



CALIFORNIA

# Measuring College and Career Readiness

The Class of 2009



**ACT**<sup>®</sup>

August 2009

## Our Unique Value-Added

ACT is uniquely qualified to help states and school districts prepare more of their students for college and careers.

ACT has been measuring the academic achievement of 11th and 12th grade students since 1959, their career aspirations since 1969, and their academic preparation in high school since 1985. ACT has built a data monitoring system that includes each of these areas for 8th and 10th graders and has been monitoring student readiness and success for nearly two decades. Moreover, every 3–4 years ACT surveys more than 20,000 high school and college educators to pinpoint the knowledge and skills needed for first-year college coursework.

ACT is the only organization with decades worth of empirical data showing exactly what happens to high school graduates once they get to college or to work — based on how well they were prepared in middle and high school.

These unique data sets are an invaluable resource as ACT works closely with states and school districts to transform the nation's P–20 education system.



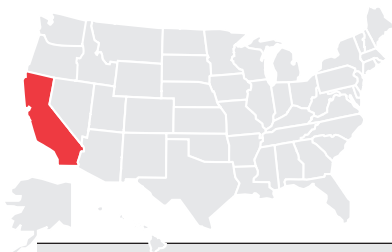
College and career readiness is the new measure of educational excellence at the K–12 level. In an increasingly complex, diverse, and technology-driven world, simply earning a high school diploma is no longer enough. High school graduates must be prepared to succeed at the next level — whether they choose to attend college or begin a career. The goal of high school should be clear: to prepare graduates for life after high school by teaching them the skills and knowledge that are *essential to college and workforce training readiness*.

Despite encouraging progress, too many American students are not prepared for 21st-century opportunities.

ACT, a mission-driven nonprofit organization, is helping national, state, and local leaders respond to this challenge. In the process, we are committed to sharing our expertise with policymakers and practitioners.

Working together, we envision a day soon when every American student will benefit from these six policy recommendations, put forth in ACT's report *Making the Dream a Reality*, which have shown to be critical for college and career success.

- Fewer — but essential — high school standards that are valued by colleges and employers;
- Common academic expectations recognizing the reality that students need a comparable level of knowledge and skills, whether they're going to college or work;
- Clear and consistent messages about what level of performance is “good enough” to demonstrate college and career readiness;
- A rigorous curriculum that guarantees both the right number and the right kinds of courses taught by well-qualified teachers;
- An early monitoring and intervention system that ensures younger students are on target to be ready for college and career; and
- A longitudinal data system that helps students stay on target by monitoring their performance from the early years through college.



## California at a Glance: The Class of 2009

### ACT's College Readiness Benchmarks

The minimum ACT® test scores that indicate whether high school graduates are likely ready for entry-level college coursework are:

- English = 18
- Mathematics = 22
- Reading = 21
- Science = 24

These Benchmarks reflect the level of preparation needed for students to have at least a 50 percent chance of achieving a grade of B or higher, or at least a 75 percent chance of a grade of C or higher, in entry-level, credit-bearing college English Composition, Algebra, Social Science, and Biology courses. (The maximum ACT score is 36.)

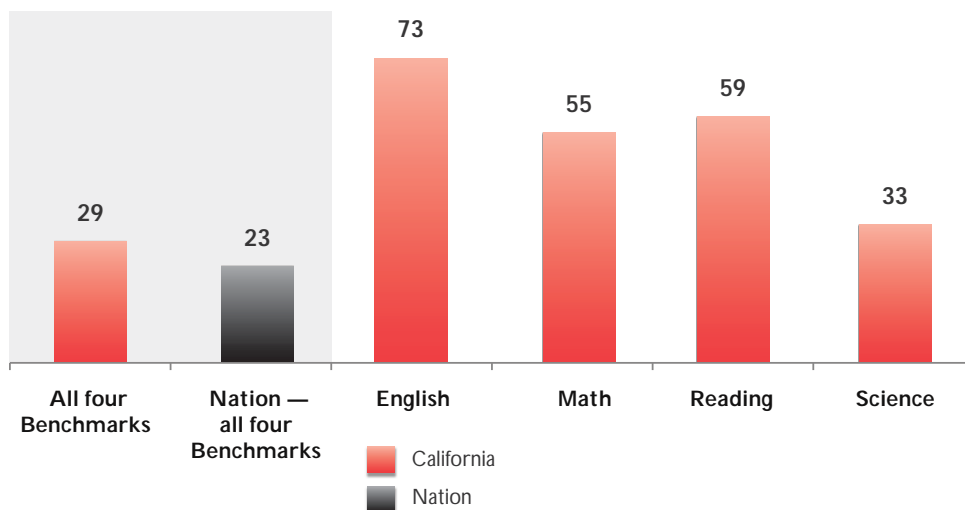
The results shown in this report reflect students' performance on ACT's College Readiness Benchmarks, which may or may not be equal to your state's college readiness indicators. If you would like assistance, ACT is available to help establish or review your state-set indicators.



