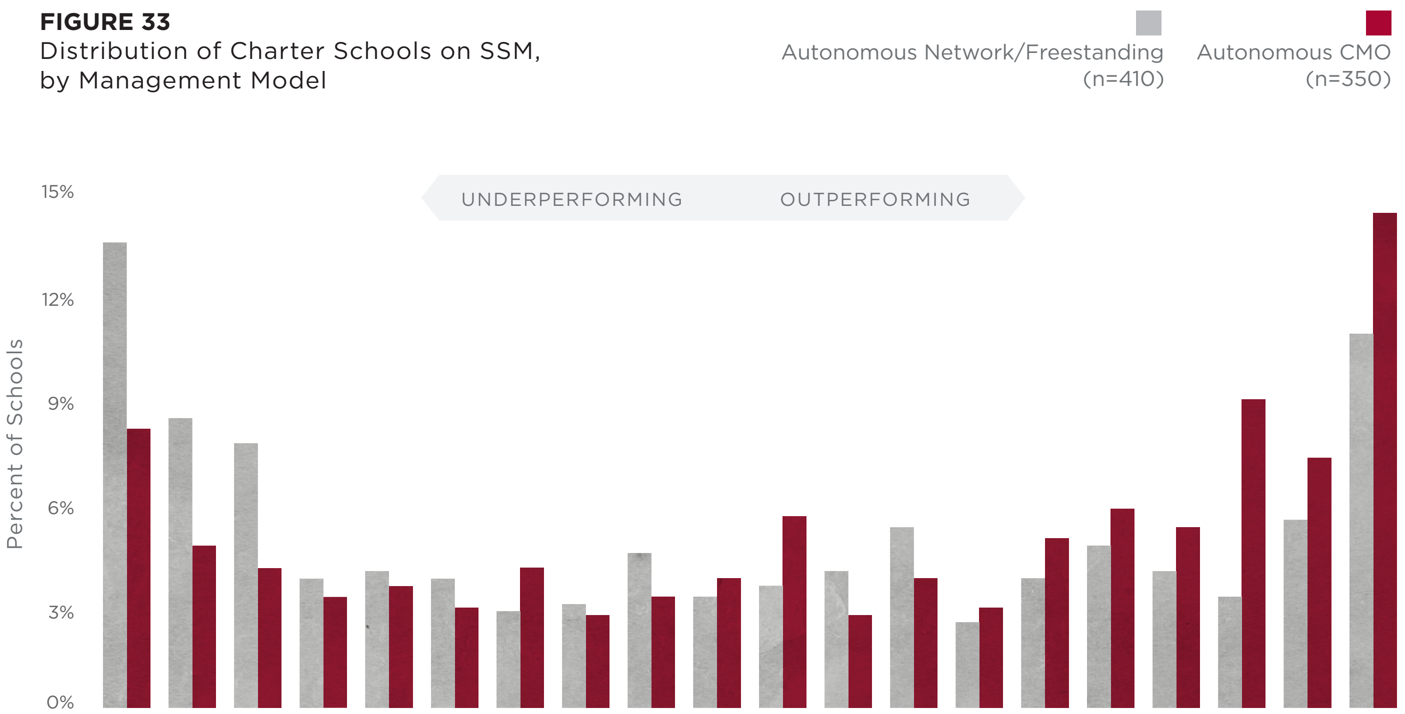
The diversity of charter schools is also demonstrated in the way charters are managed, as shown in Figure 32 to the right. California has seen a long history of vibrant growth within the segment of Charter Management Organizations (CMOs), schools linked by a common philosophy and centralized governance or operations. Among autonomous charter schools, close to half (46%) are run by CMOs. The remaining charters are Freestanding (meaning that they are managed as a single school site and not connected to any other schools) or Network schools (which are a group of schools linked by a common philosophy or other affiliation but not centralized governance, or with fewer than three schools).

When looking specifically at autonomous CMO charter schools, we see that they are highly concentrated on the outperforming side of the distribution. In 2016, 41% of charter schools run by CMOs performed in the top 25% of all public schools

FIGURE 32
Proportion of Autonomous Charter Schools by Management Model, 2015-16 (n=906)

in the state. CMOs also contribute 14% of charter schools of this management model to the top 5% – three times the expected proportion. Not only are CMOs overrepresented among outperforming public schools, they are also less likely than other types of charter schools or traditional public schools to be among the most underperforming, with only 23% in the bottom quartile.

FIGURE 33
Distribution of Charter Schools on SSM, by Management Model



The table in Figure 34 below provides a more detailed view of the performance of autonomous charter schools of all three management models. As discussed above, CMO charter schools are more likely to be represented in the outperforming side of the distribution and less likely to underperform than freestanding or network charters. Freestanding or single site charter schools seemed to struggle slightly more in this transition to SBAC, possibly due to having a more difficult time navigating information on the new standards and that resources are not as readily accessible for single site schools that have no centralized support structure like a CMO, district, or county office of education. We see then that freestanding charters are about as likely as all charter schools to perform in the top 5% statewide – with 10% of freestanding schools in the top 5%, or twice as many as the predicted proportion. But freestanding schools are also more likely to underperform, with 38% of freestanding charters performing in the bottom quartile in 2016. Networks of charters appear to be somewhere in between the performance of freestanding and CMO charter schools, perhaps this reflects the fact that they have slightly more access to resources than freestanding charters and slightly less than CMOs. Networks are nearly as likely to outperform as CMOs, as we see 19% of autonomous network charters in the top 10%, but they are also almost as likely as freestanding charters to underperform with 33% in the bottom quartile.

FIGURE 34
Distribution on Top and Bottom Quartiles of SSM by Charter Management Model

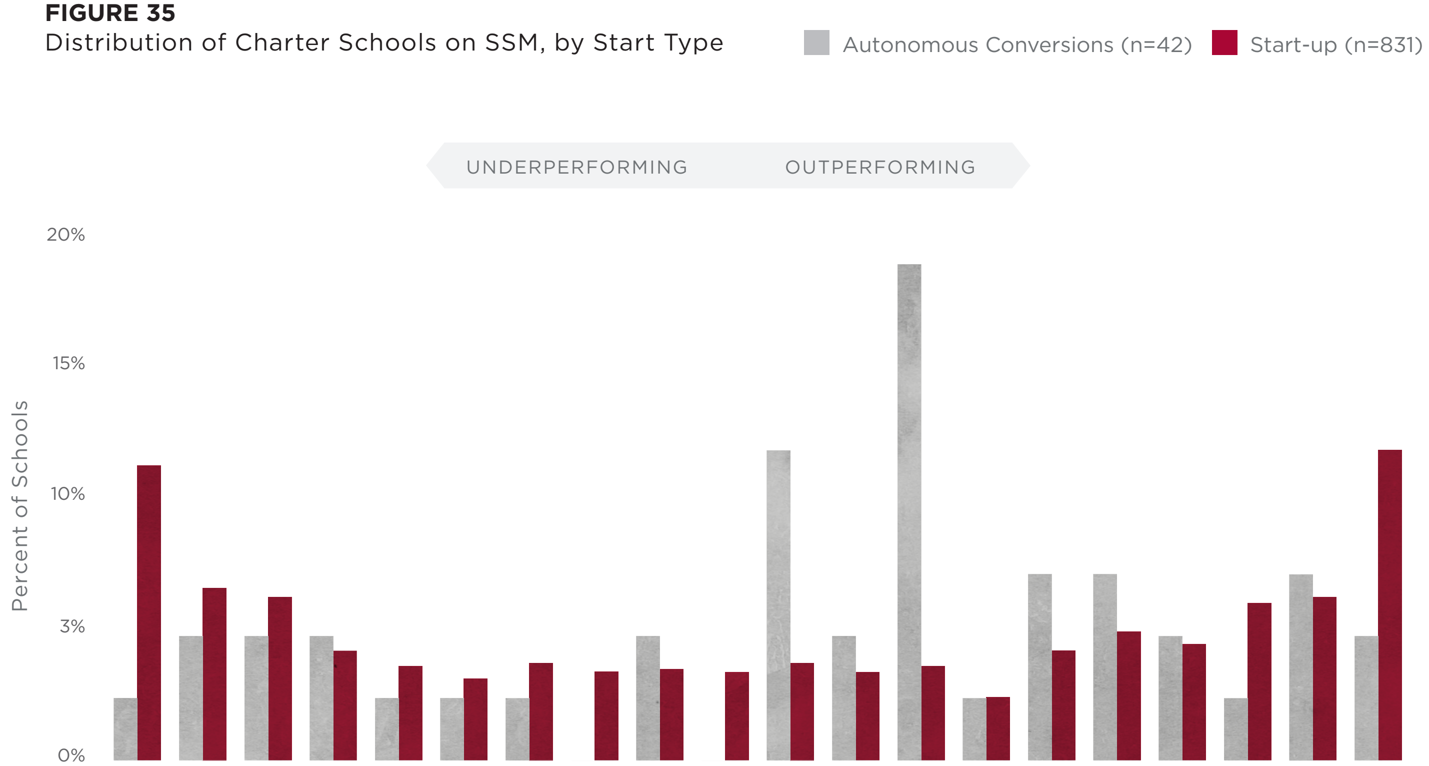
		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
CMO Charter Schools	%	8%	13%	23%	41%	21%	14%	350
	#	28	44	81	144	75	50	
Freestanding Charter Schools	%	14%	24%	38%	26%	15%	10%	298
	#	43	71	114	76	45	29	
Network Charter Schools	%	11%	16%	33%	34%	19%	13%	112
	#	12	18	37	38	21	15	

*p<0.05, **p<0.01, ***p<0.001

Performance of Start-Up and Conversion Charter Schools

Charter schools have two different origin points – they can begin as a new idea and original charter petition, or they can convert from an existing public school to a charter. As such, we have categorized charter start-types into two categories. The first, "start-up", represents the majority of charter schools and includes charters which began as a call to action by concerned, industrious parents, teachers and community members. Conversions on the other hand begin when a local education agency (LEA) agrees to convert an existing traditional public school into a charter school. Some of these conversion schools are non-autonomous, district-run charter schools. As described in the autonomy section above, it is valuable to isolate just the autonomous conversions (i.e. those not primarily controlled by their authorizing school board) when assessing performance of charter schools by start type. The graph below shows that start-up charters tend to have a higher concentration in both the bottom and top 5% of performance creating a "Shape of the U." Performance of conversion charter schools, in contrast tends to be more erratic with 45% of autonomous conversions performing in the quartile between the 50th and 75th percentile.

