MISSING THE BUS

COLORADO'S ELITE COLLEGE ACCESS GAP

– NOVEMBER 2014 –

A+ Denver
CITIZENS FOR DENVER SCHOOLS

IN PARTNERSHIP WITH:

SPECIAL THANKS TO:

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TABLE OF CONTENTS

A Letter from the Lieutenant Governor Joe Garcia **4**

Introduction **5**

Section I: Colorado's Elite College Access Gap **9**

Section II. School Communities Impact Enrollment **11**

Student Body Composition *11*

District Settings *12*

School-wide College Readiness *13*

Section III. Spotlight on Denver **14**

Conclusion **15**

Appendices **19**

Appendix alpha: Methods *19*

Appendix Beta: District Setting Chart *20*

Appendix Gamma: College enrollment by income level & district size *23*

Appendix Delta: Schools by Tier *24*

EndNotes **26**

A LETTER FROM THE LIEUTENANT GOVERNOR JOE GARCIA

November 14, 2014

Dear Friends:

There was a time when we viewed college as a "select and sort" mechanism, where only the most talented and motivated students were able to enroll and succeed in a highly rigorous atmosphere and receive the ultimate reward – a degree and a lifetime of opportunity. Too often, those students who were successful were from a narrow segment of our population, and those from low-income families or communities of color were left out, viewed as better suited for open enrollment institutions or occupations that did not require a college degree. But, given the projections that the vast majority of new jobs will require some postsecondary credential, the time has come for us to view college opportunity differently; and with a focus on inclusion and success. By the year 2020, 74% of all jobs in Colorado will require some sort of post-secondary degree. In order for our state's economy to thrive, we need all of our students to be educated and ready to meet the workforce demands of the future.

However, we still see great disparity in our systems of K-12 education and higher education. We know that not all colleges are equal and that not all degrees will assure a graduate the same opportunities for success. We also know that dropout rates vary dramatically among colleges, as do employment opportunities and salaries. Finally, data make clear that low-income students benefit more from selective colleges than their higher income counterparts. Yet, we do not utilize this knowledge to ensure that low-income students enroll in the best possible college available to them.

This report shows the stark differences between students who are attending the nation's top schools and those who are attending "access institutions." It helps us shed light on the fact that low-income students in Colorado are far less likely to attend the very colleges that will give them the best chance of earning a degree and changing the trajectory of their lives after college. More importantly, it provides us with a game plan for how we can break this cycle and implement systemic change.

Congratulations to A+ Denver, Colorado Succeeds, College Summit, College Track, and Democrats for Education Reform for having the courage to confront this critical issue.

Sincerely,

Joseph A. Garcia
Lieutenant Governor

INTRODUCTION

Social mobility has been a longstanding part of our American ideology, even as the country becomes increasingly stratified. Inequality in the United States is now at its highest point since the Great Depression.[1] Education—and more recently, higher education—has been a critical driver of social mobility.

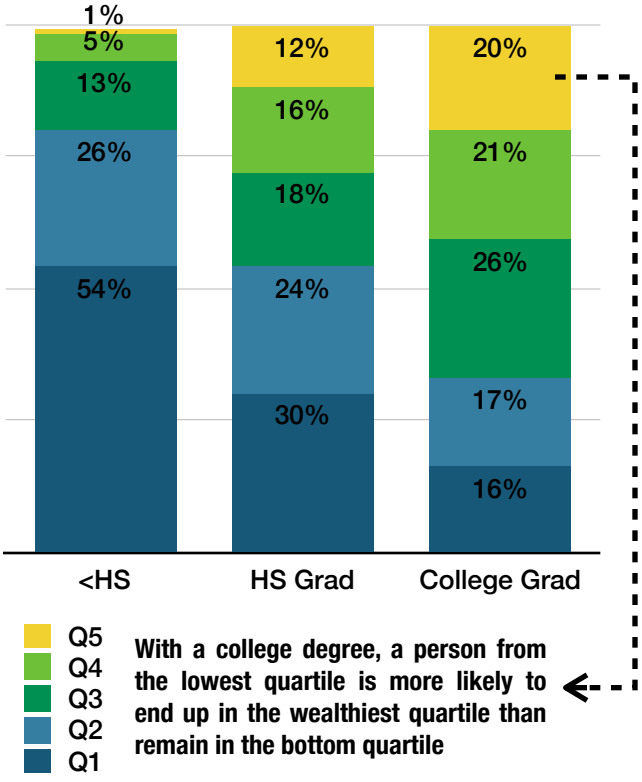
This report paints a picture of current and future social mobility in Colorado through the distinct lens of college enrollment data. We seek to examine the college access gap—and most importantly, the elite college access gap—in the state, by exploring the districts and high schools that are the most successful at sending graduates to the nation's best colleges. We believe this is a critical lens through which to gauge the potential social mobility in Colorado because all colleges are not equal and because some offer distinct life advantages over other colleges. By identifying the elite college enrollment gap, we hope to start a dialogue about how to improve the K-12-to-college pipeline, particularly for populations that have traditionally been underrepresented in elite higher education institutions, and ultimately, to impact the foundation of our state's success.

Why Higher Education Matters

Most research on the benefits of college have not focused on the influence of college selectivity. Rather, most research focuses on the benefits of going to college in general, and there is strong evidence that college is a key driver of financial success and social mobility. According to Richard Reeves of the Brookings Institution, an individual born into the bottom quintile of the national income distribution has a 1% chance of ascending to the top income fifth without a high school degree, a 12% chance with a high school degree, and a 20% chance with a college degree. In fact, a college graduate from the bottom quintile is more likely to end up in the top income quintile as an adult than they are to remain in the bottom quintile. Nine of 10 low-income adults do not have a college degree. Conversely, half of 25-year-olds whose income puts them above the low-income threshold have college degrees.[2]

Increasing the number of postsecondary degree holders is critical to maintaining our competitiveness in a changing global

Likelihood a Person Born into the Lowest Quintile of the Income Distribution will be in a Given Quintile as an Adult, by Educational Attainment



Source: Richard Reeves, Saving Horatio Alger http://www.brookings.edu/research/essays/2014/saving-horatio-alger

economy as college becomes a prerequisite for employment. Currently, Colorado's unemployment rate for people with some college or an associate's degree is 8%, while the unemployment rate for those with a bachelor's degree is 4.5%.[3] This gap could widen as we are confronted with predictions that by 2020, an estimated 65% of jobs will require a postsecondary education; in Colorado, that projection is closer to 74%.[4] These are the jobs that pay higher wages, provide more benefits, and increase access to leadership opportunities; they are the jobs that will fuel both individual mobility and our statewide economic development.

Yet few would argue that all of the 7,000 colleges in the country are equal. As the percentage of adults with a college education grows,[5] the college a student attends becomes more critical to her success after graduation. Research supports the claim that the probability of a student's success varies greatly by the quality of the college she attends. Selectivity can, to some extent, be a proxy for quality, and selective colleges have significantly higher graduation rates. While only 10% of students at the nation's 28 most selective colleges come from families in the bottom 40% of the U.S. income distribution,[6] elite colleges have better graduation rates for low-income students. Eighty-nine percent of low-income students attending top-tier schools are likely to graduate compared with the 50% and 13% graduation rate at less selective schools and community colleges, respectively.[7,8] It is imperative that a much higher percentage of Colorado's young adults not only enroll in postsecondary programs but actually attain a postsecondary degree.

