

CEOs for Cities: Strategy Guide

Collecting and Using Data / Indicators of Progress

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Connect strategy to action

Regardless of the strategies you choose to pursue to increase the educational attainment of your community members, you will want to use data to get baseline measurements of the educational achievement of adults currently living in your community, how prepared students are for college and their barriers to entry, and/or the ability of local colleges and universities to attract, retain, and graduate students. Then, to evaluate the effectiveness of your intervention strategy, you will again want to look at these measures and compare them with your starting point. Some data that can be used for these assessments are readily available and easily accessible, but in other cases you may need to think about conducting new research.

Case Study: New York City's Gateway to the Middle Class

Mayor Bloomberg's plan has a goal of graduating 120,000 New Yorkers by 2020, providing the educational and training opportunities for more city residents to join the middle class. New York City currently has the largest urban community college network in the country, with six colleges and more than 81,000 students. Bloomberg has said, "Sixty percent of CUNY's community college students come from households that earn less than \$30,000 a year, and 66 percent of them work at least part-time while taking classes. We owe it to them to make our community colleges more accessible, accountable, and effective at preparing New Yorkers for high-demand and higher-paying jobs."

A few highlights from the initiative include:

- Create new training programs in growing fields, like health care and green technology, to help New Yorkers prepare for high-demand jobs.
- Double the capacity of community colleges' on-campus child care so New Yorkers can pursue their education and still take care of their families.
- Help New Yorkers start their own local businesses with training in planning, marketing, and financial management, and connect internships with successful small enterprises.
- Bolster capacity for on-campus advisement, matching hardworking community college students with the advisers who can help direct their efforts toward a productive career or further education.
- Save students thousands of dollars by making textbooks more affordable through an innovative collaboration with the City University of New York (CUNY) that will promote online books, bulk purchasing, and used book exchanges.
- Help New Yorkers save for school through \$aveNYC, a consumer-friendly savings account that will, for the first time, offer students matching funds if they maintain their initial deposit for one year and use the money for tuition and expenses.
- Expand the Accelerated Study in Associate Program (ASAP) that helps high-risk students complete community college within three years and become productive members of the workforce.

For strategies that address college readiness

Questions to ask:

- Are students engaging in sufficiently challenging high school coursework?
- Are students taking standardized tests? If so, what are their scores?
- At what rate are students graduating from high school?
- What is the distribution of GPAs of students at graduation?

Some researchers are also exploring ways to measure other characteristics that are necessary for students to complete college-level work. Please see the College Readiness Strategy Guide for more detail about exploring students' cognitive abilities, their content knowledge, academic behavior, and "college knowledge" (the information students need to apply to college, coordinate financial aid, etc.).

Data available to answer these questions:

State Education Data and Student Unit Record Systems

To assess students' readiness for college, researchers and policymakers can use available data on test scores and graduation numbers and rates by high school and student race, ethnicity, and gender. Because of the accountability requirements set by No Child Left Behind, each state is individually responsible for collecting and disseminating this information (for one example, see the Cal-PASS case study below).

Recent legislation has also helped spur the development of state-level longitudinal data systems. These "student unit record" systems (SURs) gather detailed local-level information about students as they progress through primary, secondary, and postsecondary education. For this reason they are well-suited to investigating the effects of new intervention strategies in specific communities over time.

If your state has an SUR that is fully implemented, it might be the best place to look for information on students before the college level. Most states now have these systems in place, but their functionality, as well as the quality and variety of data provided, vary widely from state to state. Nonetheless, these data systems are developing quickly, and the information they collect could answer many questions you might have.

Some state agencies allow public access to educational data, while others supply data on request. To find out who manages this data in your home state, go to the website of the Department of Education's National Center on Education Statistics (NCES), which provides information on all 41 states that have thus far received federal funding to develop SURs. See: <http://nces.ed.gov/Programs/SLDS/stateinfo.asp>.