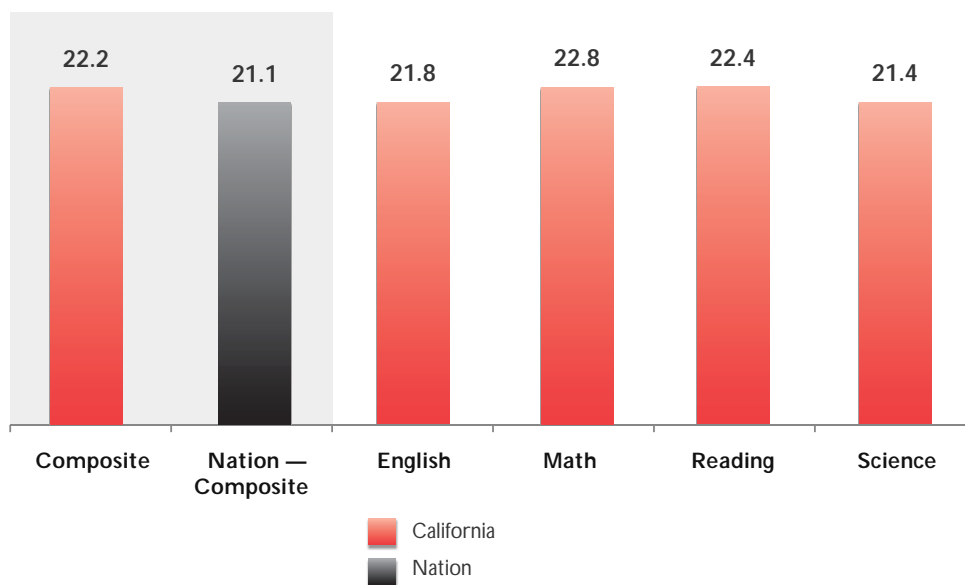
- 81,494 high school graduates took the ACT.
- 19 percent of graduates took the ACT.
- 34,908 10th grade students took PLAN®.
- 61,302 8th grade students took EXPLORE®.
- ACT is committed to college readiness for all, especially Title I students.
- ACT is committed to supporting the American Recovery and Reinvestment Act (ARRA).

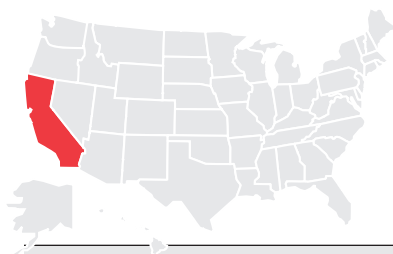
### State of college readiness in California