Sixty percent of kids with parents who have attained college degrees are likely to also graduate from college, compared to first generation college-goers who are only 39% likely to graduate.[a]

"Many countries support the idea of meritocracy, but only in America is equality of opportunity a virtual national religion, reconciling individual liberty—the freedom to get ahead and 'make something of yourself'—with societal equality. It is a philosophy of egalitarian individualism. The measure of American equality is not the income gap between the poor and the rich, but the chance to trade places." —Richard Reeves, 'Saving Horatio Alger'

Not only are graduation rates among low-income students higher at top-tier colleges on average, their degree often returns a bigger salary. An *Atlantic Monthly* article, which summarized four major studies, concluded that, broadly speaking, "better schools yield bigger paychecks."[9] This is particularly true for low-income students. Even those researchers who assert that there is usually little difference in benefits between attendance at a highly selective college or a moderately selective institution say that it does make a substantial difference for low-income students.[10]

There are numerous reasons why these elite colleges produce better outcomes, particularly for low-income students. Undermatching—the theory that many

College Application Gaps

Most low-income students who have top test scores and grades do not even apply to the nation's best colleges, according to a new analysis of every high school student who took the SAT in recent years. Low-income high school students often want to stay local or are unaware of their financial options when it comes to more expensive, selective colleges. Far too many low-income students lack role models for these elite schools, continuing the pattern that contributes to widening economic inequality and low levels of mobility in this country.[b]

The Colorado Paradox

Colorado has one of the nation's highest percentage of adults with college degrees (37%) yet has one of the lowest college graduation rates for Colorado's kids—we import many of our educated adults. Note that 78% of the 2012 high graduate class stayed in state for college and that more than 9,400 (or 6% of all graduates) matriculated to Colorado State University from 2009-2012.

academically talented, low-income students who could succeed at top-tier colleges are not applying to or enrolling in them—may be a reason many high-achieving, low-income students do not succeed at less selective schools.[11] Additionally, the increased rigor, additional resources, and influence of high-achieving peers at selective schools often impact the success of low-income students.[12] Moreover, the disparity of outcomes between selective and non-selective schools may in part be due to a growing gap in endowments and resources, which limits non-selective schools' ability to provide financial assistance or on-campus support systems.[13]

And finally, while it is difficult to quantify the social and economic benefits that elite institutions have on communities, consider that 15 of the past 20 presidents have attended one of the colleges on the top-tier list used for this study. In 2006, when *TIME* magazine published a list of the colleges Fortune 500 Chief Executive Officers had attended, 15 of the 28 who had gone to U.S. colleges graduated from one of these top-tier schools. And in 2012, when *U.S. News & World Report* published this list again, they reported 244 of these elite corporate leaders received undergraduate or graduate degrees from just 13 top-tier colleges.[14] It is clear that our top-tier colleges churn out many of our future business and community leaders.

Paramount to the conversation is the extent to which the broader education system is enabling students—and particularly low-income students—to matriculate to and graduate from selective colleges. A+ Denver has written extensively on the disparity of college- and career-readiness

between low-income and non-low income high school students. There are a variety of reasons for this disparity in preparation that often begins in preschool and widens during elementary and high school. College application favors those students who are best prepared for top schools. However, even when low income students are well-prepared, they may not receive the same kind of support during the application process itself.

While this report does not dwell on the shortcomings of the current K-12 system, we cannot ignore the impact it has on students. It merits noting that fewer than half of the state's low-income 8th graders are reading at grade level compared to 80% of our non-low income 8th graders. Statewide, one in four high school students attend a school district with an on-time graduation rate of 60% or below.[15] Many students—including 59% low-income high school graduates from the class of 2012 who attended college in Colorado[16]—needed remedial classes before they could take classes for college credit, drastically lowering their odds of graduating in six years from about 60% to 30%.[17]

These statistics indicate a broken K-12-to-college pipeline, which, as this report explores, results in a large disparity in college enrollment trends between students of different socioeconomic groups. We highlight this disparity at the clearest point of disruption—as students graduate high school and decide which college to attend—to shed light on the fact that, at current course and speed, college may actually widen the economic gap between high- and low-income communities by continuing to sort students by family income.

Defining "Top-Tier" Colleges

In this report, we use the phrase "top-tier" to refer a list of 169 colleges using schools that were well-ranked by US News & World Report (2012). The list is somewhat arbitrary, omits some great schools, and is admittedly flawed—as are most ranking tools. The "top-tier" Colorado schools include Colorado College, Colorado School of Mines, University of Denver, and the University of Colorado, Boulder. However imperfect, the list is useful as a gauge for which high schools and Colorado districts are generally sending graduates to top colleges.

Throughout this report we look at matriculation rates to these top-tier schools by Colorado high school seniors from the graduating classes of 2010, 2011, and 2012.

"In 2000, a Department of Education report found that, overall, the quality of a college decided 2% to 3% of earnings among men and 4% to 6% percent in women—making it less important than how they actually performed in class. But in some cases, the effect was much larger. Men who went to an institution that was one standard deviation better on its quality measures saw their salaries jump 8.1 percent. For women, the boost was 17.4 percent. They calculated that for males, the increase could translate to an extra $107,000 over the course of a lifetime. For females, it might mean an extra $173,000. To put that in context, people who go to college make somewhere between $412,000 and $570,000 more on average than those who don't, according to various estimates." [c]