FIGURE 35
Distribution of Charter Schools on SSM, by Start Type



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Start-Up Charter Schools	%	11%	18%	32%	34%	18%	12%	831
	#	94	149	266	279	151	99	
Autonomous Conversion Charter Schools	%	2%	7%	19%	26%	12%	5%	42
	#	1	3	8	11	5	2	

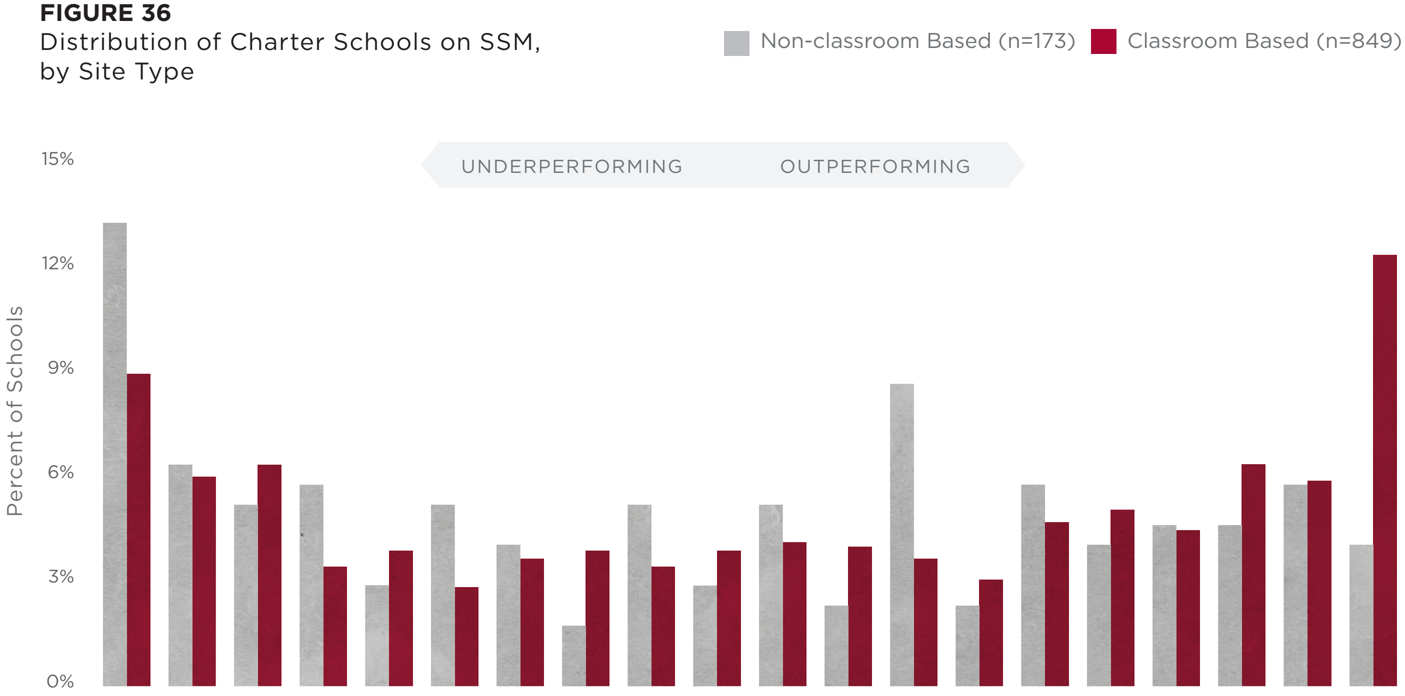
*p<0.05, **p<0.01, ***p<0.001

Performance of Charter Schools by Site Type

We also classify charter schools into three site types: non-classroom based, classroom-based, and combination. Independent study, virtual schools, and other non-classroom based schools are those that provide a majority of instructional content through online platforms and out-of-school means. Classroom-based charters are schools that provide a majority of curriculum content through in-person, classroom-based instruction. Combination schools, as the name suggests, are schools that use a combination or blend of both independent study or online platforms with classroom-based experiences for content delivery. For our analyses, we combined independent study and combination charters into one category known as "non-classroom based."

Classroom-based charter schools have shown historically strong performance, regardless of other charter type classifications. This is an encouraging fact considering over 77% of all charter schools are classroom-based. In the graph below, we find that there is, in fact, a greater proportion of classroom-based charter schools outperforming, with over a third (34%) in the top 25% of performance statewide. Non-classroom based charter schools, 15% of which are fully virtual schools, have traditionally performed less well on the SSM and even display a slight "reverse J" with more non-classroom based schools on underperforming side of the distribution. As shown below, we find that non-classroom based charters have almost a mirrored performance of that of site-based charters with 34% performing in the bottom quartile.

FIGURE 36
Distribution of Charter Schools on SSM, by Site Type



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Classroom-Based Charter Schools	%	9%	15%	29%	34%	18%	12%	849
	#	76	127	243	290	155	105*	
Non-Classroom Based Charter Schools	%	13%	20%	34%	23%	10%	4%	173
	#	23	34	58	40	17	7	

*p<0.05, **p<0.01, ***p<0.001

It is clear from the data presented in this section that the outperformance of CMO and classroom-based charter schools seem to be at the heart of the charter school movement's success. While these are bright spots to surely be proud of, there is a needed focus on the underperforming cross-section of freestanding, conversion, and non-classroom based charter schools. Increasing the performance of these struggling schools, particularly with support in the transition to the new SBAC standards, will be key in continuing to shift charter schools from the "U Shape back to a J."

PART 4

Highlighting CCSA's Academic Accountability Framework

In section 1 of this report, we described charter school performance on both a statewide measure of proficiency (the Average Point Difference) as well as on CCSA's Similar Students Measure, accounting for student demographics. In section 2, we highlighted the strong strides charter schools are making to close the achievement gap, serving an increasingly diverse student population and outperforming with historically disadvantaged student groups. In section 3, we explored performance by varying charter school types, highlighting areas of strength and needed improvement. In section 4 of this report, we review CCSA's academic accountability advocacy and describe how CCSA has worked to support an improving distribution of charter school performance over time. This academic accountability includes calling for the non-renewal and subsequent closure of underperforming charter schools.

Research from the Center for Research on Education Outcomes (CREDO) on charter schools nationally found that: "the charter sector is getting better on average, but not because existing schools are getting dramatically better; it is largely driven by the closure of bad schools."[21] CCSA recognizes that charter schools have thrived, in part, due to clear minimum performance standards and the promise of freedom and autonomy in exchange for accountability. This system is crucial to ensure high performing charter schools can flourish and underperforming schools close.

As described in the earlier in this report, in 2009 a disproportionately high number of charter schools were far outperforming traditional public schools but too many charter schools were underperforming (Figure 4). CCSA set out to respond to the challenge of mixed performance within the California charter school movement by first creating its Minimum Academic Accountability Criteria in 2009. The criteria were developed with the direction and leadership of our Member Council, a representative group of charter school leaders from across the state. It was not an attempt to define quality, but rather to define unacceptably low levels of academic performance below which charter schools should not be renewed or replicated. CCSA's Academic Accountability Framework relied on a small number of clear, minimum performance criteria based on publicly available student outcome data as well as a second tier of review for those needing additional support. Figure 1 in the Executive Summary shows that between 2007-08 and 2012-13 California charter schools made substantial progress in decreasing the number of underperforming charter schools while maintaining a disproportionately high amount of outperforming schools.

> "Advances in quality rest in no small way on the resolve to close schools."
>
> **– THE CENTER FOR RESEARCH ON EDUCATION OUTCOMES (CREDO) NATIONAL CHARTER SCHOOL STUDY, 2013**

CCSA's Minimum Academic Accountability Criteria

2016-2017

Charters meeting ANY initial filter OR showing academic success through the Multiple Measure Review meet the academic threshold to receive CCSA's full advocacy support for renewal or replication. CCSA opposes renewal and replication for schools below ALL initial filters AND that do not demonstrate academic success through the Multiple Measure Review.

Initial Filters

Three measures of state test scores and postsecondary readiness:

1. Status Measure: Above 40th percentile on SBAC

Additionally, schools performing in the bottom 5th percentile need to participate in CCSA's Multiple Measure Review before receiving CCSA's advocacy support for renewal or replication

CCSA uses a weighted average of SBAC scale scores measuring how far the average student is above/below the "Met" standard and ranked 0-100th percentile statewide.

2. Growth/Postsecondary Readiness

Elementary/Middle Schools: Growth over time on SBAC
(An increase on the Average Point Difference (APD) measure by at least 15 scale score points (2016-15))

High Schools: 75% or more of 12th grade graduates completing all "a-g" requirements

3. Similar Students: "Within or above predicted" on either of the last two years on CCSA's Similar Students Measure *(measures how schools are performing with similar students across the state)*

Multiple Measure Review

Schools below ALL the initial filters or in the bottom 5% statewide on SBAC can share outcomes aligned to California's 8 state priorities as described in the school's Local Control Accountability Plan (LCAP). Schools can tell their own story of success by choosing measures most closely aligned to their mission.

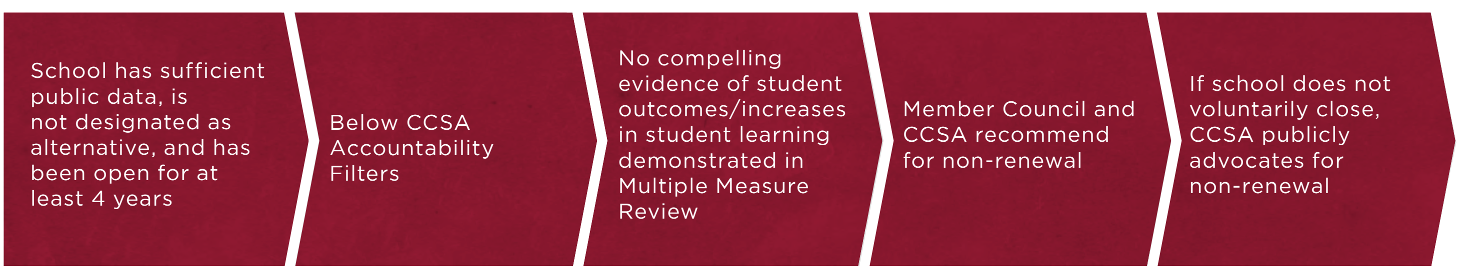
CCSA's Minimum Academic Accountability Criteria would not apply if a school is ASAM/Alternative, less than four years old, or has less than 30 valid test takers.

In 2014-15, with the transition to Common Core State Standards, CCSA adjusted its charter performance metrics (the Average Point Difference and Similar Students Measure described in Part 1), and revised its Minimum Academic Accountability Criteria. As with our prior framework, we start by reviewing an initial set of filters for a school. Charter schools above any initial filter have met the academic threshold for CCSA advocacy support for renewal and replication. For schools that are below all of the initial filters, CCSA offers a more in-depth review of multiple measures, aligned to California's eight state priorities and a school's Local Control Accountability Plan (LCAP). If schools have no evidence of compelling student outcomes and increases in student learning, based on both public data and a multiple measure review, then CCSA advocates for these schools' non-renewal unless they choose to self-close.

Additional Detail on the Academic Accountability Criteria

CCSA's initial filters include academic status, academic growth, and a control for school performance given the demographic of students they are serving (the Similar Students Measure).[22] For academic status, the framework uses our Average Point Difference measure to identify academic success. The second indicator, growth, currently only has two years of assessment data, reflecting the two years of SBAC data available, but we intend to expand to three years of growth (as we used pre-SBAC) once it is possible to do so. Additionally, the change in tested grades discussed above poses problems for assessing growth in high schools as only 11th grade results are available. To address this, CCSA's updated academic accountability framework includes a post-secondary

FIGURE 37
Steps in CCSA's Academic Accountability Review and Resulting Advocacy



readiness measure – a-g coursework completion – for high schools in lieu of the growth measure. The third criterion of the framework continues to be CCSA's Similar Students Measure, with the above described modifications to reflect the SBAC performance data. Any school not meeting any one of these initial filtering criteria or schools performing in the bottom 5% statewide are invited to share their own measures of successful outcomes as part of our Multiple Measure Review.[23] The multiple measure review process allows charter schools whose academic success story isn't told well through state measures to work directly with CCSA to identify the best student growth accomplishments to highlight for renewal.

CCSA has always excluded from its assessment those charter and traditional public schools serving almost exclusively at-risk populations, believing that schools primarily serving high risk populations (incarcerated youth, students who have previously dropped out, students who are in foster care or homeless, or many other special populations) should have their own accountability systems identifying a different set of performance criteria. Therefore, schools classified as members of Alternative School Assessment Model (ASAM), and charter schools that are identified as Alternative schools by the CDE are excluded from our accountability framework. Additionally, very small schools (fewer than 30 total test-takers) and schools who have not yet had a full four years to develop their academic program (i.e., having a renewal term shorter than five years) are also excluded from our minimum criteria.

Using this Minimum Academic Accountability Criteria, CCSA continues its annual call for non-renewal of schools below all academic criteria and multiple measure review. We believe that we cannot have an honest conversation about the transformational role charter schools play without also emphasizing accountability. This year therefore marks the sixth full year of CCSA's Public Call for Non-Renewal.[24] We also continue to advocate that local authorizers not approve underperforming charter schools' plans for replication until the performance of their flagship school has improved. In addition to this public advocacy, CCSA believes in empowering parents, schools, authorizers, and other stakeholders with public data files showing performance of all schools. In this effort, we have published a sortable spreadsheet of state ranks and similar school ranks[25] as well as a dedicated website of interactive reports showing regional and school level academic outcomes across the state.[26] As we highlighted in our 2014 Portrait of the Movement, we are confident that CCSA's efforts inspire increasing academic success for charter school students throughout the transition to the new standards and continue to strengthen the California charter movement.