Percentage of 2009 ACT-tested graduates meeting College Readiness Benchmarks



Average ACT scores, 2009



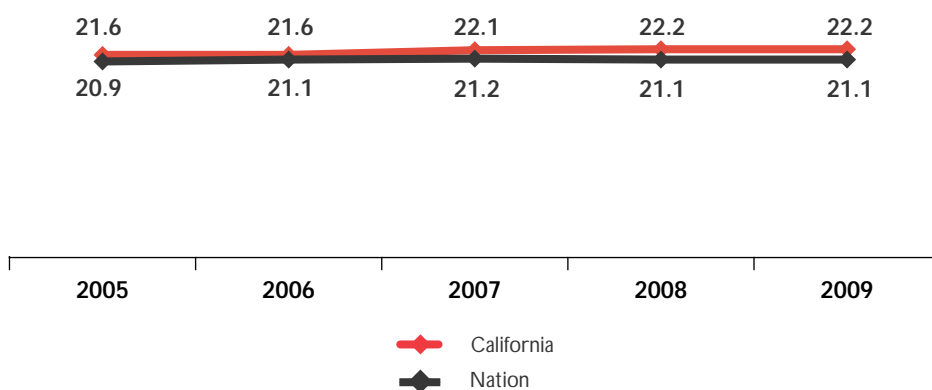


## California at a Glance: The Class of 2009 (cont.)

Five-year trends show the extent to which student performance has changed and whether more students in your state are getting the access and opportunity they need.

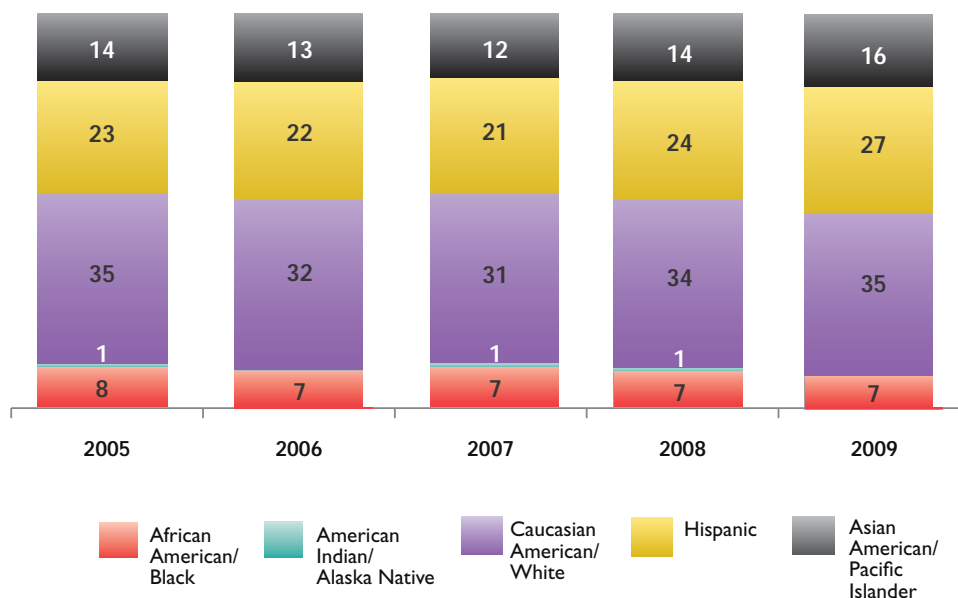
### Trends in student performance in California

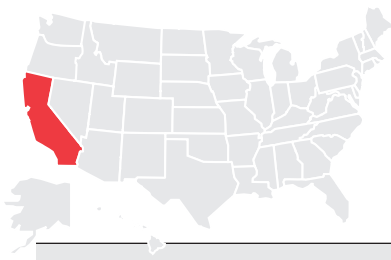
ACT Composite scores, 2005–09



### Level of participation in California

Percentage of ACT test-takers by race/ethnicity, 2005–09





## California at a Glance: The Class of 2009 (cont.)

- ACT is working with pre-collegiate programs, grades 7-12.
- ACT is sharing college and career readiness data between secondary and postsecondary institutions.
- ACT is helping state education agencies on issues of high school/college readiness.
- The following key school districts in California have implemented ACT's College and Career Readiness Program for intervention and career development: Los Angeles Unified School District, Long Beach Unified School District, San Francisco Unified School District, and Campbell Union High School District.
- The California State Superintendent of Public Instruction, in partnership with ACT, continues to recognize an ever-increasing number of California students who achieve a top composite score of 36.
- The California AVID and ACT partnership is in its 3rd successful year of providing college and career readiness programming to 7th, 8th, and 9th grade students throughout the state.
- The California State University, in collaboration with ACT sponsorship for the 3rd year, provided middle school and high school counselor professional development workshops.
- To support AB1802, ACT partnered with WACAC to provide additional professional development to high school and college counselors.