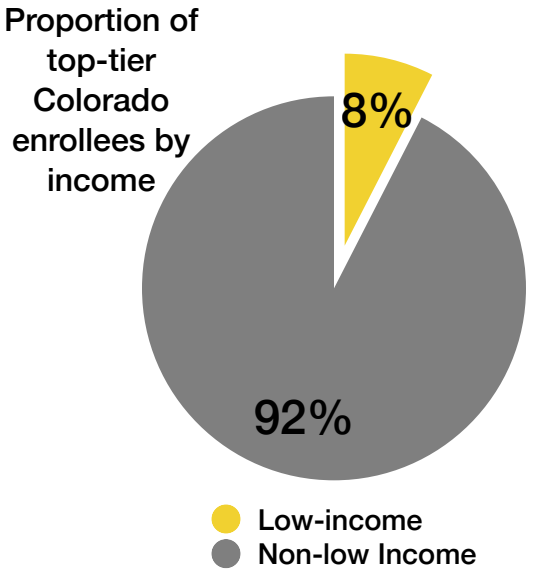
SECTION I: COLORADO'S ELITE COLLEGE ACCESS GAP

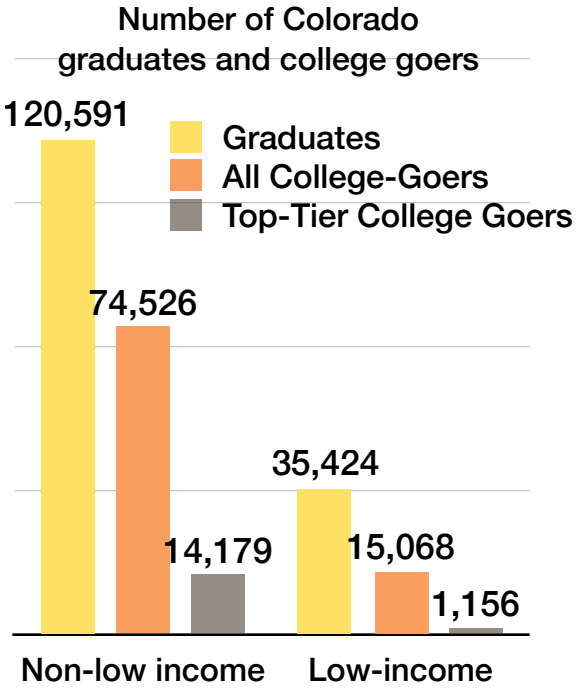
Of all Colorado public high school graduates, 57% enroll in college, and 10% matriculate to a top-tier school. This 10% represents a student population of approximately 15,300 who graduated in 2010-2012. Colorado students are slightly underrepresented in selective colleges; Colorado graduates make up 1.7% of the country's high school graduates, but are only 1.1% of the students in the Ivy League.[18] While proportional representation is a laudable goal, there is potentially even more room to grow. For example, there are states that are incredibly overrepresented in the Ivy League; take for instance New York, whose students comprise 6% of the the nation's graduates, and 19% of the Ivy League student population.

10% of CO high school grads matriculate to a top-tier school

Access to elite colleges looks more bleak for low-income Colorado graduates; 3% of low-income graduates will enroll in a top-tier school compared to 12% of non-low income graduates. That means that for every low-income student from Colorado that attends a top college,12.5 non-low income students do.

Lower rates of top-tier college enrollment by low-income students are a manifestation of the achievement gap between low-income and non-low income students across the education pipeline: low-income students are often notably behind their wealthier peers and have a harder time catching up.[19] The school system often plays a role in sorting and selecting students for advanced classes, selective magnet schools, and college-level classes. Students who are not selected for advanced classes or college tracks tend to be from lower socioeconomic groups. They also have lower test scores and are less prepared for college across a number of indicators.[20] While academic outcomes both contribute to and result from this sorting, it is clear that these students' postsecondary choices are further limited.





Top 10 districts that sent the most low-income students to top-tier schools from 2010-12

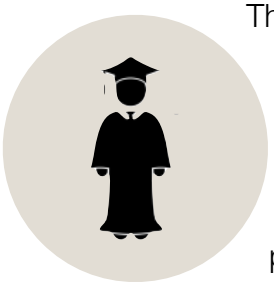
District Name	% FRL (of total FRL graduates) enrolled in a top-tier school	Total FRL graduates enrolled in a top-tier school	%non-FRL (of all non FRL graduates) enrolled in a top-tier college	Total non-FRL graduates enrolled in a top-tier school
Boulder	10.86%	86	30.50%	1767
Cherry Creek	6.26%	110	17.54%	1547
St. Vrain Valley	5.65%	48	16.39%	632
Jeffco	5.09%	160	13.88%	2070
Westminster	4.44%	34	5.06%	29
Denver	3.70%	203	12.95%	723
Northglenn-Thornton	3.48%	38	8.35%	491
CO Springs	2.98%	46	7.26%	310
Adams-Arapahoe	2.88%	65	3.42%	98
Poudre	2.41%	24	13.64%	641

Top 10 high schools that sent the most low-income students to top-tier schools from 2010-12

High School	% FRL (of total FRL graduates) enrolled in a top-tier school	Total FRL graduates enrolled in a top-tier school	%non-FRL (of all non FRL graduates) enrolled in a top-tier college	Total non-FRL graduates enrolled in a top-tier school
G. Washington's IB program*	43.59%	17	68.95%	151
DSST	24.72%	22	29.27%	48
Boulder	15.38%	24	34.74%	387
Cherokee Trail	12.17%	23	11.55%	162
Smoky Hill	7.17%	23	13.33%	179
Palmer	6.46%	19	13.85%	147
Gateway	5.43%	21	3.52%	20
Westminster	5.36%	31	5.75%	21
G. Washington (non-IB)	5.08%	16	N/A	<16
Overland	4.25%	25	6.42%	48
East	4.02%	26	25.02%	329

*Selective student admission schools

SECTION II. SCHOOL COMMUNITIES IMPACT ENROLLMENT



The environment in which students live and learn also plays a large role in their enrollment after graduation, as district and school communities impact academic achievement and support in the college enrollment process. To understand what types of district and school communities were most successful at enrolling students in top-tier schools, we looked at student body composition, district setting, and school performance.

Student Body Composition

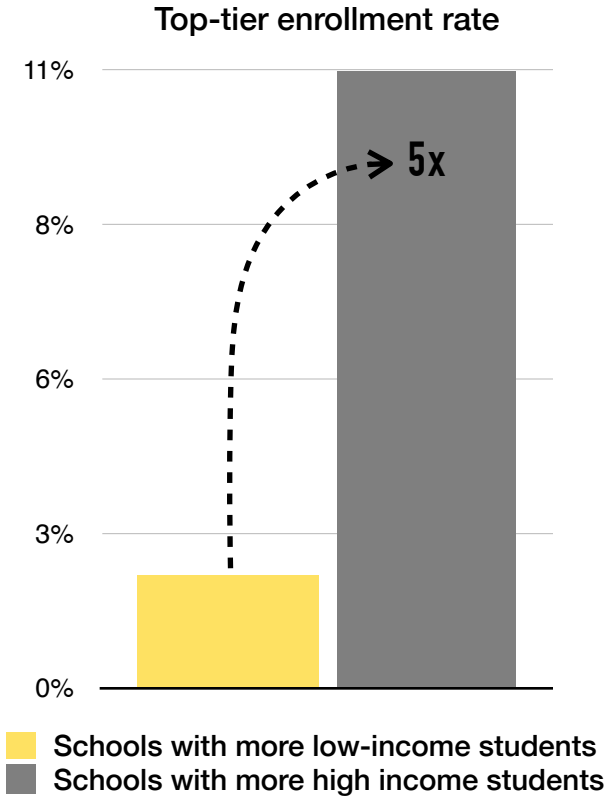
Family income has an impact on the likelihood of a student enrolling in a top-tier college. Not surprisingly, schools and districts with higher proportions of low-income students are less successful in sending students to top-tier colleges.

Students at schools with a higher proportion of students on free and reduced lunch plans are less likely to go to *any* college—regardless of their own families' income status. Specifically, schools with more low-income graduates enrolled 41% of their students in college, and 2% in a top-tier college, while schools with a higher proportion of higher income graduates enrolled 56% of their students in college, and 11% in a top-tier institution. This means that a poor student at a wealthier school is more likely to go to college and a wealthier student at a poorer school is less likely to go to college.[21]

As is the case with school-level data, all graduates, regardless of family income, are significantly less likely to enroll in *top-tier* colleges when their district has higher proportions of low-income students. The effects of this are particularly prominent for low-income students.

For example, 2% of low-income students coming from the poorest districts (those with the highest proportions of low-income students) go on to top-tier colleges compared to 12% of low-income students in the wealthiest districts—those with the lowest proportions of low-income students. That is to say, a low-income student enrolling in college is five times as likely to enroll at a top school if she comes from a wealthy district than if she comes from a poorer district.

