

P-20 Longitudinal Data Systems

The Race to the Top (RTTT) competition asks states to continue making substantial progress in the quality of their longitudinal data systems, and, significantly, to dramatically improve their ability to use longitudinal data to inform policy and practice from the classroom to the state house. Today, too few states collect, meaningfully report, and use data to inform public discourse about students' preparation for college and careers. The RTTT competition gives states committed to college and career readiness an unprecedented opportunity to build the tools to measure results, guide decision-making and investments, and provoke honest conversations about whether and how schools are on track for, meeting, or exceeding college and career readiness goals. **But data alone is not enough: To foster meaningful dialogue and make continuous progress towards college- and career-ready goals, states need to make college and career readiness a central feature of their public reporting.**

A seamlessly integrated, accessible P-20 longitudinal data system with college and career readiness as its central driver should be a linchpin of any state's effort to maximize the impact of its RTTT strategy. These systems provide educators and decisionmakers with critical pieces of information about student achievement and school progress and are foundational to reaching states' goals of readiness and success.

But implementing a longitudinal data system itself is not sufficient. States must also help schools and districts deploy instructional improvement systems that ensure educators have the information they need to improve instruction, as well as reporting and analysis tools that help them identify which students are not on-track for college- and career-ready success well before high school graduation. Critically, states must also seize the opportunity RTTT provides to move beyond current state report cards and begin sharing with parents, educators, policymakers, and the public transparent, accessible, understandable information about how well the state, districts, and schools are meeting key college- and career-ready goals. Simply shining a light on progress towards college and career readiness within a school or district – even when not coupled with specific sanctions and rewards – has the potential not only to change the conversation, but to change the behaviors and expectations within the school itself.

Meeting the Race to the Top Challenge: Building College and Career Readiness Capacity into Data Systems

Under the Race to the Top draft criteria, states will be evaluated on the degree to which their statewide longitudinal data system includes the twelve elements specified in the America COMPETES Act (see Table 1). To date, a significant majority of states have implemented about half of those elements – including unique student identifiers, student-level enrollment and test data, and student-level graduation and dropout data – all

This guide is one of a series of papers Achieve has prepared to help states maximize the opportunities presented through the Race to the Top Fund (RTTT). In accompanying papers, Achieve addresses recommendations for leveraging high-quality standards and assessments, turning around low performing schools, and improving teacher effectiveness. Taken together, these papers offer advice to help state leaders develop comprehensive RTTT reform strategies firmly anchored in the goal of college and career readiness for all students. The full set of RTTT papers is available at <http://www.achieve.org/Racetothetop>.

important for building the base of a robust system. **However, too few states have implemented the data system elements most critical to measuring and reporting student progress towards college and career readiness:**

- **Only 17 states collect student-level transcript information, including information on courses completed and grades earned.**¹ All states need a more nuanced picture of course-taking to determine both how many schools offer rigorous courses and how many students participate in these courses. This data is even more critical for states that require – or want to encourage – students to take a college- and career-ready course of study, as they cannot do so without data that show, for schools, districts, and the state, how many students enroll and earn credit in these courses.
- **Only 23 states have the capacity to link K-12 data systems with higher education data systems, and only 12 annually match student records across systems.**² Without this ability, the state, districts, and schools cannot evaluate the progress of individual students through the K-12 system and into postsecondary, including critical information such as the percentage of students from each high school enrolling in institutions of higher education; percentage of students taking remedial or developmental coursework in college; or the points at which students exit, transfer in, transfer out, drop out, or complete P-16 education programs.
- **Only 7 states currently collect data on the percentage of students who score at the college-ready level on a high school assessment anchored to college- and career-ready standards.**³ A majority of states collect student results from national tests, such as the SAT or ACT exams.⁴ These data are important as they currently serve as the only college-ready achievement measures available to most states. But as we explain in the accompanying brief *Race to the Top: Accelerating College and Career Readiness in States – Standards and Assessments*, states should go further and build college- and career-ready measures into their statewide assessment systems and make the results a central part of their accountability and public reporting systems.