## Key Questions

This annual report from ACT provides a snapshot of the ACT-tested graduates in the class of 2009, focusing on their readiness for college and careers.

ACT offers this report as a service to inform policymakers and practitioners about selected indicators of effectiveness. It is not meant to be comprehensive but instead is designed to stimulate discussion, inquiry, and action.

In interpreting and using the results, keep in mind that the number and percentage of students who took the ACT in your state determine how representative these findings are.

The report is organized around six questions that are driving national efforts to strengthen K–12 education.

1. Are your students prepared for college and careers?
2. Do your standards reflect college and career readiness?
3. Are enough of your students taking core courses?
4. Are your core courses rigorous enough?
5. Are your younger students on track for college and careers?
6. Are you collecting the right data to keep students on track for college and careers?

# Are your students prepared for college and careers?

## ACT's College Readiness Benchmarks

ACT has developed its College Readiness Benchmarks to identify students who are likely prepared for entry-level college coursework.

The ACT Benchmarks (a minimum ACT test score of 18 in English, 22 in Mathematics, 21 in Reading, and 24 in Science) reflect the level of preparation needed for students to have at least a 50 percent chance of achieving a grade of B or higher, or at least a 75 percent chance of a grade of C or higher, in typical entry-level, credit-bearing college English Composition, Algebra, Social Science, and Biology courses. (The maximum ACT score is 36.)

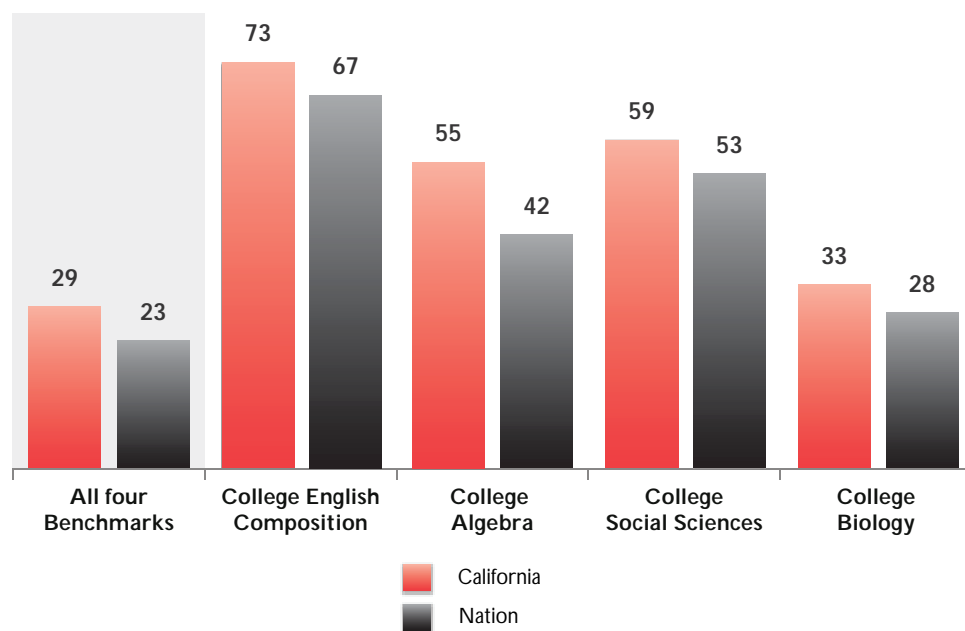


In today's more competitive and diverse world, earning a high school diploma alone is not enough. A more accurate measure of success is whether students are prepared for college and careers. ACT is at the forefront of a national movement to help states raise awareness of these higher expectations, expand opportunities for more students to take challenging courses, and in the process, ensure that they are ready to succeed after high school, whichever postsecondary path they choose.

This first section addresses the current level of college and career readiness in your state, while the remaining five sections address key steps that policymakers and educators can take to raise the levels.