Finally, for detailed information on the state databases themselves (including the state agencies that manage them), consult the website of the National Center for Higher Education Management Systems (NCHEMS): <http://www.nchems.org/c2sp/sur/>.

The Lumina Foundation on Education published a report on SURs in 2007 that is a useful primer on the systems: http://www.luminafoundation.org/publications/CriticalConnections_Web.pdf.

High School Graduation Rate

The Editorial Projects in Research Education has developed an online map tool for researchers to find graduation rates by zip code, school district, county, or state, using data from their highly regarded Cumulative Promotion Index: <http://www.edweek.org/apps/maps>.

Apart from its own survey work on student unit record systems, NCHEMS synthesizes other higher education data sets to provide users with state-by-state comparisons on high school graduation rates, as well as scores on AP, SAT, and ACT tests and metrics of the readiness of adult students. It is available at: <http://www.higheredinfo.org>.

Standardized Test Scores

Each year, ACT releases both national and state-specific reports on the most recent graduating senior high school class. These reports assess the level of student college readiness based on aggregate score results of the ACT college admission and placement exam. The foundation of this annual report is empirical ACT data that specify what happens to high school graduates once they get to college or work based on how well they were prepared in middle or high school. To access the national and state reports, see: <http://www.act.org/news/data/09/index.html>.

Academic Advising

Research has shown that academic advising has a profound impact on students' postsecondary decisions, but nationally high school advisers often carry workloads that interfere with their ability to meet the needs of their students. Each year, the National Association for College Admission Counseling releases a report on the State of College Admissions, with a comprehensive look at student-to-counselor ratios across the nation and for each state. While the 2009 report costs \$25 to download, individuals may access reports from 2008 and earlier free of charge to see how their states measure up when it comes to college advising. These reports can be found at: <http://www.nacacnet.org/PublicationsResources/Research/Reports/Pages/default.aspx>.

Case Study: Cal-PASS

MCAL-PASS (www.calpass.org) is the only system that collects data about student success and transition from every segment of education, K–16. The initiative collects, analyzes, and shares student data in order to track performance and improve success from elementary school through university.

Through the Cal-PASS project, elementary, middle, and high schools as well as colleges and universities can learn the answers to questions such as:

- What do my students do when they leave here?.
- Were they well-prepared? Are adjustments in curriculum necessary to improve their preparation?
- How many got degrees? What did they get degrees in? How long did it take?

For strategies that address college recruitment and matriculation

Questions to ask:

- What are the characteristics of students currently enrolled in local education programs?
- At what rates are students applying to college? Are there adults in your community with some college who have an interest in returning?
- Where are current students coming from (e.g., directly from high schools, community organizations, employers (incumbent workers), etc.)? What motivated them to enter their respective programs? What are the barriers to access into these programs?
- Are there other sources of students for these programs that are not being tapped? What would it take to recruit students from these sources and prepare them for success in programs?

Data available to answer these questions:

National Association of College Admission Counselors (NACAC)

The NACAC is a useful starting point for research on the transition from secondary to postsecondary schooling. It provides links to several of the most useful NCES (National Center for Education Statistics) research tools—discussed in greater detail below—as well as links to several annual data reports on trends in educational attainment, characteristics of students, etc.: <http://www.nacacnet.org/PublicationsResources/Research/Tools/Pages/AnnualDataReports.aspx>.

It also compiles a great deal of recent research on a variety of topics related to college recruitment and matriculation: <http://www.nacacnet.org/PublicationsResources/Research/topics/Pages/default.aspx>.

Integrated Postsecondary Education Data System

IPEDS (<http://nces.ed.gov/IPEDS>) is a system of interrelated surveys conducted annually by the NCES. IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. Participating institutions report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid.

Data that might be of interest include:

- Enrollment: Because enrollment patterns differ greatly among the various types of postsecondary institutions, there is a need for both different measures of enrollment and several indicators of access. IPEDS tracks fall enrollment, first-time students, age data, credit hours delivered, and total entering class.
- Student Financial Aid: The data show the percentage of full-time, first-degree- or certificate-seeking students who receive different types of grants and loans, as well as the average dollar amount of aid these students receive at each institution.