States that are serious about using data to improve instruction and drive the P-20 system towards the goal of college and career readiness for all students must make implementation of these data system elements a significant priority for their Race to the Top strategy.

Meeting the Race to the Top Challenge: Using Data for Continuous Improvement

Having a robust longitudinal data system that fulfills the 12 elements of the America COMPETES Act means that a state has a repository of data that can be used to determine whether an individual student is progressing towards college and career readiness – and, crucially, how and why. But educators and other key stakeholders can only use that information proactively to adjust policies, programs, and practices if the data are accessible, understandable, and packaged in a manner that enables them to focus on what’s most important.

The Right Data for the Right People. To achieve the goal of data-driven systems of improvement, state officials need to ensure stakeholders have access to the data that meet their distinct needs:

- **Teachers** need to see performance data for each student in his/her class. But they also need the ability to aggregate that data to analyze trends, determine what content needs to be reinforced, and decide whether or how to alter teaching methods to ensure students acquire the content knowledge and skills in the state’s college- and career-ready, internationally-benchmarked standards.⁵

- **School administrators** need data that helps them guide staff time and resources; teacher assignment, evaluation, and professional development; student course assignments and targeted supports; and interim and summative testing.⁶ They need data that helps them, for example, identify which students from which classrooms are off-track to scoring proficient on end-of-grade or end-of-course exams in key subjects – and why.
- **District administrators** need data to improve curriculum and practices both system-wide and in under-performing schools, to allocate teacher and staff resources, and to provide professional development opportunities. For example, they need to know in which high schools there are too few teachers prepared to teach rigorous upper-level mathematics courses to all students and where there are too few 9th graders on track to achieve at the college- and career-ready level on the statewide high school assessment, and to use that information to develop their teacher recruitment, assignment, and professional development strategies accordingly.
- **State policymakers** need access to data on a robust set of college- and career-ready indicators to measure and report school, district, and state progress towards college and career readiness goals, and include measures of progress in the state’s accountability system; identify schools and districts in need of targeted supports and interventions and those deserving of recognition for outstanding achievements; and analyze trends across schools and districts and evaluate policies.
- **Parents** need information not only about how well their students are performing on assessments and in courses, but also about how well local schools are performing against college and career readiness expectations, the effectiveness of their teachers, the nature and rigor of schools’ curriculum, and postsecondary enrollment and success rates of their graduates.

Table 1: Race to the Top Draft Criteria – Data Systems to Support Instruction

<p>Reform Conditions Criteria: <i>A state’s past progress in creating conditions for reform</i></p> <p>#1: Fully Implementing a Statewide Longitudinal Data System</p> <ul style="list-style-type: none"> ▪ The extent to which the state has a statewide longitudinal data system that includes all of the elements specified in section 6401(e)(2)(d) of the America COMPETES Act.
<p>Reform Plan Criteria: <i>A state’s plans for future efforts to advance reform</i></p> <p>#2: Accessing and Using State Data</p> <ul style="list-style-type: none"> ▪ The extent to which the state has a high-quality plan to ensure that data from the state’s longitudinal data system are accessible to, and used to inform and engage, as appropriate key stakeholders (e.g. parents, students, teachers, principals, LEA leaders, community members, unions, researchers, and policymakers); that the data support decisionmakers in the continuous improvement of instruction, operations, management, and resource allocation; and that they comply with the applicable requirements of the Family Educational Rights and Privacy Act (FERPA). <p>#3: Using Data to Improve Instruction</p> <ul style="list-style-type: none"> ▪ The extent to which the state, in collaboration with its participating LEAs, has a high-quality plan to: <ul style="list-style-type: none"> ○ Increase the use of instructional improvement systems (as defined in the notice) that provide teachers, principals, and administrators with the information they need to inform and improve their instructional practices, decision-making, and overall effectiveness; and ○ Make these data, together with statewide longitudinal data system data, available and accessible to researchers so that they have detailed information with which to evaluate the effectiveness of instructional materials, strategies, and approaches for educating different types of students (e.g. students with disabilities, limited English proficient students, students whose achievement is well below or above grade level), in a manner that complies with the applicable requirements of FERPA.
<p>The criteria above reflect the <i>draft</i> guidance issued by the U.S. Department of Education in July 2009. As of September 2009, the Department had collected public comments on the draft but had not yet released final guidance. Final guidance will be available at: http://www.ed.gov/recovery.</p>

Getting the Right Data in the Right Hands. States should strive to share this information with stakeholders through a comprehensive system of standardized reports, customized reports, and analytical tools that highlight strengths and areas needing improvement, as well as answering queries from policymakers, district administrators, local educators, and parents.