## More students need to be ready for college-level courses

*Percentage of 2009 ACT-tested graduates meeting College Readiness Benchmarks*



## Are your students prepared for college and careers? (cont.)

### College Readiness Equals Career Readiness

ACT's landmark 2006 report *Ready for College and Ready for Work: Same or Different?* shows that all graduates need the same level of knowledge and skills, whether they enroll in a two- or four-year college, are hired for a job that offers a career path at a self-supporting wage, participate in an apprenticeship or related training, or join the military.

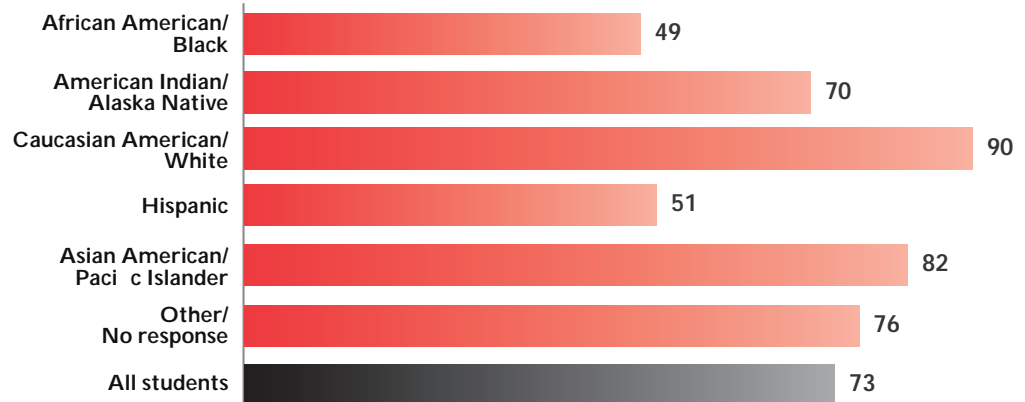
The report was based on empirical research:

- Identifying the skills needed for family-supporting jobs, such as electrician, construction worker, upholsterer, and plumber; and
- Comparing student performance on our college-readiness ACT test and career-readiness WorkKeys® test.

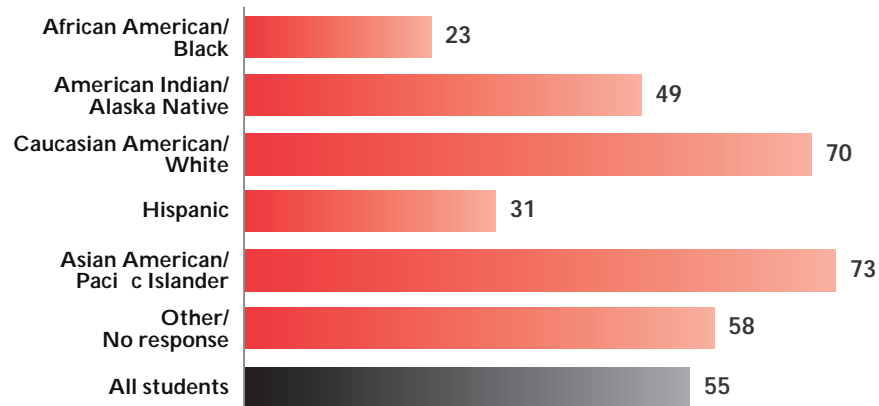
### Some student groups are more prepared than others for ...

*Percentage of your 2009 ACT-tested graduates meeting College Readiness Benchmarks*