Looking Forward

This Portrait of the Movement described the unique challenges presented by the transition to the new SBAC system, how California's charter schools have faced the hurdles and remained on the right track towards strengthening academic performance, and how CCSA's academic accountability work has endeavored to fill a void of clear standards from the state to encourage clear and fair authorizing practices. Changes as significant as the shift to Common Core standards and SBAC testing require a number of years for full implementation, so we predict that these results merely reflect the early years of this transition. The following will therefore explore opportunities we anticipate for the charter school movement and aspirations for improving accountability and authorizing in the coming years.

While these first two years of testing data are encouraging, CCSA intends to develop our academic measures into the full three-year measures we used under the former API system. This means, starting with the 2016-17 assessment results, our Similar Students Measure will encompass three years of data to indicate which schools are consistently far above score predictions and outperforming given their student populations and which schools are consistently below or underperforming on the SSM. Additionally, two years of testing only equates to one year of growth, meaning that the growth we have seen for charter schools in 2016 only establishes a baseline for what growth might look like in the future. The results of the coming year's assessment will provide a clearer view of the average growth we can anticipate in years to come and how charter schools meet or exceed those averages. But as discussed above, like charter SSM results, it is entirely likely that a regression to the mean may be seen in the second year of growth outcomes, meaning it may take several years to fully understand what magnitude of growth will be typical (Figure 38). CCSA will also look to move to a growth measure that encompasses three years of growth data so that we can allow for fluctuations in year to year growth in the growth measure used for CCSA's accountability framework.

At the state level, the CDE has adopted the Distance from Level 3 academic indicator and has issued the California School Dashboard to help the public assess school performance statewide.[27] The state dashboard rates school and district SBAC scores to indicate students' college and career readiness, as well as other indicators like graduation rates, English Learner progress, and school climate. These indicators, as well as demonstrated growth in each measure, are given color-coded rubrics to show an overall performance assessment. While we are pleased that the state has adopted the Distance to Level 3 as its academic indicator and we are eager to return to the clear achievement standards schools worked under previously, CCSA remains concerned about the impact on charter school accountability. We urge the state legislators to clarify charter renewal standards and update the education code so

California Charter Schools Association

that schools can again operate under well-defined accountability guidelines.

With a return to clear standards from the state over the next several years, we also hope to further develop healthy relationships between charter schools and authorizers. The charter movement and school districts are strengthened by partnerships to encourage authorization and replication of high quality charter schools and closure of chronically underperforming schools. CCSA engages with authorizers in an attempt to increase understanding and support of charter schools. In addition to our outreach and relationship-building with authorizers, CCSA continues to publish findings in reports for districts and the general public on how schools are performing relative to our minimum academic accountability criteria. We hope these efforts will foster good faith partnerships between charters and their authorizers and encourage fair authorizing practices across the state.

It is true that all schools are still in a place of transition. At this time it is too early to tell with precision what we should expect or predict for future academic performance under the SBAC system. Schools that excelled under the API need time to adjust and achieve the same successes with the new standards. With that caution in mind, this Portrait of the Movement has sought to highlight where there is already cause for celebration. We see outperforming among CMO and classroom-based charter schools, historically disadvantaged students reaching farther in charters, and charter schools in urban districts providing opportunities students may not have had otherwise. We also have areas for improvement and we need to do better in non-classroom based charters and with English Learners and students with disabilities. But the early successes seen in charter schools give hope that the adjustment to the new standards is imminent and that all charter types have the similar capability to continually improve student achievement.

FIGURE 38
Historical Statewide Distribution on Top and Bottom Quartiles of SSM

	School Year	Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%
SBAC	2015-16	10%	16%	29%	32%	17%	11%
	2014-15	10%	17%	30%	31%	18%	12%
API	2012-13	9%	15%	26%	37%	21%	15%
	2011-12	12%	18%	33%	36%	23%	15%
	2010-11	11%	18%	32%	37%	22%	16%
	2009-10	13%	18%	34%	35%	22%	15%
	2008-09	13%	19%	34%	33%	21%	15%
	2007-08	15%	21%	35%	32%	22%	15%
	Total 8-Year Change	-5.5%	-5.6%	-6.0%	0.6%	-4.7%	-4.0%

What we do know for certain is that the charter movement is resilient. We have seen a great period of growth in the past, as shown in the table above, where charter school dedication to academics has resulted in a great reduction in low performing schools and overall strengthening of the movement. Charter schools are innovative and have a genuine desire to improve and achieve the best possible learning outcomes for their students. So although the transition to new standards has been a challenging one for charter and traditional public schools alike, because of the durable spirit of charter schools as evidenced by the encouraging academic data we have seen so far, we strongly believe the charter movement will continue to grow and return the “U shape to a J.”

APPENDIX A Methodology

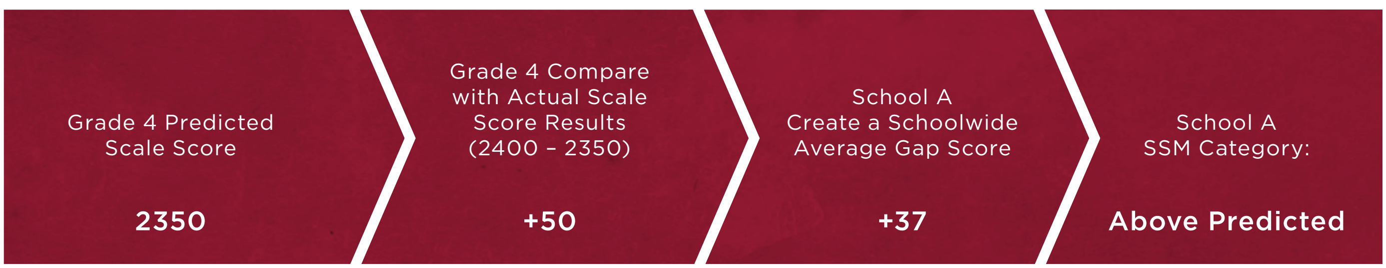
Calculating the Similar Students Measure

A central tenet of CCSA's academic accountability work is to strengthen the academic performance standards to which charter schools are held. CCSA developed a tool called the Similar Students Measure (SSM) to assess school performance while filtering out some of the non-school effects on student achievement. The SSM controls for these effects by comparing students' actual achievement to predicted results produced through multi-variate regression models. These statistical models incorporate certain demographic characteristics that are known to be linked to academic achievement and which are outside the control of public schools (like the ethnicities of students at the school, the percentage of students who are English Learners, parent education level, etc.).

To create the SSM, CCSA uses the publicly released Smarter Balanced assessment (SBAC) testing data provided by the CDE. The grade-level SBAC results are released for every school in California that tested students. CCSA inputs these grade-level average test results in regression models that include the demographics and average parent education level of each grade, as well as the level of mobility at the school (i.e., the percentage of students who were continuously enrolled at the school from the start of the school year to the first day of state testing). Based on this information about the school's student population, the regression models predict how each grade would be expected to perform on the SBAC. We compare the difference between the regression model's predicted scale scores and each grade's actual average scale score results, creating "gap" scores. These gap scores show how a school's students are performing on the state tests compared with what we would expect given the school's demographics. We then create a percentile ranking of SSM results for each school in the state corresponding to the size of their gap score. Schools greatly underperforming compared to their predicted scores are ranked lower while outperforming schools are ranked higher. CCSA's "Shape of the U" is a graphical representation of these percentile ranks.

CCSA understands that the statistical methods used to predict schools' scores involve some level of uncertainty. To account for this, we established five categories to describe the size of the difference between schools' actual test results and their predictions. These categories are based on the standard error associated with each prediction, which is a mathematical quantification of the uncertainty associated with each school's predicted score. A school with a gap score within one standard error of its prediction is categorized as being "Within Predicted". Schools with a gap score outside of that range (between one and two standard errors above or below their predicted score) are categorized as either “Above” or “Below” predicted. Schools with scores even further outside of this range (more than two standard errors above or below) are categorized as “Far Above” or “Far Below”. CCSA uses these SSM categories in our academic accountability framework to identify schools consistently performing below predicted. Schools designated as alternative school accountability model (ASAM), alternative, or with fewer than 30 test-takers are excluded from the SSM calculations. See Figure 39 below for a visual demonstration of how the SSM is calculated. The SSM is not a longitudinal measure of a school’s growth, but an annual snapshot of student achievement. The scale score predictions are determined by statistical regression based on how all other schools served students of the included demographics in that testing year. These annual snapshots of performance are an attempt to approximate a schools’ “value-add” by measuring the degree to which schools exceeded, met, or fell

FIGURE 39
Visual Demonstration of a School’s SSM Calculation



Prediction is based on Grade 4 demographics

Grade 4 actual scale score average is 50 points higher than what was predicted

After repeating steps 1-2 for all other tested grades, the average predicted score for the school is 37 points above expected, given the school’s demographic profile

The Average Gap Score of +37 is between 1 and 2 Standard Errors above its Predicted Scale Score short of their predicted SBAC scale scores. When multiple years of testing data is available, CCSA uses an average of SSM categories to create a three-year SSM performance band with the following seven categories:

Far Below All Years:

Schools with SSM category of Far Below for all years for which we have data

Below All Years:

Schools with SSM Category of Below or Far Below for all years for which we have data

Below Most Years:

Schools with SSM Category of Below or Far Below in two out of three years

Within/Fluctuating:

Schools with SSM Category of Within most years for which we have data, or fluctuating with no more than one year in a Below or Above category

Above Most Years:

Schools with SSM Category of Above or Far Above in two out of three years

Above All Years:

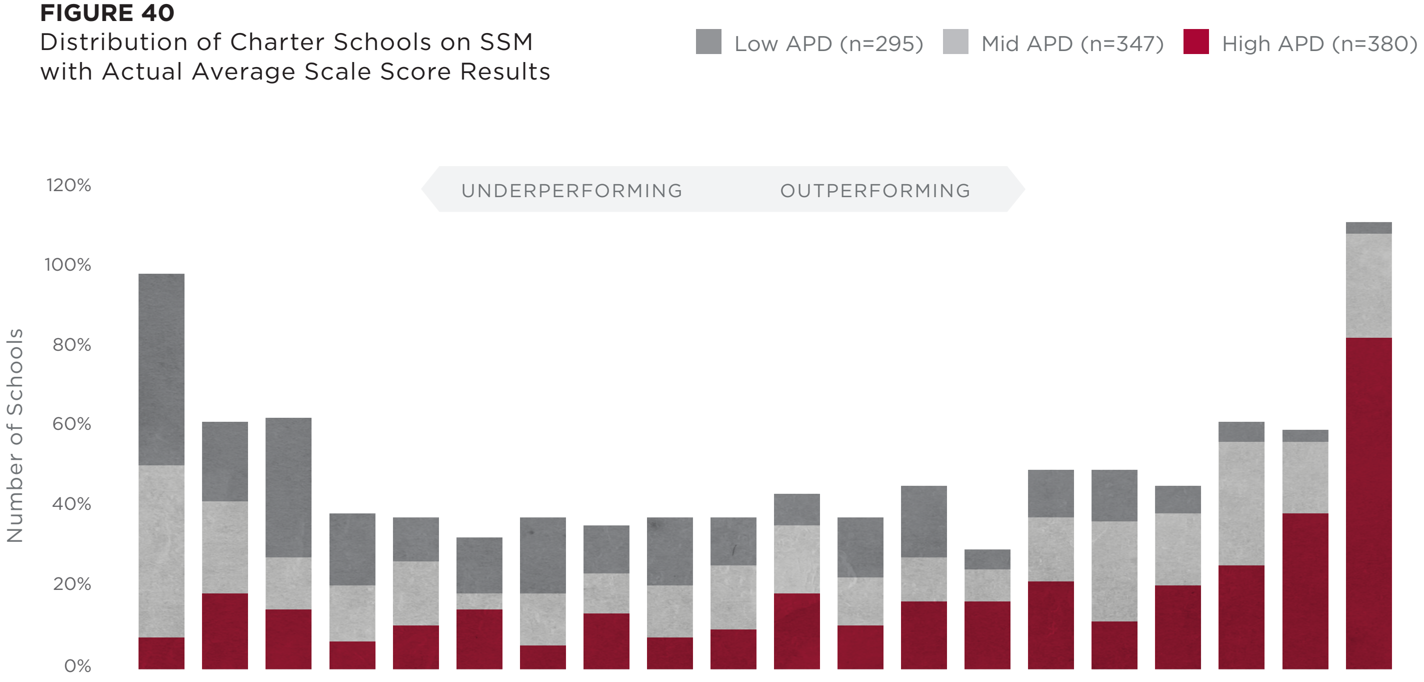
Schools with SSM Category of Above or Far Above all years for which we have data

Far Above All Years:

Schools with SSM Category of Far Above All Years for which we have data

CCSA recognizes that the SSM should not be the only criteria by which schools' academic achievement is monitored. The SSM is a relative measure of academic achievement, so some schools ranked very low on the SSM although they achieved relatively high scores on the SBAC test (see Figure 40). If a school's 4th graders' average scale score results were 2445, for example, and their predicted score was 2503, then they would have a gap score of -58. This would be considered extremely underperforming and the school would be located on the far left of the "Shape of the U" graph. Another school's 4th grade scale score average might be 2400, while their predicted scale score is just 2350. This second school's 4th grade gap score would be +50, and that school would be located on the far right of the distribution. In this example, the first school's actual 4th grade achievement was higher than the second, but because of the school's demographics, the SSM regression models predicted the school would have even higher test score results. That is why, in addition to a school's SSM, CCSA assesses a school's Average Point Difference (APD), as well as its growth over time when determining which schools are chronically underperforming.