Some types of standardized reports the state might make available include:

- **Diagnostic reports** on individual students to guide teachers' efforts to provide timely and effective instruction and support to students to meet college- and career-ready standards.
- **Early warning system reports** that provide information on whether individual students are at risk and in need of extra assistance so decisionmakers can address student academic and behavioral difficulties as early as possible.
- **College and Career Readiness reports** to identify whether and to what extent each K-12 student is on track for college and career readiness by high school graduation.⁷
- **High School Feedback reports** that provide individual high schools and district administrators with information about the success of their graduates in postsecondary education institutions, including students' academic preparation for college coursework, academic performance, and degree completion.

A cultural shift is required for states to move from collecting data for accountability and compliance purposes to begin using information from state longitudinal data systems for continuous improvement. The hard work states have done in recent years to strengthen their data systems has laid a good foundation, but the Race to the Top demands that states accelerate their progress. The Data Quality Campaign (DQC) has identified several steps states must take to move their data systems from collecting information and compliance functions to using information to drive improvements; we encourage you to refer to the DQC's *The Next Step: Using Longitudinal Data Systems to Improve Student Success* for more information.⁸ Additionally, the DQC has published *Measuring the Education Pipeline: Common Data Elements Indicating Readiness, Transition and Success* to help policymakers make sure the state's longitudinal data system can answer the right questions about students' progression through elementary, secondary, and postsecondary education.⁹

Going Above and Beyond Race to the Top: Shining the Spotlight on College and Career Readiness

RTTT asks states to use their longitudinal data systems to inform and engage stakeholders (see Table 1), but states serious about college and career readiness need to push further and make their P-20 longitudinal data system a catalyst for action to ensure all students are prepared for success in college and careers. States should leverage their investment in a robust data warehouse to shine the light on college and career readiness school by school across the state, making it a central feature of their public reporting system.

Paint a Comprehensive Picture of College and Career Readiness. A critical first step is broadening the set of indicators used to assess school and system performance beyond just graduation rates and the percentage of students meeting proficiency on the state's current high school assessments. Those indicators are necessary but not sufficient. States need to build the capacity of the longitudinal data system to include three key types of indicators and make this information a central driver of their reporting systems:

- **Successful completion of a college- and career-ready course of study:** State, district, and school leaders can monitor student progress toward completing a college- and career-ready course of study and assist those at risk of falling off-track by collecting timely information on credit accumulation, as well as the percentage of students successfully completing a college- and career-ready curriculum.
- **Achievement of college- and career-ready standards:** As states phase in more challenging assessments in high school capable of measuring college and career readiness, performance on those exams should become a central feature of public reporting. States should establish “postsecondary readiness scores” on these exams, and evaluate the percentage of students taking the exams and scoring at the readiness level. It is also important to know the percentage of students placed into remedial courses upon entering postsecondary institutions, so high schools can see whether students are prepared to achieve their goals.
- **Attainment of High School Credentials and Matriculation into Postsecondary Education and Training Programs:** States should accelerate their efforts to calculate graduation rates based on the four-year cohort method to accurately capture what percentage of entering 9th graders actually graduate on-time. But they should also look at the percentage of students, school-by-school, who earn a college- and career-ready diploma, earn credits in dual enrollment courses, and apply to and enroll in postsecondary education.¹⁰

Set Statewide College and Career Readiness Goals. To make sure all schools and districts are driven to achieve college and career readiness for all students, we recommend that states adopt measurable performance goals based on key readiness indicators. The goals should reflect ambitious expectations for the percentages of students who will graduate college- and career-ready and, ultimately, go on to achieve success in postsecondary education. Goals should be set at the state level and then used to establish performance targets for districts and schools. Tennessee, for example, has drafted a set of ambitious ten-year goals and biennial interim targets across a range of college- and career-ready indicators. These include goals for increasing the high school graduation rate, increasing the percentage of students scoring at a college- and career-ready level on statewide high school assessments, reducing the percentage of students requiring college remediation, and increasing the percentage of graduates attending and succeeding in postsecondary education.