A low-income student in a wealthy district is five times as likely as a poor student in a poor district to enroll at a top college.



District Settings

Colorado has 178 school districts, with graduating classes ranging from a handful of students to more than 5,000, so it makes sense that the few large districts would dominate the top-tier college enrollees. Yet, the dominance of these districts is disproportional. Seventy-five percent of graduates who enroll in top-tier colleges come from 10 school districts—districts that comprise just over 50% of the total high school graduate population in Colorado. Even more jarring is the fact that 45% of Coloradans matriculating to top-tier colleges in 2010-2012 came from just 25 of the 458 public high schools in the state. It is clear that there are geographies and communities that are increasingly left out of the more elite higher education institutions, limiting students' prospects.

There are also notable differences in college enrollment trends across district settings. Relying on Colorado Dept. of Education (CDE) designations of district settings, A+ Denver looked at districts across the following geographic regions: Denver Metro area, urban-suburban, outlying cities, outlying towns, and rural districts (please see Appendix Beta for a list of how each district was categorized). Rural, outlying town, and outlying city districts sent a much lower percentage of their students to any college (all around 53% of students) than did districts in urban-suburban areas or the Denver Metro area (57% and 59% respectively).

However, rural districts enrolled the highest percentage of their free and reduced lunch graduates in college—more than 50% of low-income graduates from rural districts enroll in college. Denver Metro, urban-suburban, outlying city, and outlying town districts all enroll fewer than 43% of their low-income students in college.

In North Conejos, a rural district near the southern border of the state, 47% of the graduates are low-income, and 60% of these low-income graduates enroll in college. In Sheridan, in the Denver Metro area, 45% of all graduates are low-income and only 30% of these graduates enroll in college.

For every low-income student who enrolls in a top-tier school…

12.5 non-low income students in the Denver Metro Area enroll in a top-tier college,

16 in urban-suburban districts enroll in a top-tier college,

7 in outlying cities enroll in a top-tier college,

14 in districts in outlying towns enroll in a top-tier college, and

5.5 in rural districts enroll in a top-tier college.

While rural districts were relatively successful in their matriculation rates for low-income college goers, they were the least successful in sending students to top colleges. Overall, only 3% of all their graduates enrolled in top-tier institutions. This is significantly lower than districts in other settings: districts in outlying towns sent 6.4%; districts in outlying cities sent 6.8%; urban-suburban districts sent 7.4%; and districts in the Denver Metro area sent 12.6% of graduates to top-tier colleges.

Essentially all district types enroll low-income students in top-tier colleges at very low rates, and there is no significant difference between the proportions of low-income enrollment at top-tier colleges across district types. The variability seen in top-tier college enrollment rates occurs at the higher levels of the income gap. For every low-income student in the Denver Metro area who enrolls in a top college, 12.5 non-low income students enroll in a top college. That ratio is 1 to 16 in urban-suburban districts, 1 to 7 in outlying cities, 1 to 14 in districts in outlying towns, and 1 to 5.5 in rural districts. Urban-suburban districts and districts in outlying towns are the most successful in sending non-low income students to top-tier colleges.

This low rate of sending low-income students to top-tier colleges across the board makes it clear that low-income students need better information and support in enrolling in top-tier colleges regardless of the setting in which they attend school, be it an urban center or a small rural town.

School-wide College Readiness

The range of academic achievement at each high school varies across each district. Thus, looking at school-level data is helpful in understanding the effect of academic performance on college enrollment rates. While many high schools continue to have persistently low literacy levels and high dropout rates, others have increased their focus on college-readiness of graduates, and have been able to rapidly drive up improvement on key readiness indicators.

A key readiness factor for college enrollment is student performance on the ACT. And, if we look at ACT scores as a predictor of college success, we see trends that align with enrollment outcomes. Schools with higher average ACT scores had more students who enrolled in any college, especially top-tier colleges. Clearly, schools with lower average ACT scores have lower proportions of students who are prepared for college-level coursework.

Schools with higher percentages of low-income students had lower average ACT scores, and subsequently enrolled fewer students (low-income and non-low income alike) at top-tier schools. ACT scores not only matter on an individual level—as scores directly contribute to a student's likelihood of being accepted into a particular college — but also as a collective average, as school-wide average ACT scores are indicative of the college-readiness and subsequent college enrollment trends of the graduating class. While the cause of this college-readiness gap is beyond the scope of this report, we know that better institutional supports and higher quality academics in high schools drive higher ACT performance.[22] If more students are to enroll in top-tier schools, we need a renewed focus on promoting the college-readiness of the entire school student body.

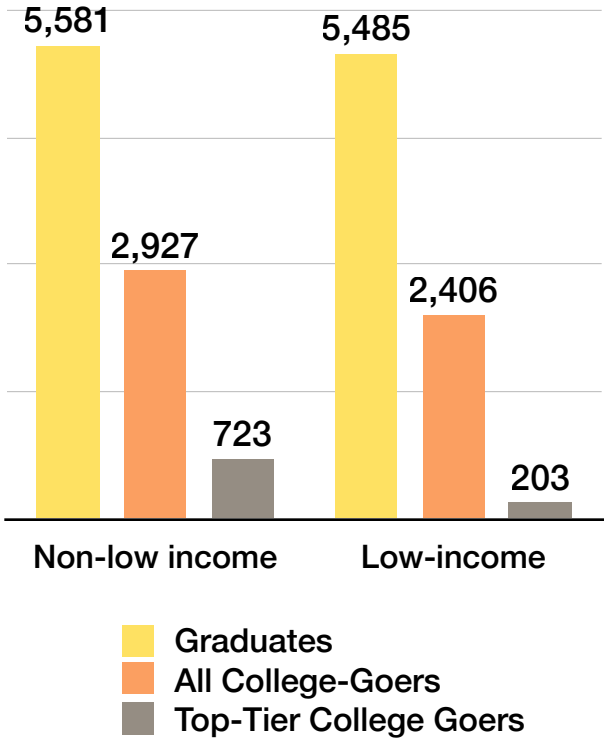
Schools with higher average ACT scores had more students who enrolled in any college, especially top-tier colleges.

SECTION III. SPOTLIGHT ON DENVER

Because A+ Denver is an organization that looks primarily at Denver's schools, policies and achievement, this section is specific to the college enrollment trends within Denver Public Schools (DPS).

About half of all DPS graduates enrolled in college, and 8% of these enrolled in a top-tier college. From 2010 to 2012, a disproportionately high percentage of students enrolling in top colleges were non-low income kids (72% of Denver's kids qualify for free or reduced price lunch). Among low-income students in the district, just one of every 27 low-income graduates attend a top-tier college. Meanwhile, 13% (about 1 of every 8) of non-low income graduates in DPS enrolled at a top-tier college.

Number of Denver graduates and college-goers



Unsurprisingly, high school ACT scores correlate to higher rates of college enrollment. Schools with higher ACT scores among low-income students sent more graduates to top tier colleges. High schools where few students scored very low on the ACT (14 or below) were much more likely to send low-income students to top-tier colleges. To illustrate this point, 47% of low-income students at North High School scored a 14 or below on the ACT (and no students scored above a 24) and just over 2% of the school's low-income graduates enroll at a top-tier school. At DSST, where no low-income students scored below a 14 and 14% scored above a 24, 25% of low-income students enrolled at a top college. These trends hold true for other college-readiness indicators, including 10th grade proficiency levels and AP pass rates.