FIGURE 40
Distribution of Charter Schools on SSM with Actual Average Scale Score Results



Limitations

The Similar Students Measure is a supplemental perspective of students' SBAC test score results, to help identify charter schools that may be high or low achieving. CCSA's research team has worked to ensure accuracy and the SSM regressions have high validity (see Appendix B for regression outputs). However, all statistical techniques have an inherent level of imprecision, which is exacerbated in the SSM's case by the fact that it is calculated using aggregated grade-level test results. It is with this consideration that the SSM categories incorporate the standard error associated with each school's predicted scale score results, and, in fact, most schools (77%) in California are classified by the SSM as performing within predicted.

Although the SSM is used to assess charter schools' effectiveness, most schools in the SSM regressions are traditional public schools, so it is primarily those schools' demographics and achievement that drive the predictions. Additionally, the ability of the model to assess the "value-add" of charter schools is limited since prior year test scores are not included in the regression. Ideally, charter school effectiveness would be demonstrated using true value-added modeling, but that would require longitudinal student-level data.

The SSM predicts test results using each grade's actual SBAC scale scores as the dependent variable, which is a more precise predictor of achievement than existed with the prior assessment system (CST). Nevertheless, there are some drawbacks to the

SBAC test. The SBAC test is only in its second year of administration, therefore high levels of uncertainty accompany the results. Schools are still adjusting to the Common Core curriculum upon which the SBAC test is based, and academic and logistical transition required for success under the new system is still underway. CCSA's academic measures should therefore be interpreted with the understanding that there is inherent uncertainty in the standardized testing system upon which the system is based.

Calculating the Average Point Difference (APD)

CCSA believes that in exchange for their freedom and autonomy, charter schools should be held to rigorous academic standards so that all students succeed. To interpret levels of success under the new Common Core standards adopted in 2014, CCSA developed an original measure called the Average Point Difference (APD). The APD assesses the academic progress of every tested student at schools across the state, by measuring how far the average student at a school is from achieving the standard for met, or Level 3, in both ELA and math. A positive APD score means that the average student at the school is meeting or exceeding state grade level standards in both subjects. A negative APD score indicates that the average student does not yet meet the state standards for their grade in both subjects.

A school's overall APD score is the average of their ELA and math APD. An APD for each subject is calculated using the weighted average of each grade's distance from the state standard for met set by the state for that grade and subject. At a school serving K-5 for example, APD ELA and math would be student-weighted averages of the test results from 3rd, 4th, and 5th grades. For this example elementary school, 4th graders achieved an average scale score of 2400. The minimum scale score

FIGURE 41
Visual Demonstration of an Elementary School's APD Calculation

Grade 4 Distance from Met for Math (2400-2485=)	Weight the Distance from Met for Math (-85 x 32%=)	Add each grade's Math Weighted Distances (-32 + -27.2 + -19.8=)	Average of ELA and Math APD [(-59 + -33)/2=]
-85	**-27.2**	**-59**	**-46**
Subtract Grade 4 Met standard Minimum for Math from Grade 4 average score	Multiply Grade 4 proportion of total enrollment by Distance from Met	Add each grade's weighted Distance from Met	Repeat steps 1-3 for ELA, then average ELA and Math results for step 3

needed to meet standards in math for 4th graders is 2485. That means 4th graders at the example school were, on average, 85 scale score points away from the met standard, or an APD of -85. To determine the overall school APD, we repeat this calculation for every grade at a school, for both math and ELA scores. Next we figure out the proportion of all tested students in each grade. In our example school, there were 125 students tested, and 40 of those were in 4th grade. That means that 4th graders make up about 32% of all tested students. We then multiply the 4th graders' distance from met (-85) by their share of all tested students (32%), and repeat this process for every grade's distance from met at the school. To calculate the APD by subject, we add together these weighted grade-level distances from met to arrive at the APD for math and ELA. See Figure 41 above for a visual breakdown of each step in this process.

All California schools are then ranked into percentiles per their APD, apart from schools excluded from CCSA's academic accountability framework. Excluded schools are those designated as alternative school accountability model (ASAM), alternative, or with fewer than 30 test-takers. The APD percentile rank is one of the criteria used in CCSA's accountability framework. CCSA also uses the APD to measure growth across multiple years of testing data. We calculate this growth measure by subtracting each school's APD from the 2015 academic year from their APD in 2016. The APD growth score shows the longitudinal trend in academic achievement at a school. APD growth is another measure included in CCSA's academic accountability minimum criteria.

Limitations

CCSA designed the APD as a tool that would help parents and educators quickly understand the academic achievement of students at a school. We assert that it is more informative than the traditional percent met/exceeded measure used under the past AYP/API state standards because APD encourages schools to raise each student's score as high as possible each year rather than incentivizing schools to only focus on whether a student has met standards or not. Unfortunately, the APD still has limitations as a measure of student achievement. It is an aggregate of every student's achievement, making it impossible to obtain a clear picture of how individual students at a school are performing. At a school with an APD of -50, for example, students may be concentrated closely above and below the state's standards or they could be polarized at the very high and low ends of performance. Due to the aggregated nature of the publicly available data, we cannot know the distribution of students' scores underlying each school's average.

This issue is further complicated by the fact that the SBAC test is only administered to grades 3-8 and 11. Some elementary school students and most high school students are not tested under the new assessment system, so APD does not allow us to measure how those untested students are performing academically. This is particularly problematic when interpreting the APD growth for high schools serving only 9-12th graders. Since only 11th graders are tested, APD growth measures the academic achievement of a new cohort of students every year.

APPENDIX B SSM Scale Score Prediction Regressions

Grade 3 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-2.784	-3.247	-2.41	-2.752
	(34.22)**	(39.04)**	(30.68)**	(34.88)**
Continuous Enrollment^2	0.025	0.028	0.024	0.027
	(52.14)**	(58.23)**	(51.74)**	(57.59)**
% SpEd	42.587	34.422	22.045	14.012
	(22.15)**	(17.48)**	(12.05)**	(7.48)**
% Low-Income	-59.615	-103.88	-55.943	-97.744
	(65.03)**	(157.60)**	(64.10)**	(156.15)**
% English Learner	-42.113	-45.584	-34.583	-37.373
	(59.66)**	(63.70)**	(51.50)**	(54.97)**
% Reclassified EFP	-19.685	-31.223	-4.654	-16.24
	(18.22)**	(28.56)**	(4.51)**	(15.57)**
% African American	-67.563	-68.933	-73.795	-74.168
	(65.82)**	(65.72)**	(75.61)**	(74.42)**
% Asian American	32.574	42.925	40.275	50.522
	(31.51)**	(41.00)**	(40.99)**	(50.79)**
% Latino	-5.481	-27.913	-17.024	-39.111
	(4.09)**	(21.25)**	(13.43)**	(31.47)**
% Other	-12.693	-15.652	-24.93	-27.496
	(9.10)**	(10.99)**	(18.85)**	(20.37)**
Avg Parent Ed	7.966		6.734	
	(15.51)**		(13.76)**	
% SpEd^2	-316.223	-306.546	-300.13	-290.585
	(44.02)**	(41.63)**	(43.67)**	(41.28)**
% Low-Income^2	15.186	24.619	21.548	30.468
	(20.74)**	(42.23)**	(30.89)**	(55.01)**
% EL^2	11.352	0.766	20.81	10.749
	(13.81)**	-0.94	(26.61)**	(13.84)**
% RFEP^2	133.956	122.56	122.036	112.242
	(42.92)**	(38.42)**	(40.59)**	(36.55)**
% African American^2	37.616	30.141	49.865	42.029
	(24.81)**	(19.54)**	(34.60)**	(28.67)**
% Asian American^2	-27.056	-31.681	-25.702	-30.988
	(26.10)**	(30.44)**	(26.15)**	(31.45)**
% Latino^2	-2.555	7.974	0.686	11.317
	(3.23)**	(10.40)**	-0.92	(15.57)**
% White^2	-23.188	-29.158	-25.735	-31.335
	(25.55)**	(31.77)**	(29.88)**	(35.98)**
% Other^2	-19.373	-33.267	8.875	-4.039
	(7.12)**	(11.97)**	(3.42)**	-1.53
Avg Parent Ed^2	1.934		1.96	
	(22.11)**		(23.53)**	
_cons	2,464.693	2,554.797	2,450.456	2,529.785
	(681.59)**	(705.30)**	(701.55)**	(736.49)**
R^2	0.76	0.75	0.75	0.73
N	447,943	453,133	449,861	455,293

* p<0.05; ** p<0.01

Grade 4 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-3.927	-4.585	-3.118	-3.420
	(46.07)**	(52.27)**	(41.63)**	(44.85)**
Continuous Enrollment^2	0.032	0.037	0.028	0.030
	(64.00)**	(71.23)**	(63.73)**	(67.76)**
% SpEd	36.178	32.598	-14.362	-18.743
	(18.80)**	(16.43)**	(8.31)**	(10.58)**
% Low-Income	-68.160	-120.472	-61.475	-109.325
	(73.23)**	(174.93)**	(74.09)**	(178.26)**
% English Learner	-48.548	-53.415	-36.140	-39.493
	(64.32)**	(69.13)**	(53.52)**	(57.36)**
% Reclassified EFP	6.013	3.643	14.665	13.395
	(5.85)**	(3.45)**	(15.77)**	(14.08)**
% African American	-58.232	-57.667	-62.623	-62.570
	(56.47)**	(54.24)**	(67.67)**	(65.93)**
% Asian American	21.633	35.494	31.518	42.815
	(20.81)**	(33.33)**	(33.85)**	(45.12)**
% Latino	4.311	-16.255	-23.624	-44.001
	(3.26)**	(12.30)**	(20.00)**	(37.49)**
% Other	-11.113	-11.491	-21.606	-24.495
	(8.50)**	(8.54)**	(18.50)**	(20.48)**
Avg Parent Ed	9.103		3.127	
	(17.78)**		(6.90)**	
% SpEd^2	-294.068	-299.321	-127.363	-127.259
	(42.48)**	(41.91)**	(20.38)**	(19.84)**
% Low-Income^2	16.792	28.004	19.042	31.892
	(22.58)**	(46.18)**	(28.76)**	(59.09)**
% EL^2	18.677	5.591	23.320	13.278
	(19.50)**	(5.81)**	(27.25)**	(15.49)**
% RFEP^2	69.687	42.263	58.301	36.510
	(30.24)**	(17.82)**	(27.66)**	(16.92)**
% African American^2	20.277	13.356	18.487	11.730
	(13.55)**	(8.68)**	(13.74)**	(8.52)**
% Asian American^2	-6.838	-16.543	-6.520	-16.609
	(6.82)**	(16.17)**	(7.26)**	(18.25)**
% Latino^2	-9.204	0.339	0.904	10.888
	(11.76)**	(0.44)	(1.29)	(15.80)**
% White^2	-20.453	-25.586	-24.774	-30.792
	(22.62)**	(27.69)**	(30.60)**	(37.41)**
% Other^2	-20.646	-34.072	-12.434	-22.217
	(8.86)**	(14.17)**	(5.97)**	(10.39)**
Avg Parent Ed^2	2.173		2.494	
	(25.03)**		(32.48)**	
_cons	2,544.591	2,651.039	2,529.281	2,603.868
	(671.71)**	(694.91)**	(759.70)**	(785.95)**
R^2	0.78	0.77	0.79	0.78
N	466,057	468,502	468,010	470,514