Make College and Career Readiness a Central Feature of Public Reporting. Most states already use school, district, and state report cards to share with the public basic data about schools’ performance. In most states, however, the data used to report on high school performance are not sufficient indicators of readiness for success in postsecondary education. To shine a light on the progress schools and systems are making towards preparing all students for college and careers, states should generate school-level report cards that include performance against key indicators. These should include, at a minimum:

- The percentage of students graduating high school, measured by the four-year cohort high school graduation rate;
- The percentage of students taking and completing a college- and career-ready course of study;
- How students perform on statewide assessments of college and career readiness;
- How many students are earning college credit while in high school;
- How many students enroll in postsecondary education after high school; and
- How many students enroll in remedial courses in their first year of college.

The goal of these College and Career Readiness Report Cards should be to focus the attention of educators and foster greater public discourse on the importance of all students meeting college- and career-ready standards. These report cards should be transparent, easily understood, and readily accessible to all stakeholders. In many cases, but certainly not all, simply shining a light on college and career readiness performance and progress is enough of a push to encourage schools to improve.

To best incentivize and support continuous improvement towards those goals, though, states should evolve their accountability systems to measure not only whether students have met college- and career-ready standards by the end of high school, but also whether they are *on a path toward* college and career readiness earlier in high school and even in middle school. States should also encourage students (and their schools) to *exceed* the standards when they have the capability to do so. By creating a continuum of readiness standards – on a path toward, meeting, and exceeding standards – and assessing school performance against it, states can ensure that students identified as off-track get the attention and resources they need. Equally as important, they avoid a situation where the floor becomes a ceiling and instead provide incentives for students who achieve the college and career readiness standard earlier in high school to continue to strive for more.

Without access to the right data, it is impossible for educators, policymakers, parents and the public to know how well each school prepares students for their next steps after high school graduation. States “racing to the top” will need to provoke honest conversations about whether and how their schools are helping students meet college and career readiness goals. A robust longitudinal data system provides them with the right tools to start; it is up to state leaders to take the next steps and leverage this unprecedented investment in data to make college and career readiness the driving force behind instructional improvement, public discourse, stakeholder engagement, and reporting and accountability.

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ENDNOTES

¹ Achieve. *Closing the Expectations Gap 2009: An Annual 50-State Progress Report on the Alignment of High School Policies with the Demands of College and Careers*, 2009. Available at <http://www.achieve.org/closingtheexpectationsgap2009>.

² Achieve. *Closing the Expectations Gap*, 2009.

³ Achieve. *Closing the Expectations Gap*, 2009.

⁴ Data Quality Campaign. *2008 Annual Survey*, 2008. Results available at <http://www.dataqualitycampaign.org/survey>.

⁵ Data Quality Campaign. *The Next Step: Using Longitudinal Data to Improve Student Success*, 2009. Available at <http://www.dataqualitycampaign.org/files/NextStep.pdf>.

⁶ Data Quality Campaign, *The Next Step*.

⁷ Data Quality Campaign, *The Next Step*.

⁸ This report is available at: <http://www.dataqualitycampaign.org/files/NextStep.pdf>.

⁹ This report is available at: <http://www.dataqualitycampaign.org/files/Pipeline-Sept1.pdf>.

¹⁰ For more information, including models sets of college and career ready indicators, please see: Achieve and The Education Trust. *Making College and Career Readiness the Mission for High Schools: A Guide for Policymakers*, 2008, and the full set of accompanying guides at <http://www.achieve.org/measurethatmatter>.