#### ... College English Composition



#### ... College Algebra



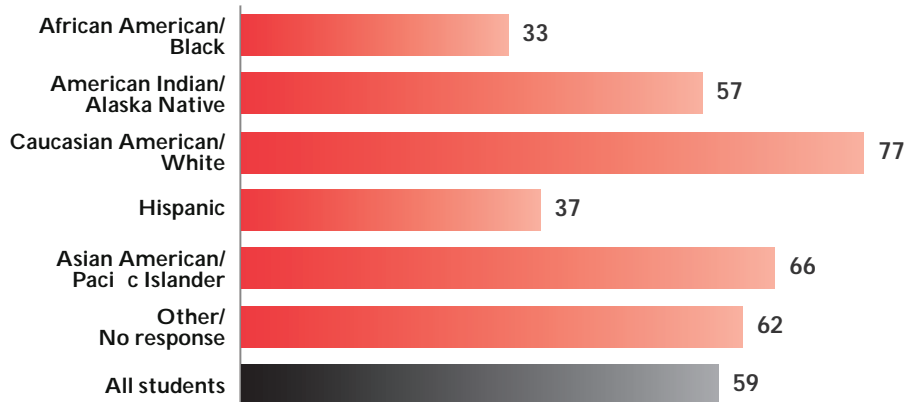


## Are your students prepared for college and careers? (cont.)

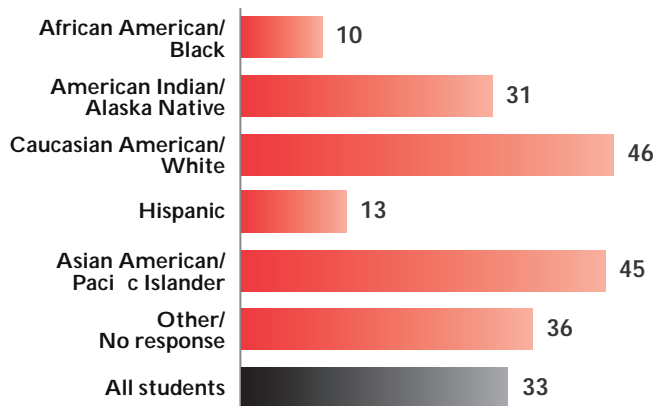
### Some student groups are more prepared than others for ...

Percentage of your 2009 ACT-tested graduates meeting College Readiness Benchmarks

#### ... College Social Sciences



#### ... College Biology

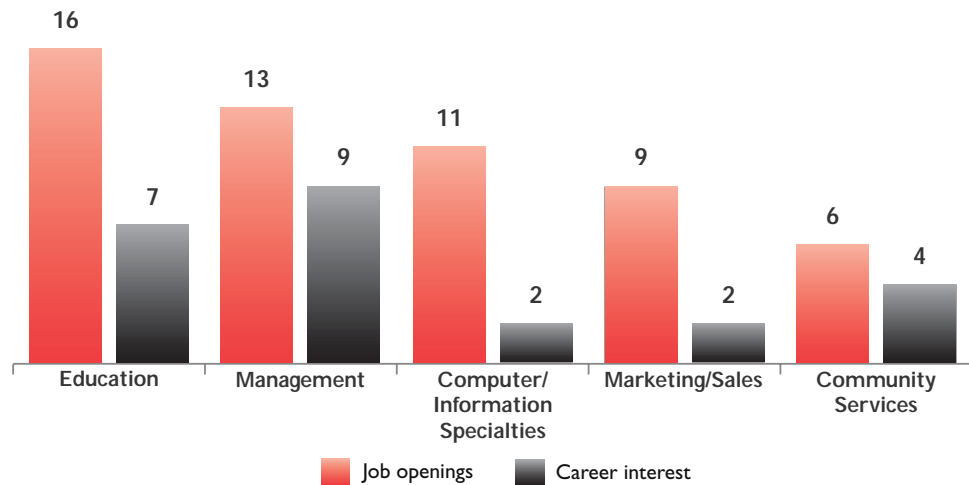


## Are your students prepared for college and careers? (cont.)

Even more to the point from an economic development perspective, are students interested in and prepared for the projected *high-growth jobs* in your state?