While there are schools and programs that have made progress on driving students to meet college-readiness standards, most Denver high schools are missing the mark. For a more complete view of college-readiness in Denver, see our work on **Denver and Aurora Schools: Crisis and Opportunity**.

High school	College enrollment of graduates	Top-tier college enrollment of all graduates	Top-tier college enrollment of low-income students
G. Washington (IB) *	98.5%	65.1%	43.5%
DSST (All campuses)	82.2%	27.7%	24.7%
DCIS	78.4%	20.8%	N/A
East	69.7%	23.6%	N/A
DSA *	69.6%	23.3%	N/A
T. Jefferson	69.3%	8.5%	N/A
MLK Early College	66.5%	N/A	N/A
CEC Middle College	63.8%	N/A	N/A
South	56.9%	3.7%	N/A
JFK	55.3%	3.6%	N/A
G. Washington (non-IB)	54.3%	4.3%	N/A
SW Early College	50.6%	N/A	N/A
Manual	50.4%	N/A	N/A
West	38.0%	N/A	N/A
North	37.4%	N/A	N/A
A. Lincoln	30.6%	2.7%	3.1%
Bruce Randolph	27.2%	N/A	N/A

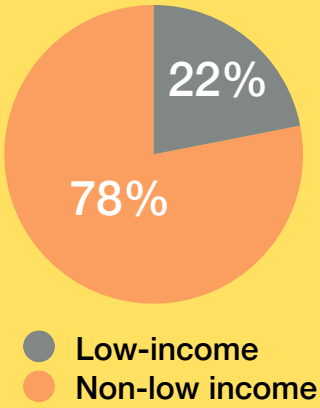
*Selective student admission schools

Note: N/A signifies data we are unable to report on because of too few students (<16).

Fast Facts about Denver

- 72% of the district is low-income
- Average Composite ACT score:
  District = 18.1
  Low-income students = 16
  Non-low income students = 21
  College-ready = 21
- Graduation rate:
  Overall District = 61.3%
  Low-income students = 55.7%
- About half of all DPS graduates enrolled in college, but just 8% enrolled in a top-tier college
- One of every 27 low-income graduates attend a top-tier college, or about 4%
- One out of every 8 non-low income graduate enroll in a top-tier college, or about 13%

Proportion of top-tier enrollment by income in DPS



CONCLUSION

Nationally, 66% of the 3.2 million 2012 high school graduates enrolled in college the fall after they graduated. This is up from 45% in 1960, when the first Baby Boomers came of college age. With more students attending college and receiving degrees, the paradigm of college attendance has shifted to a new normal. Now it is not just whether one attends college that matters, but which college one attends.

As this report shows, there is a distinct class divide in enrollment in elite colleges. It is tempting to dismiss the disparity in access to elite colleges as a result of staggeringly high college price tags or laws that prevent undocumented students from receiving in-state tuition and federal student aid. There are other barriers as well, including social and cultural obstacles. As **Emerge**, a partner of the Houston Independent School District points out, parents of low-income students may not speak English as their first language, guidance counselors may be under-resourced or have low expectations, the application and financial aid processes are complex, the financial demands are high, and students may not have many role models. These are particularly important observations for Colorado, where 11% of students are English Language Learners ,and those without documentation face barriers to financial aid and in-state tuition.

"Top-tier schools are the most likely to offer full financial aid to disadvantaged students… and the least likely for students and guidance counselors to consider."
-EMERGE, Houston Independent School District [d]

Yet, if we are to live up to the American ideal that social mobility and economic prosperity are possible for those at all income levels, we must find ways to part the gilded gates to the nation's best schools for low-income students. These challenges need to be addressed at multiple levels—federally, at elite higher education institutions themselves, and in the K-12 education system. We believe that in the K-12 system, districts and individual schools have the ability to impact the top-tier college enrollment disparity that is so pronounced. Initially, we see a few key leverage points for districts and schools:

- First and foremost, we need a higher level of **transparency** of data about where students enroll in college. The data must be easily accessible by districts, schools, and parents.
- Second, we need to change **communication** and messaging around college attendance, to drive students to elite colleges.
- Third, we need to focus on **improving college-readiness** and ensuring all students —across racial and income groups—are performing at grade level.

Transparency:

The first step in improving Colorado's elite college access gap is to improve our understanding of that gap and its causes. This report painted the stark picture of enrollment trends, particularly for low-income students. However, to truly understand the

challenges of getting students to enroll in elite colleges, we need better information on students' decision-making processes and choices. With better data, we could understand students' educational goals and educational trajectory, along with the barriers and opportunities that influenced their path. With better data, we could better understand the barriers to elite college enrollment and how different preparation or communication could overcome those barriers. We need to connect our data collection systems, between the K-12 system, higher-education systems, and labor market information to truly understand not only student outcomes, but student educational and occupational attainment processes.

Armed with this information, districts, schools, and parents will more clearly understand how the K-12 education system can support or hinder students' progress toward college. Knowing when and why students are making decisions about their educational attainment process will enable administrators and families to help students make better, more informed decisions about college, and particularly, will help students understand the importance of elite colleges.

Communication:

While it's by no means standard, some schools communicate a clearer message around going to college. Schools and districts have an opportunity to revise their communication around college and should stress more greatly the importance of elite colleges. Conversations and efforts at school, district, and state levels need to provide this support and messaging about top-tier colleges to all students, so that the system does not sort students by race and income. Broadening the appeal and applicability of top-tier colleges is critical to ensure more low-income students have the opportunity to apply to and attend the best colleges.

"The key here is this: colleges need to get more specific about who they want to help, and why. Universities' commitment to 'diversity' is important, but it's a poor substitute for a policy of equal access for the disadvantaged because 'diverse' students and disadvantaged students are not necessarily one and the same. Several studies have shown that beneficiaries of diversity-based admissions policies typically hail from the most well-educated and economically successful segments of 'diverse' communities. That's why a diversity strategy will not help universities reclaim their mission of fostering socioeconomic mobility."

—Tomiko Brown-Nagin, Constitutional Law and a Professor of History at Harvard University

One mechanism through which schools and districts can think about shifting the paradigm of college attendance toward more elite colleges is through their support during the college application process. There is a wide variability in support, both among schools and among student demographics, as institutional guidance during the process is often relegated to a college counselor with a huge caseload and little student contact. Yet there are certainly examples of success; some schools make college enrollment for all students a part of their culture from day one, taking kids on college visits and ensuring that they know which colleges have the best programs in their fields of interest.

It is clear from this report that more of the college application support needs to be focused on getting students to apply to and attend top schools. Districts and schools need to shift their messaging to underscore the importance of top-tier schools. We need our students to have complete information about outcomes and accessibility. Students need to know about need-blind policies; approximately 60 top-tier colleges will meet 100% of a student's financial need if she is admitted.