* p<0.05; ** p<0.01

California Charter Schools Association

Grade 5 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-3.887	-4.507	-3.850	-4.609
	(48.28)**	(54.08)**	(47.16)**	(54.87)**
Continuous Enrollment^2	0.031	0.036	0.032	0.037
	(65.78)**	(72.78)**	(66.70)**	(75.24)**
% SpEd	13.107	1.634	-6.624	-16.870
	(6.54)**	(0.78)	(3.25)**	(7.99)**
% Low-Income	-51.963	-116.886	-55.290	-126.320
	(55.29)**	(173.44)**	(58.17)**	(186.59)**
% English Learner	-51.456	-63.036	-35.774	-48.059
	(62.30)**	(73.96)**	(42.89)**	(55.97)**
% Reclassified EFP	26.511	30.003	38.622	42.295
	(27.35)**	(29.73)**	(39.14)**	(41.38)**
% African American	-61.374	-62.298	-73.257	-74.627
	(60.28)**	(58.74)**	(71.34)**	(70.11)**
% Asian American	21.499	39.796	20.389	36.440
	(20.84)**	(37.32)**	(19.61)**	(34.06)**
% Latino	-6.232	-22.553	-34.606	-54.718
	(4.87)**	(17.35)**	(26.84)**	(42.06)**
% Other	-10.608	-8.872	-24.368	-24.437
	(8.04)**	(6.47)**	(18.36)**	(17.80)**
Avg Parent Ed	9.636		1.693	
	(18.48)**		(3.23)**	
% SpEd^2	-251.712	-231.891	-157.119	-141.863
	(35.27)**	(31.25)**	(21.41)**	(18.68)**
% Low-Income^2	7.857	24.958	15.859	39.132
	(10.52)**	(41.75)**	(21.06)**	(65.18)**
% EL^2	25.962	16.263	25.778	20.974
	(21.87)**	(13.43)**	(21.56)**	(17.21)**
% RFEP^2	6.708	-27.856	-0.382	-32.652
	(3.95)**	(15.85)**	(0.22)	(18.20)**
% African American^2	21.228	21.088	19.851	18.220
	(14.58)**	(13.93)**	(13.50)**	(11.98)**
% Asian American^2	-9.180	-23.390	3.932	-8.768
	(9.37)**	(23.07)**	(3.97)**	(8.60)**
% Latino^2	-0.985	5.382	3.431	12.461
	(1.29)	(7.03)**	(4.46)**	(16.22)**
% White^2	-24.701	-27.370	-28.084	-32.407
	(28.09)**	(30.13)**	(31.71)**	(35.60)**
% Other^2	-13.186	-25.063	2.369	-9.234
	(5.59)**	(10.19)**	(0.99)	(3.73)**
Avg Parent Ed^2	2.668		3.846	
	(30.21)**		(43.25)**	
_cons	2,578.317	2,692.072	2,578.457	2,689.370
	(719.55)**	(744.08)**	(709.41)**	(737.23)**
R^2	0.79	0.77	0.80	0.78
N	456,924	459,278	458,571	461,091

* p<0.05; ** p<0.01

Grade 6 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-2.485	-3.247	-1.933	-2.787
	(33.11)**	(41.74)**	(23.90)**	(33.01)**
Continuous Enrollment^2	0.023	0.028	0.021	0.027
	(50.42)**	(60.70)**	(43.96)**	(54.36)**
% SpEd	-64.161	-70.453	-114.196	-122.687
	(32.88)**	(34.74)**	(55.50)**	(56.96)**
% Low-Income	-43.799	-111.051	-47.202	-134.145
	(41.84)**	(156.10)**	(42.66)**	(177.83)**
% English Learner	-79.748	-100.467	-101.831	-122.786
	(83.10)**	(102.04)**	(101.19)**	(118.05)**
% Reclassified EFP	12.595	18.751	10.227	17.199
	(12.30)**	(17.62)**	(9.43)**	(15.15)**
% African American	-65.036	-60.688	-79.710	-75.975
	(62.20)**	(55.82)**	(72.41)**	(65.87)**
% Asian American	68.198	88.449	79.274	101.094
	(64.60)**	(81.23)**	(71.57)**	(87.77)**
% Latino	53.187	36.323	37.268	9.989
	(39.81)**	(26.92)**	(26.59)**	(7.01)**
% Other	-18.679	-26.503	-24.307	-38.370
	(14.46)**	(19.87)**	(17.92)**	(27.18)**
Avg Parent Ed	16.000		10.575	
	(28.44)**		(17.93)**	
% SpEd^2	-1.028	-15.393	150.788	136.056
	(0.15)	(2.15)*	(20.66)**	(17.79)**
% Low-Income^2	3.684	20.377	10.905	37.335
	(4.52)**	(32.27)**	(12.70)**	(55.79)**
% EL^2	81.523	79.502	122.079	118.189
	(52.57)**	(49.83)**	(75.66)**	(70.65)**
% RFEP^2	28.257	-15.633	48.283	-0.350
	(17.22)**	(9.28)**	(27.64)**	(0.19)
% African American^2	49.497	39.562	48.520	35.490
	(30.69)**	(23.61)**	(28.48)**	(19.90)**
% Asian American^2	-32.553	-44.533	-19.106	-34.872
	(31.70)**	(41.92)**	(17.74)**	(31.08)**
% Latino^2	-34.441	-27.250	-34.946	-21.739
	(43.18)**	(34.15)**	(41.68)**	(25.74)**
% White^2	0.494	-1.719	-4.620	-10.864
	(0.54)	(1.81)	(4.76)**	(10.80)**
% Other^2	24.147	32.149	21.905	34.607
	(11.99)**	(15.36)**	(10.34)**	(15.59)**
Avg Parent Ed^2	1.985		3.596	
	(20.44)**		(35.18)**	
_cons	2,510.279	2,642.659	2,473.442	2,620.746
	(753.73)**	(790.33)**	(689.13)**	(721.51)**
R^2	0.78	0.76	0.82	0.80
N	452,401	454,700	453,815	456,284

* p<0.05; ** p<0.01

Grade 7 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-4.785	-5.379	-4.467	-5.080
	(84.11)**	(91.23)**	(75.31)**	(82.39)**
Continuous Enrollment^2	0.037	0.041	0.038	0.042
	(104.87)**	(113.66)**	(102.75)**	(111.18)**
% SpEd	-100.148	-110.248	-106.231	-115.129
	(47.34)**	(49.92)**	(48.54)**	(50.21)**
% Low-Income	-41.147	-102.647	-47.190	-125.765
	(42.28)**	(155.73)**	(46.85)**	(183.22)**
% English Learner	-86.709	-115.011	-96.543	-125.524
	(91.66)**	(118.03)**	(99.05)**	(124.77)**
% Reclassified EFP	-19.603	-10.333	-9.146	0.316
	(20.14)**	(10.16)**	(9.02)**	(0.30)
% African American	-73.288	-73.682	-93.168	-94.049
	(76.59)**	(73.60)**	(93.81)**	(90.18)**
% Asian American	40.121	60.393	41.767	60.684
	(40.95)**	(59.54)**	(41.24)**	(57.63)**
% Latino	24.405	17.218	-6.178	-22.503
	(19.82)**	(13.76)**	(4.86)**	(17.36)**
% Other	-22.986	-17.816	-12.220	-11.621
	(19.25)**	(14.34)**	(9.91)**	(9.02)**
Avg Parent Ed	23.307		14.133	
	(43.62)**		(25.76)**	
% SpEd^2	93.394	112.303	124.096	136.827
	(11.16)**	(12.85)**	(14.21)**	(14.94)**
% Low-Income^2	-0.299	13.142	6.360	30.923
	(0.38)	(21.83)**	(7.86)**	(49.38)**
% EL^2	83.584	97.387	118.268	133.966
	(47.58)**	(53.45)**	(66.16)**	(72.01)**
% RFEP^2	64.075	22.189	81.290	39.128
	(46.23)**	(15.50)**	(56.02)**	(26.01)**
% African American^2	39.322	43.020	31.776	31.855
	(27.49)**	(28.80)**	(21.29)**	(20.35)**
% Asian American^2	-0.785	-13.461	27.758	14.403
	(0.82)	(13.51)**	(28.02)**	(13.92)**
% Latino^2	-24.765	-23.907	-21.880	-15.611
	(33.53)**	(32.12)**	(28.64)**	(20.20)**
% White^2	-17.521	-16.224	-20.453	-23.229
	(20.50)**	(18.35)**	(23.15)**	(25.32)**
% Other^2	-4.509	-14.470	-32.506	-41.486
	(2.26)*	(6.93)**	(15.75)**	(19.14)**
Avg Parent Ed^2	0.576		2.446	
	(6.35)**		(26.22)**	
_cons	2,636.312	2,763.016	2,605.174	2,731.864
	(1,060.24)**	(1,125.40)**	(1,004.51)**	(1,064.04)**
R^2	0.83	0.82	0.87	0.86
N	449,990	451,340	451,290	452,663

* p<0.05; ** p<0.01

Grade 8 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-3.907	-4.559	-4.778	-5.439
	(71.33)**	(80.23)**	(68.95)**	(75.70)**
Continuous Enrollment^2	0.032	0.037	0.042	0.047
	(92.74)**	(103.62)**	(98.16)**	(106.30)**
% SpEd	-153.288	-160.095	-151.684	-167.886
	(62.04)**	(62.35)**	(50.03)**	(53.28)**
% Low-Income	-42.806	-98.401	-43.335	-131.358
	(43.11)**	(143.32)**	(35.57)**	(155.63)**
% English Learner	-104.666	-128.154	-111.309	-133.763
	(103.36)**	(123.76)**	(89.09)**	(104.97)**
% Reclassified EFP	-7.441	0.482	13.265	19.545
	(7.80)**	(0.49)	(11.23)**	(15.93)**
% African American	-70.193	-73.859	-95.304	-101.213
	(71.42)**	(72.18)**	(78.68)**	(80.26)**
% Asian American	47.405	67.076	61.157	80.140
	(47.42)**	(65.05)**	(49.82)**	(63.27)**
% Latino	30.872	17.274	-11.654	-43.071
	(24.30)**	(13.50)**	(7.48)**	(27.46)**
% Other	-14.359	-12.989	-18.863	-25.894
	(11.81)**	(10.35)**	(12.67)**	(16.83)**
Avg Parent Ed	25.880		13.590	
	(47.78)**		(20.57)**	
% SpEd^2	300.074	293.321	300.901	325.237
	(28.51)**	(26.80)**	(23.14)**	(24.06)**
% Low-Income^2	4.774	15.841	4.062	34.091
	(5.94)**	(25.31)**	(4.13)**	(44.29)**
% EL^2	123.027	126.388	164.103	163.753
	(59.94)**	(59.76)**	(65.50)**	(63.48)**
% RFEP^2	38.336	-1.194	36.743	-3.984
	(30.36)**	(0.93)	(23.40)**	(2.49)*
% African American^2	49.875	57.568	42.529	46.975
	(33.60)**	(37.34)**	(23.07)**	(24.53)**
% Asian American^2	-5.112	-17.263	23.472	10.003
	(5.13)**	(16.70)**	(19.18)**	(7.88)**
% Latino^2	-24.206	-18.781	-7.264	8.891
	(31.67)**	(24.56)**	(7.74)**	(9.47)**
% White^2	-12.176	-12.231	-8.989	-16.742
	(13.98)**	(13.68)**	(8.41)**	(15.25)**
% Other^2	11.622	3.522	-2.010	-8.867
	(5.59)**	(1.63)	(0.79)	(3.33)**
Avg Parent Ed^2	0.007		2.988	
	(0.07)		(26.57)**	
_cons	2,610.528	2,740.124	2,599.854	2,739.814
	(1,086.10)**	(1,164.45)**	(856.66)**	(921.73)**
R^2	0.80	0.79	0.83	0.82
N	441,712	443,206	442,791	444,322