### Job openings and students' interests don't coincide<sup>1</sup>

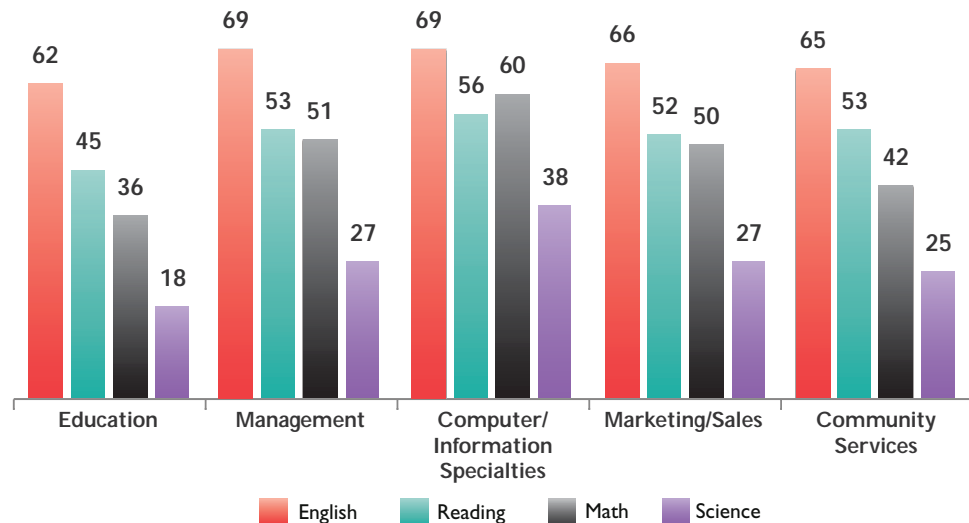
Percentage of projected annual job openings in your state requiring a two-year college degree or more and 2009 ACT-tested graduates interested in those jobs



Many students who are interested in these careers fall short of ACT's College Readiness Benchmarks, suggesting that they are not on the right path to take advantage of career opportunities in these high-growth fields.

### Preparation varies for careers in high-growth fields<sup>2</sup>

Percentage of your 2009 ACT-tested graduates interested in high-growth careers meeting College Readiness Benchmarks, by subject



Note: Missing bars indicate that an insufficient number of students in your state reported the career choice.

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# 3

## Are enough of your students taking core courses?

### Core Curriculum

ACT defines the high school core curriculum as at least four years of English and at least three years each of mathematics, social studies, and natural sciences (4-3-3-3).

A sample core mathematics course sequence includes Algebra I, Algebra II, and Geometry. A sample core science course sequence includes Biology, Chemistry, and Physics. Many course options and sequences are possible, but the key is whether the courses are based on high standards that prepare students for success after high school.

ACT research validates that college students who take a core curriculum in high school are more likely to meet the College Readiness Benchmarks and, as a result, are more likely to:<sup>3</sup>

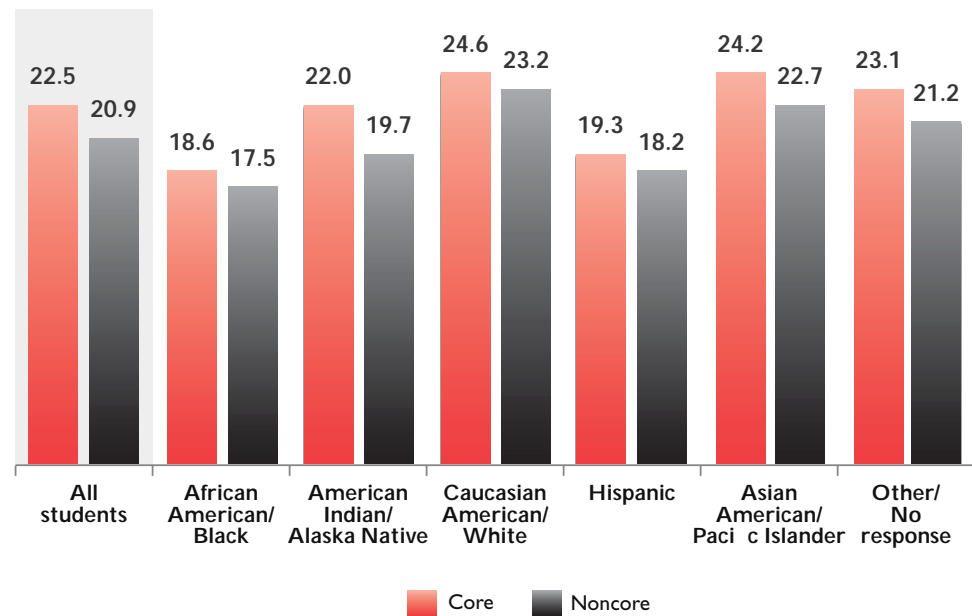
- Persist to a second year at the same postsecondary institution
- Earn a B or higher in first-year college courses
- Earn a first-year college GPA of 2.5 or higher
- Progress toward a college degree
- Complete a college degree



A growing number of states are raising their standards and, just as important, ensuring that their curriculum is aligned with these higher expectations. They are doing this to give more students access to the courses that ACT's research shows better prepare them for college and careers — preparation that results in consistent positive impacts on student performance.