College-Readiness:

College-readiness and preparation are crucial for all students, but it is clear that as a group, low-income students are much less prepared than non-low income students for college. Low-income students typically start school far behind and cannot catch up by graduation. This gap persists across college enrollment rates and college graduation trends. Closing this achievement gap is one of our greatest challenges and must begin early in the K-12 system. We must not be satisfied with current course and speed, because the system is by and large failing our students, particularly our minority and low-income students. While this is the most difficult lever to impact, if we envision a brighter future for our high school graduates, one where more students are attending and reaping the benefits from the nation's best higher-education institutions, we need to drive performance in our statewide public education system.

Ultimately, we see a great opportunity here to revise our goals for our students. We believe, fundamentally, that sending more Colorado students—especially more low-income students —to top-tier colleges is critical. Students at these schools are more likely to graduate, to have higher lifetime earnings, and to become role models and leaders in our community. We must act on this information to address and overcome our elite college enrollment gap.

Organizations like College Summit, College Track, The Denver Scholarship Program, American Honors, Greenhouse Scholars, Emerge, Posse Foundation, and others are working to provide more equal opportunities for low-income kids to attend college.

APPENDICES

Appendix alpha: Methods

Selecting colleges to include
There are many ways to define "top-tier." For the purpose of this report, which was to take a snapshot of the Colorado landscape, we developed a list of 169 top-tier colleges using schools that were well-ranked by US News & World Report (2012) in the top national and liberal arts categories. Top arts schools were also included. The top-tier Colorado schools include University of Colorado, Boulder, Colorado School of Mines, University of Denver and Colorado College. The complete list of colleges we included can be found in delta . By no means are these the only excellent colleges in the country or the world. There is no good ranking system that could accurately identify a fixed set of the best schools. In this context, the list should be understood as a kind of blunt instrument that tells us something about the general quality of colleges students to which students are matriculating.

Sources for matriculation data
The report uses publicly available data from the Colorado Department of Higher Education (to whom we owe a huge debt of gratitude), the Colorado Department of Education, and the National Student Clearinghouse. Several private schools, a magnet school, and the Realtor Association also generously shared information with us. Data used in the primary analysis include three years of college matriculation information from 2009-2012 (2009-10, 2010-2011, 2011-12).

Exclusions
Because there is such a wide variation in districts—of which Colorado has 178—and high schools, we made effort to compare "apples to apples." Large districts and mid-size districts were analyzed separately, and small districts were mainly omitted for legal reasons. Student groups of 16 or fewer are kept confidential or omitted because it could be possible to track the data back to an individual student. Therefore, small high schools and districts were omitted if they sent fewer than 16 students to top-tier schools over a three-year period. The small numbers also skew the percentages. For example, if a high school sent two students to top-tier schools over three years and one of them was low-income, they might appear to be the most successful school in the state at sending low-income students to top colleges.

Defining students as low-income or non-low income
The high school definition for low-income differs from the higher education definition, which often uses the PELL grant eligibility (approximately $50,000 income for family of four). High schools use the Free or Reduced-Price Meals (FARM) proxy, which is roughly 185% of the federal poverty level, or about $45,000 for a family of four. In this report, we use the K-12 definition (FRL or FARM). Notably, the overall FARM rate for K-12 in Colorado was 42%, but the FARM rate for the high school graduates was closer to 20%. This could be because the dropout rate for low-income students drives the poverty rate down by senior year. There might be other explanations as well, such as a lower FRL reporting at the high school level.

Calculating rates
Many of the charts in this brief have titles like "Percentage of students who went to top-tier colleges." Unless otherwise indicated, this is the number of graduates who went to top colleges as a percentage of the students who went to college.

Appendix Beta: District Setting Chart

District Name	District Setting
ADAMS COUNTY 14	Denver Metro
ADAMS-ARAPAHOE 28J	Denver Metro
BOULDER VALLEY RE 2	Denver Metro
BRIGHTON 27J	Denver Metro
CHERRY CREEK 5	Denver Metro
DENVER COUNTY 1	Denver Metro
DOUGLAS COUNTY RE 1	Denver Metro
ENGLEWOOD 1	Denver Metro
JEFFERSON COUNTY R-1	Denver Metro
LITTLETON 6	Denver Metro
MAPLETON 1	Denver Metro
NORTHGLENN-THORNTON (ADAMS 12 FIVE STAR SCHOOLS)	Denver Metro
SHERIDAN 2	Denver Metro
ST VRAIN VALLEY RE 1J	Denver Metro
ACADEMY 20	Urban-Suburban
CHARTER SCHOOL INSTITUTE	Urban-Suburban
CHEYENNE MOUNTAIN 12	Urban-Suburban
COLORADO SPRINGS 11	Urban-Suburban
FALCON 49	Urban-Suburban
FOUNTAIN 8	Urban-Suburban
GREELEY 6	Urban-Suburban
HARRISON 2	Urban-Suburban
LEWIS-PALMER 38	Urban-Suburban
MANITOU SPRINGS 14	Urban-Suburban
MESA COUNTY VALLEY 51	Urban-Suburban
POUDRE R-1	Urban-Suburban
PUEBLO CITY 60	Urban-Suburban
PUEBLO COUNTY RURAL 70	Urban-Suburban
THOMPSON R-2J	Urban-Suburban
WIDEFIELD 3	Urban-Suburban
ALAMOSA RE-11J	Outlying City
CANON CITY RE-1	Outlying City
DURANGO 9-R	Outlying City
EAST OTERO R-1	Outlying City
FORT MORGAN RE-3	Outlying City
LAMAR RE-2	Outlying City
MOFFAT COUNTY RE:NO 1	Outlying City
MONTEZUMA-CORTEZ RE-1	Outlying City
MONTROSE COUNTY RE-1J	Outlying City
ROARING FORK RE-1	Outlying City
STEAMBOAT SPRINGS RE-2	Outlying City
TRINIDAD 1	Outlying City
VALLEY RE-1	Outlying City
WESTMINSTER 50	Outlying City
AKRON R-1	Outlying Town
ARCHULETA COUNTY 50 JT	Outlying Town
ASPEN 1	Outlying Town
AULT-HIGHLAND RE-9	Outlying Town
BAYFIELD 10 JT-R	Outlying Town
BENNETT 29J	Outlying Town
BRUSH RE-2(J)	Outlying Town
BUENA VISTA R-31	Outlying Town
BURLINGTON RE-6J	Outlying Town
CENTER 26 JT	Outlying Town
CHEYENNE COUNTY RE-5	Outlying Town
CLEAR CREEK RE-1	Outlying Town
CROWLEY COUNTY RE-1-J	Outlying Town
DEL NORTE C-7	Outlying Town
DELTA COUNTY 50(J)	Outlying Town
EAGLE COUNTY RE 50	Outlying Town