* p<0.05; ** p<0.01

Grade 11 Scale Score Prediction Regressions

	ELA		Math	
	w/ Parent Ed	w/out Parent Ed	w/ Parent Ed	w/out Parent Ed
Continuous Enrollment	-2.137	-2.204	-2.474	-2.392
	(59.68)**	(60.58)**	(69.80)**	(64.62)**
Continuous Enrollment^2	0.022	0.023	0.028	0.027
	(90.87)**	(93.52)**	(114.16)**	(109.02)**
% SpEd	-154.084	-157.789	-162.542	-185.910
	(43.86)**	(44.17)**	(47.14)**	(51.61)**
% Low-Income	-51.013	-92.983	-69.225	-178.430
	(45.40)**	(114.48)**	(62.99)**	(217.92)**
% English Learner	-249.796	-267.078	-210.648	-228.460
	(167.89)**	(177.25)**	(146.18)**	(152.37)**
% Reclassified EFP	-19.616	-18.988	52.183	49.053
	(17.50)**	(16.64)**	(47.37)**	(42.59)**
% African American	-95.715	-88.151	-94.699	-90.886
	(76.56)**	(69.55)**	(77.35)**	(71.28)**
% Asian American	55.254	74.666	68.014	87.576
	(45.39)**	(60.99)**	(57.08)**	(71.13)**
% Latino	36.417	14.291	-6.631	-72.541
	(23.27)**	(9.49)**	(4.33)**	(47.94)**
% Other	80.264	72.099	88.912	56.616
	(50.11)**	(44.89)**	(56.60)**	(34.99)**
Avg Parent Ed	18.359		-22.751	
	(25.20)**		(31.88)**	
% SpEd^2	289.857	284.553	238.996	314.189
	(17.02)**	(16.43)**	(14.22)**	(17.89)**
% Low-Income^2	17.999	23.646	30.443	83.656
	(17.85)**	(30.51)**	(30.82)**	(107.01)**
% EL^2	276.830	290.145	237.980	249.382
	(74.84)**	(77.01)**	(67.55)**	(67.64)**
% RFEP^2	63.761	43.163	-27.465	-43.875
	(44.05)**	(29.73)**	(19.27)**	(29.90)**
% African American^2	80.041	66.975	54.025	26.441
	(42.57)**	(35.05)**	(29.33)**	(13.75)**
% Asian American^2	10.553	-9.542	44.279	12.512
	(8.74)**	(7.83)**	(37.55)**	(10.23)**
% Latino^2	-6.753	6.520	9.462	50.611
	(7.21)**	(7.30)**	(10.30)**	(56.27)**
% White^2	-4.551	-8.787	-10.893	-33.730
	(4.20)**	(8.17)**	(10.28)**	(31.21)**
% Other^2	-161.643	-154.660	-208.299	-186.032
	(46.92)**	(44.08)**	(61.44)**	(52.45)**
Avg Parent Ed^2	0.351		8.654	
	(2.96)**		(74.66)**	
_cons	2,585.608	2,670.995	2,592.759	2,667.225
	(1,481.50)**	(1,821.72)**	(1,506.27)**	(1,793.33)**
R^2	0.73	0.72	0.85	0.83
N	389,771	389,771	388,777	388,777

* p<0.05; ** p<0.01

APPENDIX C Additional Findings

Unweighted Grade Level Average Point Difference by Subgroups

While Average Point Difference (APD) is a summative score calculated using a grade-level weighted average of students' distance from the "met" standard on the SBAC, we also found it informative to understand how charter schools performed at the grade and subject level for subgroups. In the past, charters have excelled at improving outcomes for underserved students when compared to traditional public schools. As mentioned in Part II of the Portrait of the Movement, analyzing results at a grade and subject level also helps us to understand where additional focus can be placed to better serve charter students through both primary and secondary school.

As shown in Figure 42, charter schools consistently perform higher than traditional public schools across most subgroups. First, charters are outperforming in elementary grades for all historically disadvantaged subgroups in both subjects when compared to traditional public schools. Charters continue this trend in middle school for most subgroups in ELA. In math however, charter schools achieved higher than traditional schools for seventh grade overall, but scores about the same as traditional schools in 6th and 8th grade math. For high schools, both charter and traditional schools average above the met standard for ELA, but 11th grade math scores represent the lowest overall APD of any previous grade. This is particularly concerning as it is the only tested grade in high school, so data from the previous two grades are not available to provide more insight into this drop between 8th and 11th grade. We recommend additional research be conducted by both traditional and charter schools to better understand why the high school math APD for all students is so low compared to other grades.

FIGURE 42
Grade-level Unweighted APD by Subgroup (2015-16)

Grade	Subject	Type	All	White	Asian	Latino	African American	Low Income	English Learner	Students with Disabilities
3rd Grade	ELA	Charter	-11.9***	14.0	45.9	-27.5***	-51.5***	-34.7***	-58.0***	-63.6***
		TPS	-19.5	15.9	40.9	-36.3	-62.8	-40.1	-65.0	-88.3
	Math	Charter	-8.9**	10.0	59.7	-20.3***	-44.6***	-27.8**	-38.1***	-57.2***
		TPS	-12.5	17.2	53.5	-28.4	-58.7	-30.8	-46.5	-81.8
4th Grade	ELA	Charter	-10.7***	14.5	57.8*	-27.4***	-50.8***	-34.1***	-69.2***	-79.3***
		TPS	-20.4	17.2	45.2	-38.4	-68.3	-42.5	-79.5	-105.2
	Math	Charter	-20.3***	-0.7	59.3**	-34.8***	-55.3***	-39.2***	-59.1***	-77.7***
		TPS	-25.8	6.7	45.2	-43.3	-73.8	-45.2	-70.4	-97.8

Grade	Subject	Type	All	White	Asian	Latino	African American	Low Income	English Learner	Students with Disabilities
5th Grade	ELA	Charter	-0.7***	26.5	66.5	-17.7***	-43.6***	-24.8***	-71.7***	-78.7***
		TPS	-9.0	26.8	57.8	-26.8	-60.3	-30.9	-84.0	-102.6
	Math	Charter	-37.8***	-12.1	44.9*	-54.2***	-79.9***	-59.9***	-92.6***	-103.4***
		TPS	-45.2	-9.1	32.5	-64.8	-99.8	-66.6	-107.8	-125.5
6th Grade	ELA	Charter	-11.5*	15.8	54.4	-26.0**	-46.5***	-30.5**	-88.2**	-100.5***
		TPS	-14.6	15.4	49.5	-30.4	-60.5	-33.5	-94.1	-115.5
	Math	Charter	-45.6	-13.7	46.8	-62.9**	-88.1***	-66.5	-119.5***	-139.3***
		TPS	-47.3	-12.3	38.5	67.6	-104.3	-68.7	-126.8	-158.0
7th Grade	ELA	Charter	-3.9***	25.4***	57.1*	-20.1***	-38.6***	-24.1***	-99.5***	-103.8**
		TPS	-14.6	13.6	48.5	-32.0	-52.5	-35.6	-106.7	-111.1
	Math	Charter	-37.3***	-4.2***	55.1**	-56.4***	-82.8***	-60.2***	-129.8***	-149.7*
		TPS	-45.8	-14.9	38.7	-68.4	-95.7	-69.5	-139.1	-156.2
8th Grade	ELA	Charter	-0.5***	35.8***	68.0***	-16.0***	-34.4***	-20.1***	-95.5***	-97.7***
		TPS	-10.0	16.1	51.4	-28.1	-48.0	-30.5	-108.7	-111.1
	Math	Charter	-44.8	-14.8	64.7**	-64.0***	-91.6**	-68.5*	-138.8*	-149.6***
		TPS	-47.1	-16.9	45.0	-71.9	-101.1	-72.0	-145.2	-161.3
11th Grade	ELA	Charter	24.2	42.3	94.9**	14.4***	-8.9	11.6***	-87.4***	-71.6***
		TPS	21.5	46.5	76.0	4.0	-14.9	1.7	-106.4	-97.6
	Math	Charter	-69.0	-51.0	43.8	-81.1	-108.1	-83.2	-167.1	-165.8***
		TPS	-55.3	-27.5	35.6	-80.2	-101.7	-78.8	166.2	-181.3

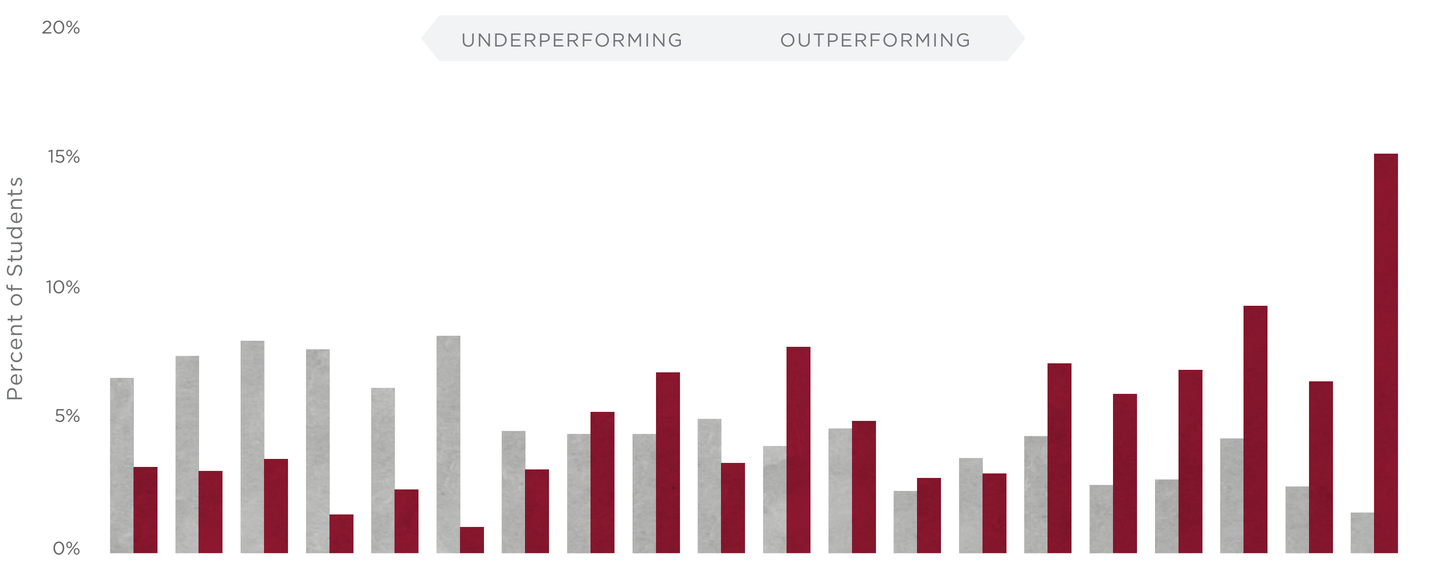
*p<0.05, **p<0.01, ***p<0.001

Charter Achievement in Urban Centers: Additional Findings in LAUSD

In urban school districts, where large percentages of the students are more likely to be from historically disadvantaged backgrounds, charter school students excel. This phenomenon is particularly apparent in Los Angeles Unified School District. As outlined in the main report above, LAUSD charters overall are outperforming expectations with more than twice the percent of LAUSD traditional public schools performing in the top quartile statewide (43% of charters versus 19% of TPS).