The IPEDS Data Center tool (<http://nces.ed.gov/ipeds/datacenter/Default.aspx>) allows individuals to search and compare a host of characteristics of specific institutions, including:

- Basic institutional characteristics, including control of institution, campus setting, and awards offered
- School revenues and expenses, number and salaries of staff members
- Student financial aid awards
- Admissions selectivity and SAT/ACT scores
- Student enrollment by gender and race and reason for matriculating (first-time student, transfer, non-degree-seeking, etc.)

A simplified version of this tool is the College Navigator (<http://nces.ed.gov/collegenavigator>), which has the added benefit of allowing users to search for schools within a specific zip code or state. The data is concise but offers a wealth of useful information, including:

- Average tuition costs and financial aid received
- Characteristics of enrolled students, including gender, age, race, place of residence, and attendance status
- Selectivity and average SAT scores of admitted students

Also of interest is the IPEDS Data Analysis System, which allows users to create their own tables to assess the relationships between different types of institutional and/or student characteristics. Simple tables can be created using the QuickStats tool (<http://nces.ed.gov/datalab/quickstats/default.aspx>), or users may create more complex tables from the full set of IPEDS data using the Data Analysis Center (<http://nces.ed.gov/das/>).

Because it draws from so many sources, IPEDS data is not immediately available after it has been collected. Most of the data points include data up to the 2007–2008 school year; data on college tuition, admissions, and institutional characteristics are available up to the 2008–2009 school year.

Student Unit Record Systems (and Other State Data)

Depending on the state, SURs can be an excellent source of college recruitment and matriculation data (see further discussions of SURs in the previous section). Be aware that even in states with well-developed student record systems, most data available come only from public institutions. However, private institutions are beginning to supply and report their own student data, and many state systems are expanding their coverage of non public schools.

SURs are often managed by a state's university system. Depending on the state, you might find that the best place to look for data is with the SHEEO (State Higher Education Executive Officers) Agency. These agencies are listed by state here: <http://www.sheeo.org/agencies.asp>.

For strategies that address college retention and completion

Questions to ask:

- What is the rate at which students successfully complete education and training by program?
- What are the characteristics of completers compared to non-completers?
- What are the course-taking patterns of students from the time they enter the institution? What institutional policies and practices prevent students from advancing?
- Why do some students not complete? How can barriers to completion be overcome and completion rates increased?

Data available to answer these questions:

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (<http://nces.ed.gov/IPEDS>) is also a helpful resource for finding completion data based on a host of student and institutional characteristics.

- Degrees and Certificates Conferred (Completions): IPEDS collects data on the number of students who complete a postsecondary education program by type of program and level of award (certificate or degree).
- Student Persistence and Success: IPEDS collect both first-year retention rates and graduation rates.

As above, users may also search for retention and completion data for specific institutions with the IPEDS Data Center tool (<http://nces.ed.gov/ipeds/datacenter>) and the College Navigator tool (<http://nces.ed.gov/collegenavigator>), or may create their own tables on general relationships of graduation rates and student and/or institutional variables using QuickStats (<http://nces.ed.gov/datalab/quickstats/default.aspx>) and the Data Analysis system (<http://nces.ed.gov/das>).

National Center for Higher Education Management

In addition to providing state-by-state comparisons of college-readiness data, <http://www.higheredinfo.org> also provides data on first-year retention rates and graduation rates, which is synthesized from IPEDS data.