District Name	District Setting
EAST GRAND 2	Outlying Town
EATON RE-2	Outlying Town
FLORENCE RE-2	Outlying Town
FOWLER R-4J	Outlying Town
GARFIELD RE-2	Outlying Town
GUNNISON WATERSHED RE1J	Outlying Town
HAYDEN RE-1	Outlying Town
HOLYOKE RE-1J	Outlying Town
HUERFANO RE-1	Outlying Town
JOHNSTOWN-MILLIKEN RE-5J	Outlying Town
JULESBURG RE-1	Outlying Town
LAKE COUNTY R-1	Outlying Town
LAS ANIMAS RE-1	Outlying Town
LIMON RE-4J	Outlying Town
MEEKER RE1	Outlying Town
MONTE VISTA C-8	Outlying Town
PARK (ESTES PARK) R-3	Outlying Town
PLATTE VALLEY RE-7	Outlying Town
RANGELY RE-4	Outlying Town
ROCKY FORD R-2	Outlying Town
SALIDA R-32	Outlying Town
SPRINGFIELD RE-4	Outlying Town
SUMMIT RE-1	Outlying Town
TELLURIDE R-1	Outlying Town
WELD COUNTY RE-1	Outlying Town
WELD COUNTY S/D RE-8	Outlying Town
WEST GRAND 1-JT.	Outlying Town
WINDSOR RE-4	Outlying Town
WOODLAND PARK RE-2	Outlying Town
WRAY RD-2	Outlying Town
YUMA 1	Outlying Town
AGUILAR REORGANIZED 6	Rural
ARRIBA-FLAGLER C-20	Rural
BETHUNE R-5	Rural
BIG SANDY 100J	Rural

District Name	District Setting
BRANSON REORGANIZED 82	Rural
BRIGGSDALE RE-10	Rural
BUFFALO RE-4	Rural
BYERS 32J	Rural
CALHAN RJ-1	Rural
CENTENNIAL R-1	Rural
CHERAW 31	Rural
COTOPAXI RE-3	Rural
CREEDE CONSOLIDATED 1	Rural
CRIPPLE CREEK-VICTOR RE-1	Rural
CUSTER COUNTY SCHOOL DISTRICT C-1	Rural
DE BEQUE 49JT	Rural
DEER TRAIL 26J	Rural
DOLORES COUNTY RE NO.2	Rural
DOLORES RE-4A	Rural
EADS RE-1	Rural
EDISON 54 JT	Rural
ELBERT 200	Rural
ELIZABETH C-1	Rural
ELLICOTT 22	Rural
FRENCHMAN RE-3	Rural
GARFIELD 16	Rural
GENOA-HUGO C113	Rural
GILPIN COUNTY RE-1	Rural
GRANADA RE-1	Rural
HANOVER 28	Rural
HAXTUN RE-2J	Rural
HI-PLAINS R-23	Rural
HOEHNE REORGANIZED 3	Rural
HOLLY RE-3	Rural
IDALIA RJ-3	Rural
IGNACIO 11 JT	Rural
KARVAL RE-23	Rural
KEENESBURG RE-3(J)	Rural

District Name	District Setting
KIM REORGANIZED 88	Rural
KIOWA C-2	Rural
KIT CARSON R-1	Rural
LA VETA RE-2	Rural
LIBERTY J-4	Rural
LONE STAR 101	Rural
MANCOS RE-6	Rural
MANZANOLA 3J	Rural
MC CLAVE RE-2	Rural
MIAMI/YODER 60 JT	Rural
MOFFAT 2	Rural
MOUNTAIN VALLEY RE 1	Rural
NORTH CONEJOS RE-1J	Rural
NORTH PARK R-1	Rural
NORWOOD R-2J	Rural
OTIS R-3	Rural
OURAY R-1	Rural
PARK COUNTY RE-2	Rural
PAWNEE RE-12	Rural
PEYTON 23 JT	Rural
PLATEAU RE-5	Rural
PLATEAU VALLEY 50	Rural
PLATTE CANYON 1	Rural
PRAIRIE RE-11	Rural
PRIMERO REORGANIZED 2	Rural
RIDGWAY R-2	Rural
SANFORD 6J	Rural
SANGRE DE CRISTO RE-22J	Rural
SARGENT RE-33J	Rural
SIERRA GRANDE R-30	Rural
SOUTH CONEJOS RE-10	Rural
SOUTH ROUTT RE 3	Rural
STRASBURG 31J	Rural
STRATTON R-4	Rural
SWINK 33	Rural

District Name	District Setting
VILAS RE-5	Rural
WALSH RE-1	Rural
WELDON VALLEY RE-20(J)	Rural
WEST END RE-2	Rural
WIGGINS RE-50(J)	Rural
WILEY RE-13 JT	Rural
WOODLIN R-104	Rural
CENTENNIAL BOCES	Colorado BOCES
EXPEDITIONARY BOCES	Colorado BOCES
MOUNTAIN BOCES	Colorado BOCES

Appendix Gamma: College enrollment by income level & district size

The overall income of students within a district impacts low-income and non-low income students differently. Low-income graduates enroll in college at higher rates when they are in poorer districts, whereas non-low income graduates enroll in college at higher rates when they are from wealthier districts. To illustrate, 48% of low-income students in the quartile with the largest percent of low-income students enroll in college, while 43% of low-income students in the quartile with the smallest percentage of low-income students enroll in college. The trend is the opposite for non-low income graduates: 52% of non-low income graduates in the lowest-income districts enroll in college versus 59% of non-low income graduates in the wealthiest districts. Indeed, across all districts, and particularly in large districts, non-low income students are less likely to enroll in college when the district has a higher percentage of low-income students.

The enrollment trends for low-income graduates get more complex as we compare large districts (those that graduated more than 1,000 students in 2010-2012) with mid-size and smaller districts (those that have graduated fewer than 1,000 students across 2010-2012). As explained above, across the state, low-income students enroll in college at higher rates when they're in poorer districts. This holds true in mid-size and small districts. However, when we look at just large districts, the college enrollment trends are reversed; poor students are more likely to go to any college if they are in a wealthier school district than a poorer school district. For example, 52% of low-income graduates in Cherry Creek (whose graduating population is 17% low-income) enroll in college, while 44% of low-income graduates in Denver (whose graduating population is 50% low-income) enroll in college.

Appendix Delta: Schools by Tier

Tier 1

AMHERST COLLEGE
BATES COLLEGE
BERKLEE COLLEGE OF MUSIC
BOWDOIN COLLEGE
BROWN UNIVERSITY
CALIFORNIA INSTITUTE OF TECHNOLOGY
CALIFORNIA INSTITUTE OF THE ARTS
CARLETON COLLEGE
CARNEGIE MELLON UNIVERSITY
CLAREMONT MCKENNA COLLEGE
COLBY COLLEGE
COLGATE UNIVERSITY
COLUMBIA UNIVERSITY
CORNELL UNIVERSITY
CULINARY INSTITUTE OF AMERICA
DARTMOUTH COLLEGE
DAVIDSON COLLEGE
DUKE UNIVERSITY
EMORY UNIVERSITY
GEORGETOWN UNIVERSITY
GRINNELL COLLEGE
HAMILTON COLLEGE
HARVARD UNIVERSITY
HARVEY MUDD COLLEGE
HAVERFORD COLLEGE
JOHNS HOPKINS UNIVERSITY - PEABODY CONSERVATORY OF MUSIC
JOHNS HOPKINS UNIVERSITY ARTS, SCIENCES ENGINEERING
JUILLIARD SCHOOL
MACALESTER COLLEGE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
MIDDLEBURY COLLEGE
NORTHWESTERN UNIVERSITY
POMONA COLLEGE
PRATT INSTITUTE
PRINCETON UNIVERSITY
RHODE ISLAND SCHOOL OF DESIGN
RICE UNIVERSITY
SCHOOL OF THE ART INSTITUTE OF CHICAGO
SCRIPPS COLLEGE
SMITH COLLEGE
STANFORD UNIVERSITY
SWARTHMORE COLLEGE
UNIVERSITY OF CALIFORNIA - BERKELEY
UNIVERSITY OF CALIFORNIA - LA
UNIVERSITY OF CHICAGO
UNIVERSITY OF NOTRE DAME
UNIVERSITY OF PENNSYLVANIA
UNIVERSITY OF ROCHESTER-EASTMAN SCHOOL OF MUSIC
UNIVERSITY OF SOUTHERN CALIFORNIA
UNITED STATES NAVAL ACADEMY
UNITED STATES MILITARY ACADEMY
VANDERBILT UNIVERSITY
VASSAR COLLEGE
WASHINGTON AND LEE UNIVERSITY
WASHINGTON UNIVERSITY, ST. LOUIS
WELLESLEY COLLEGE
WESLEYAN UNIVERSITY
WILLIAMS COLLEGE
YALE UNIVERSITY