These trends are even more pronounced when we isolate just the autonomous charter schools in LAUSD. The 236 autonomous charter schools in Los Angeles function entirely independently from the district governance and decision-making. This sector of charter schools serves even higher percentages of historically disadvantaged students, enrolling 83% African-American and Latino students and 79% low-income students. When we examine the performance of these students in autonomous charters, not only do we find a pronounced J-shape of performance, but we even see a slight reverse-J for traditional public schools serving the same student group. Nearly half (45%) of African-American and Latino students in LAUSD autonomous charters attend schools that are in the top quartile of performance statewide. Moreover, these students are almost ten times more likely to attend a school among the most outperforming five percent of schools if they are in a charter.

FIGURE 43
Student-Weighted Distribution on SSM, African-American and Latino Students



		Bottom 5%	Bottom 10%	Bottom 25%	Top 25%	Top 10%	Top 5%	Total
Charter School Students	%	3%	6%	14%	45%	22%	15%	47,386
	#	1,558	3,053	6,617	21,102	10,377	7,258	
Traditional School Students	%	7%	14%	37%	14%	4%	2%	202,448
	#	13,612	28,946	74,090	28,190	8304	3,137	

The same advantages are provided to socioeconomically disadvantaged students in Los Angeles charter schools. This subgroup of charter students are three times more likely to attend a top quartile school than their traditional public school peers while TPS socioeconomically disadvantaged students are three times more likely than charter school students to attend a school in the bottom quartile in the state.

These impressive findings show that charter schools are far outperforming predictions and positively impacting achievement or students of all demographic backgrounds. Charter schools in Los Angeles are proving that great outcomes are possible for historically disadvantaged students and that income and ethnic background do not have to mean lesser life outcomes.

APPENDIX D Definition of Key Terms

Management Model (CCSA Definition):

CMO School: School that is part of a charter management organization (CMO), which is an organization that operates three or more schools linked by a common philosophy and centralized governance or operations.

Network School: School that is part of a Network, which is a group of schools linked by a common philosophy but not centralized governance or operations. Networks are also entities that would otherwise fit definition of CMO but have fewer than three schools.

Freestanding: Freestanding schools include both start-up single-site schools and traditional district schools that have converted to charters that are not part of a network or CMO affiliation.

Replication Schools (CCSA Definition):

Replication Schools: Schools that are operated by a charter management organization (CMO) or Network that opened a school in the following fall (i.e. in this case, the fall of the 2014-15 or 2015-16 school year).

Autonomy (CCSA Definition)

Autonomous Charters: Schools that appoint their board of directors, do not use the local school district's collective bargaining agreement, are directly funded and are likely to be incorporated as a 501(c)3.

Non-autonomous Charters: Schools that either have the majority of their board appointed by their authorizer or are under a school district's collective bargaining agreement, are indirectly funded, and are not incorporated as a 501(c)3.

Semi-autonomous Charters: Schools that appoint a board and are incorporated as a 501(c)3. In addition to these characteristics, a semi-autonomous charter school either uses its authorizing district's collective bargaining agreement and is directly funded or is indirectly funded and does not use the district's collective bargaining agreement.

Site Type (California Department of Education "CDE" Definition):

Non-classroom-based: Schools where less than 80% of instructional time is offered at the school site when students are, "engaged in educational activities required of those pupils and are under immediate supervision and control of an employee of the charter school who possesses a valid teaching certificate" (EC 47612.5).

Classroom-based: Schools where at least 80% of instructional time is offered at the school site.

Start Type (CDE Definition):

Conversion: Schools that converted from a traditional public school into a charter school.

Start-up: Schools that started organically without converting from an existing school.

Student Family Income (CDE Definition):

Low-income: Schools where 50% or more of students are reported eligible for the federal Free/ Reduced Price Lunch program.

Not low-income: Schools where less than 50% of students are reported eligible for the federal Free/Reduced Price Lunch program.

Charter Age (CCSA Definition):

Young: Charter schools that have been in operation for three years or less.

Mature: Charter schools that have been in operation for four years or longer.

Virtual Schools (CDE Definition)

Virtual and online charter schools are those schools that offer nearly all or all of their educational content delivery via the Internet. For this analysis, in order for a school to be identified as "virtual," CCSA looked for schools classified as virtual in the California Department of Education Charter Schools Directory, or clearly identified as "virtual" or "online" in the school's name or non-profit incorporation name.

APPENDIX E Statistical Significance Testing: Average Point Difference

Methodology

A one-sample t-test is used to determine whether a sample mean differs from a hypothesized distribution. The t-tests below examine if the mean Average Point Difference (APD) of California charter schools is significantly different from that of traditional public schools.

Summary of Findings

In both 2014-15 and 2015-16, charter schools performed slightly better on APD than the traditional public school average. Charters also performed statistically significantly higher than traditional public schools with African-American, Latino, Asian, and low-income students, and students with disabilities. Additionally, when APD is translated into state decile ranks, charter schools achieve a statistically significantly higher average rank of 6.

APD Significance Tables:

2015 Average Point Difference

FIGURE 44
2015 Average Point Difference T-test
Traditional (n=7285) Charter (n=963)

	Combined	ELA	Math
Charter	-29.64	-12.37***	-46.86
TPS	-30.85	-18.88	-42.83**

*p<0.05, **p<0.01, ***p<0.001

FIGURE 45
2015 Average Point Difference T-test, by subgroup

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-66.23***	-44.22***	47.63**	-0.28	-91.93	-100.49***	-45.70***
TPS	-73.21	-48.83	36.44	-1.98	-91.13	-113.11	-50.62

*p<0.05, **p<0.01, ***p<0.001

FIGURE 46
2015 Average Point Difference T-test, by subgroup – ELA

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-44.22**	-25.69***	54.13**	17.19**	-82.82*	-87.05***	-28.43***
TPS	-53.13	-35.50	42.88	11.83	-85.90	-101.84	-38.61

*p<0.05, **p<0.01, ***p<0.001

FIGURE 47
2015 Average Point Difference T-test, by subgroup – Math

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-88.34*	-62.82	41.14**	-17.76	-100.98	-113.93***	-62.99
TPS	-93.29	-62.17	29.97	-15.81	-96.36*	-124.38	-62.63

*p<0.05, **p<0.01, ***p<0.001

2016 Average Point Difference

FIGURE 48
2016 Average Point Difference T-test
Traditional (n=7310) Charter (n=1022)

	Combined	ELA	Math
Charter	-21.66	-2.68***	-40.63
TPS	-23.04	-9.92	-36.15**

*p<0.05, **p<0.01, ***p<0.001

FIGURE 49
2016 Average Point Difference T-test, by subgroup

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-57.83***	-35.40***	57.46**	6.58	-87.70	-96.80***	-37.86***
TPS	-68.29	-41.07	46.28	6.56	-88.07	-109.66	-42.72

*p<0.05, **p<0.01, ***p<0.001

FIGURE 50
2016 Average Point Difference T-test, by subgroup – ELA

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-33.26***	-15.33***	62.56*	25.63**	-77.97 **	-81.51***	-18.79***
TPS	-47.27	-26.49	53.44	21.36	-82.07	-97.59	-29.42

*p<0.05, **p<0.01, ***p<0.001

FIGURE 51
2016 Average Point Difference T-test, by subgroup – Math

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	-82.39**	-55.47	52.36**	-12.46	-97.42	-112.09***	-56.93
TPS	-89.31	-55.65	39.11	-8.23*	-94.06	-121.72	-56.02

*p<0.05, **p<0.01, ***p<0.001

2015 to 2016 Growth in Average Point Difference

FIGURE 52
Average Point Difference Growth T-test
Traditional (n=7278) Charter (n=950)

	APD Growth
Charter	8.33
TPS	7.80

*p<0.05, **p<0.01, ***p<0.001

FIGURE 53
Average Point Difference Growth T-test, by subgroup

	African-American	Latino	Asian	White	English Learners	Students with Disabilities	Low Income
Charter	7.02	7.66	11.01	8.81	3.01	3.88	7.70
TPS	5.34	7.65	9.29	8.17	2.80	3.24	7.61

*p<0.05, **p<0.01, ***p<0.001

2016 State Rank

FIGURE 54
2016 State Rank T-test
Traditional (n=7310) Charter (n=1022)

	State Rank
Charter	5.70**
TPS	5.47

*p<0.05, **p<0.01, ***p<0.001

APPENDIX F Statistical Significance Testing: Similar Students Measure Percentile

Methodology

The Pearson chi-square test is used to determine whether the differences between two categorical variables are statistically significant. Here, one categorical variable is a school's type, and the other indicates which of three Similar Students Measure (SSM) percentile bins categorizes a school. There are two chi-square tests for each school type: first for the bottom and top 5th percentile bins, then for the bottom and top 10th percentile bins. The "All Others" column includes the 90% or 80% of schools in between.

Each chi-square test creates a set of expected values based on the hypothesis that school types have identical distributions across percentile bins. Cells are labeled with asterisks based on the level of confidence associated with that school type being over- or under-represented in that bin compared to its expected value.
The overall chi-square results listed at the bottom of each table indicate whether school types have significantly different distributions across the three percentile bins. When the significance is 0.000 there is less than a 0.1% chance that the differences we observe across those school types is purely by chance.

Summary of Findings

The "Shape of the U" described in this report is clear in the tables below. Charter schools are more likely than traditional public schools to be in both the top and bottom percentiles statewide. While charters are twice as likely to be in the top 10th percentile (17% v. 9%) and nearly three times as likely to perform in the top 5th percentile (11% v. 4%), they are also about twice as likely to be in the bottom 5th and 10th percentiles as traditional schools.

SSM Pearson Chi-Square Tables

FIGURE 55
2016 Charter Schools and Traditional Public Schools

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Charter	#	99***	112***	811**	1022
	%	10%	11%	79%	
TPS	#	318*	302**	6670	7290
	%	4%	4%	92%	
Chi-Square		148.949 (df=2, N=8312)			
Significance		0.000			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Charter	#	161***	172***	689***	1022
	%	16%	17%	67%	
TPS	#	672	658*	5960	7290
	%	9%	9%	82%	
Chi-Square		115.903 (df=2, N=8312)			
Significance		0.000			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 56
Charter Schools in 2014-15 and 2015-16

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Charters in 2014-15	#	99	114	750	963
	%	10%	12%	78%	
Charters in 2015-16	#	99	112	811	1022
	%	10%	11%	79%	
Chi-Square		0.648 (df=2, N=1985)			
Significance		0.723			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Charters in 2014-15	#	159	169	635	963
	%	17%	18%	66%	
Charters in 2015-16	#	161	172	689	1022
	%	16%	17%	67%	
Chi-Square		0.488 (df=2, N=8312)			
Significance		0.783			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 57
Charter Schools by Site Type

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Classroom-based	#	76	105	668	849
	%	9%	12%	79%	
Non Classroom-based	#	23	7*	143	173
	%	13%	4%	83%	
Chi-Square		12.166 (df=2, N=1022)			
Significance		0.002			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Classroom-based	#	127	155	567	849
	%	15%	18%	67%	
Non Classroom-based	#	34	17	122	173
	%	20%	10%	71%	
Chi-Square		8.377 (df=2, N=1022)			
Significance		0.015			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 58
Charter Schools by Start Type

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Start-up	#	94	99	638	831
	%	11%	12%	77%	
Conversion	#	5**	13	173	191
	%	3%	7%	91%	
Chi-Square		19.542 (df=2, N=1022)			
Significance		0.000			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Start-up	#	149	151	531	831
	%	18%	18%	64%	
Conversion	#	12**	21	158*	191
	%	6%	11%	83%	
Chi-Square		26.289 (df=2, N=1022)			
Significance		0.000			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 59
Charter Schools by Management Model

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
CMO	#	28	50	274	352
	%	8%	14%	78%	
Network	#	13	15	92	120
	%	11%	13%	77%	
Freestanding	#	58	47	445	550
	%	11%	9%	81%	
Chi-Square		8.617 (df=4, N=1022)			
Significance		0.071			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
CMO	#	44	75	233	352
	%	13%	21%	66%	
Network	#	20	21	79	120
	%	17%	18%	66%	
Freestanding	#	97	76	377	550
	%	18%	14%	69%	
Chi-Square		115.903 (df=2, N=8312)			
Significance		0.026			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 60
Charter Schools by Autonomy