Student Engagement

The level that a student is engaged in a particular postsecondary program is a strong predictor of their chances of completion. The National Survey of Student Engagement (<http://nsse.iub.edu>) and the Community College Survey of Student Engagement (<http://www.ccsse.org>) are administered annually to participating postsecondary institutions and measure several aspects of student engagement. While full data for each institution is not available on either website (although the CCSSE does provide an overview for each), researchers may look up participating institutions in their area and contact schools directly for the data. See http://nsse.iub.edu/html/participating_institutions_query_engine.cfm for NSSE participating institutions and <http://www.ccsse.org/survey/profiles.cfm?sortby=state> for CCSSE participating institutions. Researchers interested in conducting their own institutional research may find these surveys as useful starting points.

Student Unit Record Systems (SURs)

Nearly every state with a student record database has retention and completion data for public school enrollments. This information may be reported to the state by private institutions as well, albeit less frequently and often in less detail.

Individualized Institutional Research

Because student attrition comprises a complex set of factors related to both student and institutional characteristics, it is advisable that local institutions conduct their own research to find out why students are leaving. The Education Credit Management Corporation Foundation has created a comprehensive but accessible guide for colleges on how they can measure and assess the specific factors that lead to student attrition within their institution, which is available at: http://www.ecmcfoundation.org/idc/groups/ucm_ecmc/@ecmc_web/documents/native/persistoc.pdf

Case Study: Higher Education Research Institute at UCLA

The Cooperative Institutional Research Project (CIRP) housed in the Higher Education Research Institute (HERI) at UCLA is the longest-running and largest longitudinal study of the American higher education system, with data on more than 15 million students at 1,900-plus institutions spanning the last 44 years. Each year HERI conducts three surveys of interest for researchers looking to uncover data about student retention:

- **The Freshman Survey (TFS):** Each year, approximately 700 two-year colleges and four-year colleges and universities administer the Freshman Survey to more than 400,000 entering students during orientation or registration. The survey measures: established behaviors in high school; academic preparedness; admissions decisions; expectations of college; interactions with peers and faculty; student values and goals and student demographic characteristics; and concerns about financing college.
- **Your First College Year Survey (YFCY):** YFCY is the first national survey designed specifically to assess the academic and personal development of students over the first year of college. YFCY enables institutions to identify features of the first year that encourage student learning, involvement, satisfaction, retention, and success, thereby enhancing first-year programs and retention strategies at campuses across the country.
- **College Senior Survey (CSS):** The redesigned College Senior Survey (CSS), formerly the College Student Survey, helps institutions respond to the need for assessment and accountability data by providing information on a broad range of student outcomes. The design and focus for this instrument is an “exit” or “senior” survey. CSS offers feedback on students’ academic and campus life experiences—information that can be used for student assessment activities, accreditation and self-study reports, campus planning, and policy analysis. It also offers new feedback on students’ post-college plans immediately following graduation.

HERI provides only data briefs on the national results of these surveys free of charge, but researchers may request specific data reports for a fee. See <http://www.heri.ucla.edu for details>.

Measuring progress overall—and what to do when data isn't available

Questions to ask:

- Who makes up your college-educated population? What attracted them to your city?
- Do college-educated residents plan to stay in your city? Why would they want to leave? Does your city support different lifestyles and phases of life?
- How has the educational makeup of your city's population changed over time? Are there any trends you want to reverse?

Data available to answer these questions:

U.S. Census

The census (<http://www.census.gov>) offers good baseline information on workforce demographics, including educational attainment, age, race, and ethnicity. You won't be able to identify if increases in college attainment are due to local development of talent or attracting college graduates to your city, but the data is reliable and readily available.

The census also collects data on behalf of the Bureau of Labor Statistics (www.bls.gov). They record general labor force statistics and weekly and hourly earnings.

American Community Survey

The American Community Survey (ACS) is a nationwide survey. Like the census, it collects detailed information on community demographic, social, and economic characteristics; unlike the census, it is administered every year. Beginning with the 2005 ACS, annual data are available for geographic areas with a population of 65,000 or more. In 2008, the ACS released its first multiyear estimates based on ACS data collected from 2005 through 2007. These three-year estimates are available for geographic areas with a population of 20,000 or more. For areas with a population less than 20,000, five-year estimates will be available. The first five-year estimates, based on ACS data collected from 2005 through 2009, will be released in 2010.