Tiers 2 + 3

BARNARD COLLEGE
BOSTON COLLEGE
BRANDEIS UNIVERSITY
BRYN MAWR COLLEGE
BUCKNELL UNIVERSITY
CASE WESTERN RESERVE UNIVERSITY
COLLEGE OF THE HOLY CROSS
COLLEGE OF WILLIAM & MARY
COLORADO COLLEGE
CONNECTICUT COLLEGE
DENISON UNIVERSITY
DICKINSON COLLEGE
FRANKLIN AND MARSHALL COLLEGE
FURMAN UNIVERSITY
GEORGIA INSTITUTE OF TECHNOLOGY
GETTYSBURG COLLEGE
KENYON COLLEGE
LEHIGH UNIVERSITY
MOUNT HOLYOKE COLLEGE
NEW YORK UNIVERSITY
OBERLIN COLLEGE
OCCIDENTAL COLLEGE
PENNSYLVANIA STATE UNIVERSITY
PITZER COLLEGE
RENSSELAER POLYTECHNIC INSTITUTE
SKIDMORE COLLEGE
TUFTS UNIVERSITY
UNION COLLEGE

UNIVERSITY OF CALIFORNIA - IRVINE
UNIVERSITY OF CALIFORNIA-DAVIS
UNIVERSITY OF CALIFORNIA-SAN DIEGO
UNIVERSITY OF CALIFORNIA-SANTA BARBARA
UNIVERSITY OF ILLINOIS AT URBANA - CHAMPAIGN
UNIVERSITY OF MIAMI
UNIVERSITY OF MICHIGAN
UNIVERSITY OF NORTH CAROLINA-CHAPEL HILL
UNIVERSITY OF RICHMOND
UNIVERSITY OF ROCHESTER
UNIVERSITY OF TEXAS AT AUSTIN
UNIVERSITY OF VIRGINIA
UNIVERSITY OF WASHINGTON - SEATTLE
UNIVERSITY OF WISCONSIN - MADISON
UNITED STATES AIR FORCE ACADEMY
WAKE FOREST UNIVERSITY
WHITMAN COLLEGE
AMERICAN UNIVERSITY
BAYLOR UNIVERSITY
BELOIT COLLEGE
BOSTON UNIVERSITY
BRIGHAM YOUNG UNIVERSITY
CLARK UNIVERSITY
CLEMSON UNIVERSITY
COLORADO SCHOOL OF MINES
DEPAUW UNIVERSITY
FLORIDA STATE UNIVERSITY
FORDHAM UNIVERSITY
GOUCHER COLLEGE
GUSTAVUS ADOLPHUS COLLEGE
INDIANA UNIVERSITY BLOOMINGTON
KALAMAZOO COLLEGE
LAWRENCE UNIVERSITY
LEWIS & CLARK COLLEGE OF ARTS & SCIENCES
MARQUETTE UNIVERSITY
MICHIGAN STATE UNIVERSITY
MILLS COLLEGE
MOREHOUSE COLLEGE
NORTHEASTERN UNIVERSITY
THE OHIO STATE UNIVERSITY
PEPPERDINE UNIVERSITY
PURDUE UNIVERSITY - CALUMET
PURDUE UNIVERSITY - WEST LAFAYETTE
RANDOLPH-MACON COLLEGE
REED COLLEGE
RHODES COLLEGE
ROCHESTER INSTITUTE OF TECHNOLOGY
SAINT JOHNS UNIVERSITY
SANTA CLARA UNIVERSITY
SOUTHERN METHODIST UNIVERSITY
SPELMAN COLLEGE
SAINT LOUIS UNIVERSITY
ST. OLAF COLLEGE
ST. EVENS INSTITUTE OF TECHNOLOGY
SUNY BINGHAMTON
SUNY STONY BROOK UNIVERSITY
SYRACUSE UNIVERSITY
TEXAS A&M UNIVERSITY
TEXAS CHRISTIAN UNIVERSITY
THE UNIVERSITY OF THE SOUTH
TULANE UNIVERSITY
UNIVERSITY OF CALIFORNIA-SANTA CRUZ
UNIVERSITY OF COLORADO AT BOULDER
UNIVERSITY OF CONNECTICUT
UNIVERSITY OF DELAWARE
UNIVERSITY OF DENVER
UNIVERSITY OF FLORIDA
UNIVERSITY OF GEORGIA
UNIVERSITY OF INDIANAPOLIS
UNIVERSITY OF IOWA
UNIVERSITY OF MARYLAND - COLLEGE PARK
UNIVERSITY OF MASSACHUSETTS AT AMHERST
UNIVERSITY OF MINNESOTA-TWIN CITIES
UNIVERSITY OF MISSOURI-COLUMBIA
UNIVERSITY OF PITTSBURGH
UNIVERSITY OF VERMONT & STATE AGRICULTURAL COLLEGE
VIRGINIA MILITARY INSTITUTE
VIRGINIA POLYTECH AND STATE UNIVERSITY
WHEATON COLLEGE
WHITTIER COLLEGE
WILLAMETTE UNIVERSITY
WORCESTER POLYTECHNIC INSTITUTE
ALFRED UNIVERSITY

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[19] American Psychological Association. Education and Socioeconomic Status. http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx

[20] For more resources on the consequences of student tracking or ability grouping we recommend the following research: Anne Wheelock. Crossing the Tracks: How "Untracking" Can Save America's Schools. New York: Routledge. 1992. Additionally, Hugh Mehan with The Center for Research on Educational Equity, Access, and Teaching Excellence (CREATE) at the University of California-San Diego has contributed to the understanding of the implications and alternatives to student tracking. See Hugh Mehan. In the Front Door: Creating a College-Going Culture of Learning. Boulder: Paradigm Publishers. 2012.

[21] In discussing 'poorer' and 'wealthier' districts we are referring to the income status of students' families in a district. The poorest districts are the districts which have the 25% (top quartile) highest proportions of students on free and reduced lunch. The wealthiest districts are the districts which have the 25% (bottom quartile) lowest proportions of students on free and reduced lunch.

[22] National Center for Educational Achievement, "The 20 Non-Negotiable Characteristics of High-Performing School Systems" April 2011.