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Autonomous	#	83	94	583	760
	%	11%	12%	77%	
Non-Autonomous	#	16	18	228	262
	%	6%	7%	87%	
Chi-Square		12.647 (df=2, N=1022)			
Significance		0.002			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Autonomous	#	133	141	486	760
	%	18%	19%	64%	
Non-Autonomous	#	28	31	203	262
	%	11%	12%	77%	
Chi-Square		16.263 (df=2, N=1022)			
Significance		0.000			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 61
Charter Schools by Age (Mature: at least 4 years old)

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
Mature	#	73	88	675	836
	%	9%	11%	81%	
Young	#	26	24	136	186
	%	14%	13%	73%	
Chi-Square		6.222 (df=2, N=1022)			
Significance		0.045			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
Mature	#	118	140	578	836
	%	14%	17%	69%	
Young	#	43*	32	111	186
	%	23%	17%	60%	
Chi-Square		9.868 (df=2, N=1022)			
Significance		0.007			

*p<0.05, **p<0.01, ***p<0.001

FIGURE 62
Charter Schools by Free and Reduced Price Lunch

		Bottom 5th Percentile	Top 5th Percentile	All Others	Total
50% and Over FRL	#	38*	87*	480	605
	%	6%	14%	79%	
Under 50% FRL	#	61**	25**	331	417
	%	15%	6%	79%	
Chi-Square		33.593 (df=2, N=1022)			
Significance		0.000			

		Bottom 10th Percentile	Top 10th Percentile	All Others	Total
50% and Over FRL	#	118	140	578	605
	%	14%	17%	69%	
Under 50% FRL	#	98***	45*	274	417
	%	24%	11%	66%	
Chi-Square		42.409 (df=2, N=1022)			
Significance		0.000			

*p<0.05, **p<0.01, ***p<0.001

APPENDIX G Additional References

Beach, P., Their, M., Lench, S. C., & Coleman, M. (2015, September).
From accountability to actionability: Making sense of multiple measures in local control accountability plans. Sacramento, CA: Education Policy Improvement Center.

California Charter School Association. (2011, 2012, 2013, 2014).
Portrait of the Movement. Sacramento, CA.
Available at: www.ccsa.org/advocacy/accountability/portraitofthemovement/

California Charter Schools Association. (2015, April).
Special education in California charter schools: All students welcome.
Sacramento, CA. Retrieved from: www.ccsa.org/Special_Education_in_California_Charter%20Schools_April_2015.pdf

California Charter Schools Association. (2015, June).
Success for English Learners in charter schools: An exploration of English Learner academic achievement and best practices in California's charter schools
Sacramento, CA. Retrieved from: www.ccsa.org/SuccessForEnglishLearnersInCharterSchools.pdf

California Charter Schools Association. (2015, July).
Transitioning to the common core in California charter schools: Challenges and solutions.
Sacramento, CA. Retrieved from: www.ccsa.org/Transitioning_Common_Core_Challenges_Solutions.pdf

California Charter Schools Association. (2016, April).
A step up: How charter schools provide higher levels of California public university access.
Sacramento, CA. Retrieved from: www.ccsa.org/CollegeReadiness_Web_Single_FNL.pdf

California Charter Schools Association. (2016, October).
Meeting the needs of every student through inclusion: A qualitative study of ten California charter schools. Sacramento, CA. Retrieved from: www.ccsa.org/2016-Special-Education-Report.pdf

Center for Research on Education Outcomes. (2015).
*Online charter school study.*Stanford, CA. Retrieved from: credo.stanford.edu/pdfs/Online%20Charter%20Study%20Final.pdf

Center for Research on Education Outcomes. (2015).
Urban charter school study report on 41 regions. Stanford, CA. Retrieved from: urbancharters.stanford.edu/download/Urban%20Charter%20School%20Study%20Report%20on%2041%20Regions.pdf

Christian, M., Liborio, C., & Rice, A. (2016).
Measuring the impacts of schools using assessments in the absence of student-level data. Madison, WI. Retrieved from www.ccsa.org/christian_liborio_rice_16.pdf

Gill, B. P., Lerner, J. S., & Meosky, P. (2016).
Reimagining accountability in K-12 education. *Behavioral Science and Policy Association, 2*(1). Retrieved from: behavioralpolicy.org/wp-content/uploads/2016/2-1/BSP_vol2no1_Interior_Complete.pdf

Gleason, P.M. (2016).
What's the secret ingredient? Searching for policies and practices that make charter schools successful. Princeton, NJ: Mathematica Policy Research. Retrieved from: www.mathematica-mpr.com/download-media?MediaItemId={8129BE54-6DD7-4088-A4C4-0F8B5B694DE8}

Marsh, J. A., Bush-Mecenas, S., Hough, H., Park, V., Allbright, T., Hall, M., & Glover, H. (2016, November).
At the forefront of the new accountability era: Early implementation findings from the CORE waiver districts. Stanford, CA: Policy Analysis for California Education.

National Alliance for Public Charter Schools. (2015).
Holding public charter school authorizers accountable: State experiences and policy recommendations. Washington, DC: Margaret Lin. Retrieved from: http://www.publiccharters.org/wp-content/uploads/2015/05/authorizer_accountability_final.pdf

National Alliance for Public Charter Schools. (2016).
A growing movement: America's largest charter public school communities and their impact on student outcomes. Washington, DC.
Retrieved from: http://www.publiccharters.org/wp-content/uploads/2016/11/CharterSchoolEnrollmentShareReport2016.pdf

National Alliance for Public Charter Schools. (2016).
Charter accountability for district-run schools: Using ESSA to create contract-based accountability for urban public education. Washington, DC: Bellwether Education Partners. Retrieved from: http://www.publiccharters.org/wp-content/uploads/2016/10/ESSA_Report_FINAL_10132016.pdf

National Association of Charter School Authorizers. (2016).
Eight state policies: For accessibility, autonomy, and accountability.
Retrieved from: http://www.ecs.org/ec-content/uploads/NACSA-State_Policies.pdf

National Student Clearinghouse. (2016).
National college progression rates: For high schools participating in the National Student Clearinghouse StudentTracker service. Retrieved from: https://nscresearchcenter.org/wp-content/uploads/HighSchoolBenchmarks2016.pdf

Superintendent's Advisory Task Force on Accountability and Continuous Improvement. (2016, May).
Preparing all students for college, life, and leadership in the 21st century.
Retrieved from: http://www.cde.ca.gov/ta/ac/ar/documents/account-report-2016.pdf

The Education Trust-West. (2015, February).
Pathways to college and career readiness: Bringing the new California standards to life through Linked Learning.
Retrieved from: http://west.edtrust.org/wp-content/uploads/sites/3/2015/02/Linked-Learning-Report-FINAL.pdf

The Education Trust-West. (2015, October).
Black minds matter: Supporting the educational success of Black children in California.
Retrieved from: https://west.edtrust.org/wp-content/uploads/sites/3/2015/10/Ed-Trust-West-Black-Minds-Matter-FINAL-PDF.pdf

Warren, P. (2016, August).
Strengthening local K-12 accountability: The role of county offices of education.
San Francisco, CA: Public Policy Institute of California.

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ENDNOTES

1 NACSA Press Release: www.qualitycharters.org/wp-content/uploads/2015/08/2011.10.26-CCSA_Awards.pdf

2 The Common Core aligned Smarter Balanced assessments are used by states in the Smarter Balanced Assessment Consortium (SBAC). These tests assess achievement in English Language Arts (ELA) and math and are one test included in the larger California Assessment of Student Performance and Progress (CAASPP) suite of assessments. For the purposes of this report, which only uses the ELA/math assessment in our analyses, we will refer to the Smarter Balanced assessment as the commonly used "SBAC."

3 For more information on CCSA's annual Public Call for Non-Renewal: www.ccsa.org/advocacy/accountability/public-call-for-non-renewal.html

4 Harrington, T. "More teacher preparation needed to fully implement Common Core standards in California" EdSource (1/30/17) Retrieved from: edsource.org/2017/more-teacher-preparation-needed-to-fully-implement-common-core-standards-in-california/575306

5 "California's New Testing Program" materials provided by the California Department of Education (CDE): www.cde.ca.gov/nr/re/ht/caaspp.asp, last updated January 29, 2016

6 The analyses in this report, including the SSM, use the CAASPP datafile posted by the California Department of Education on 10/18/16. For more information, see CCSA's Similar Schools Measure Technical guide: www.ccsa.org/2016%20CCSA%20Technical%20Guide%20041417.pdf

7 CDE Press Release on adopted accountability system: www.cde.ca.gov/nr/ne/yr17/yr17rel05.asp

8 SBAC Scale Score Ranges retrieved from: caaspp.cde.ca.gov/sb2015/ScaleScoreRanges#a

9 Performance levels are an approximation of proficiency and should not be interpreted as a precise scale score threshold. For more information on interpreting scale scores and achievement levels, see www.smarterbalanced.org/wp-content/uploads/2015/08/Interpretation-and-Use-of-Scores.pdf

10 Ho, Andrew. 2008. "The Problem With 'Proficiency': Limitations of Statistics and Policy Under No Child Left Behind". Educational Researcher. August 2008 37: 351-360.

11 Lesnick, J., Goerge, R., Smithgall, C., & Gwynne J. (2010). Reading on grade level in third grade: How is it related to high school performance a and college enrollment? Chicago, IL: Chapin Hall at the University of Chicago.
ACT. (2008). The forgotten middle: Ensuring that all students are on track for college and career readiness before high school. Iowa City, IA.
Silver, D., & Saunders, M. (2008). What factors predict high school graduation in the Los Angeles unified school district? Santa Barbara, CA: University of California.

12 The Annie E. Casey Foundation. (2010). Early warning! Why reading by the end of third grade matters. Baltimore, MD: Author. Retrieved from www.aecf.org/resources/early-warning-why-reading-by-the-end-of-third-grade-matters

13 Rampey, B. D., Dion, G. S., & Donahue, P. L. (2009). NAEP 2008: Trends in Academic Progress. NCES 2009-479. National Center for Education Statistics.
Bali, V. A., & Alvarez, R. M. (2004). The race gap in student achievement scores: Longitudinal evidence from a racially diverse school district. Policy Studies Journal, 32(3), 393-415.

14 All analyses in the report exclude all charter and traditional public schools that are designated as alternative school accountability model ("ASAM"), Alternative, or have fewer than 30 valid test scores included in their 2014-15 or 2015-16 results.

15 Warren, P., & Murphy, P. (2015). Implementing the Common Core standards in California, 2015, from www.ppic.org/main/publication_quick.asp?i=1093
Barondess, Heather, & EdSource. (2008). NAEP and the California standards tests: A case of apples and oranges. Mountain View, CA: EdSource. Retrieved from edsource.org/wp-content/publications/NAEP_08.pdf

16 Cohen, J., et al. (2003). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. Lawrence Erlbaum Associates, Inc., Publishers. Mahwah, NJ.

17 CCSA (2011): www.ccsa.org/PortraitoftheMovementReport.pdf

18 Access CCSA's State Ranks here: www.ccsa.org/2016/11/2016-17-state-ranks-and-similar-schools-ranks-pdf-spreadsheet.html

19 National Alliance for Public Charter Schools data dashboard for national charter school enrollment: dashboard2.publiccharters.org/National/

20 CCSA (2016): http://www.ccsa.org/2016-Special-Education-Report.pdf

21 Page 87, CREDO, http://credo.stanford.edu/documents/NCSS%202013%20Final%20Draft.pdf

22 For more on CCSA's Academic Accountability Framework visit http://www.ccsa.org/advocacy/accountability/

23 For more detail on CCSA's Multiple Measure Review see www.ccsa.org/2016/09/multiple-measures-review-explanation.html

24 For more information on CCSA's annual Public Call for Non-Renewal: www.ccsa.org/advocacy/accountability/public-call-for-non-renewal.html

25 Access CCSA's State Ranks here: www.ccsa.org/2016/11/2016-17-state-ranks-and-similar-schools-ranks-pdf-spreadsheet.html

26 To view CCSA's academic reports, visit snapshots.ccsa.org

27 CDE Press Release on the California School Dashboard: www.cde.ca.gov/nr/ne/yr17/yr17rel05.asp