Although the ACS is a national survey, it collects information that can be broken down into geographic units such as school district, congressional district, or metropolitan area (among others). Because it is a fairly comprehensive source of

demographic data and draws on surveys conducted yearly, it offers policymakers and leaders another good way to investigate the educational makeup of their communities over time: <http://factfinder.census.gov>.

Institutional research

Because of the time it takes before student and institutional information is available from state or federal sources, it may be more effective to measure the effects of an initiative at the college level. Data available at the institutional level may also offer information better tailored to the needs and conditions unique to individual cities. Research at the institutional level is a way for schools to receive continuous feedback on their progress. Fortunately, both two-year and four-year colleges have been expanding the role of institutional research in recent years. Data collected can be used not only to hold educational leaders accountable for student outcomes but also to help leaders better understand how to meet the needs of students and their institutions overall.

Institutional research departments vary greatly in size and funding. Some may only have the capacity to manage compliance reporting requirements to state and federal agencies and accreditation bodies, while others may have a large staff that analyzes data on a host of measures. Colleges may currently collect the following data, or it may be the goal of city leaders to build capacity in these areas:

- Student demographic information
- Student participation information—data on course-taking patterns and completion rates (this is especially useful if longitudinal cohorts are tracked)
- Interviews with current students on barriers and recruitment methods
- Interviews with prospective students and staff and faculty from “feeder” institutions (e.g., high schools or two-year colleges that prepare students for four-year enrollment)
- Surveys of current students, completers, and dropouts
- Interviews and/or focus groups with faculty and student support staff

Local Surveys

Individual cities or regions may also collect data as part of economic development plans or other research. This information should be publicly available, but the content can vary widely by community. In the absence of local data or if data is incomplete, new surveys could be conducted to take stock of city demographics and educational attainment. Surveys could also provide more detailed information on the workforce—when and where people achieved higher education,

their barriers to educational completion, motivations for moving to a city, among other attitudes. Surveys can also be administered periodically to track how both educational attainment and attitudes change over time. Unlike census data, more tailored studies can identify where college graduates are coming from, be it local college graduates, graduates of national universities, experienced workers attracted to a specific industry, or other sources.

Case Study: Using Data at Cuyahoga Community College

Cuyahoga Community College (Tri-C) has three campuses in metropolitan Cleveland in Northeastern Ohio. The college serves more than 34,000 credit students annually, and another 25,000 non-credit students each semester. Forty percent of Tri-C's students are from minority groups; 66 percent are women.

With the [Achieving the Dream Initiative](#), Tri-C is working to improve student retention, with satisfaction and success as key priorities. Outcomes assessment is critical to its planning process, so the college has invested in technology that will track student outcomes, assess student success interventions, and provide predictive models to prescribe academic pathways. The college made orientation mandatory for new students beginning in fall 2005. It has also expanded its academic advising and tutoring services. Financial aid and career services were reorganized to meet students' needs more effectively. The college has begun to establish baseline data about student success to determine additional areas that need attention. To gauge the variability in success rates among students with different demographic and educational characteristics, the following student data is being collected:

- Age
- Race
- Educational goal
- Full-time/part-time status
- Assessment test results in English and math
- Declared major
- First semester day/evening/weekend status
- First semester financial aid
- Earnings on the job
- Attainment in English and math
- Relationship between success in developmental and college-level English and math

In addition to the student data, surveys of various college departments and an “audit” of student finance, admissions and records, counseling operations, and existing retention interventions are part of the Achieving the Dream data analysis efforts. Town-hall sessions have resulted in honest opinions and perceptions about factors that contribute to or impede student success. Information from Noel-Levitz student satisfaction surveys, the Community College Survey of Student Engagement (CCSSE), and various focus groups also contribute to the large data set being reviewed and analyzed. The results of these various analyses are being used to develop interventions to increase student success.

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