### Students who take a core curriculum, or more, perform better than students who do not

*Average scores of your 2009 ACT-tested graduates who took a core curriculum and those who did not*



## Are your core courses rigorous enough?

### Rigor at Risk

ACT's 2006 research (*Rigor at Risk*) found that under current conditions, students do not have a reasonable chance of becoming ready for college unless they take additional higher-level courses beyond the minimum core. And even when students take substantial numbers of additional courses, no more than three-fourths of them are ready for first-year college coursework. This suggests that the quality and intensity — in other words, the *rigor* — of the high school curriculum needs to be improved.

### Reading Between the Lines<sup>4</sup>

Only about half of our nation's ACT-tested high school graduates are ready for college-level reading. What's worse, more 8th and 10th grade students are on track to being ready for college-level reading than end up ready in 12th grade.

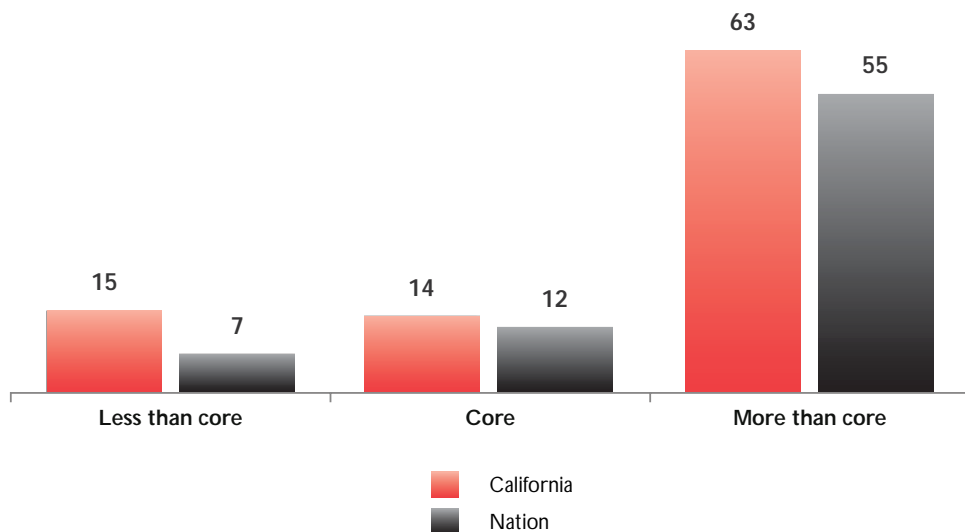
States should consider strengthening their standards and assessments, providing targeted support to struggling students, and supporting teachers with quality professional development.



Taking the right kind of courses — rigorous courses — matters as much as, if not more than, taking the right number of courses. Students taking high-level **mathematics and science** courses beyond the core coursework are more prepared for college and careers than those taking only the core curriculum or less. Nationally, the percentage of students meeting or exceeding the ACT College Readiness Benchmarks in Mathematics and Science is higher for those students taking more than the core than for those students taking the core or less.

### Students taking math courses beyond the core curriculum are more prepared than their peers

*Percentage of your 2009 ACT-tested graduates meeting or exceeding College Readiness Benchmarks in Mathematics*



## Are your core courses rigorous enough? (cont.)

### Teacher Quality Affects Course Rigor

Another important contributor to the rigor of the high school core curriculum is teacher quality, and teacher quality has a huge impact on high school students' readiness for college. Schools need to determine whether they are assigning the right teachers to the right core courses — and to the students who need them most.

According to a recent study:<sup>5</sup>

- Students in high-poverty and high-minority schools are disproportionately assigned to new teachers.
- Teachers in high-poverty and high-minority secondary schools are more likely to be lacking a major — or even a minor — in the subjects they teach.

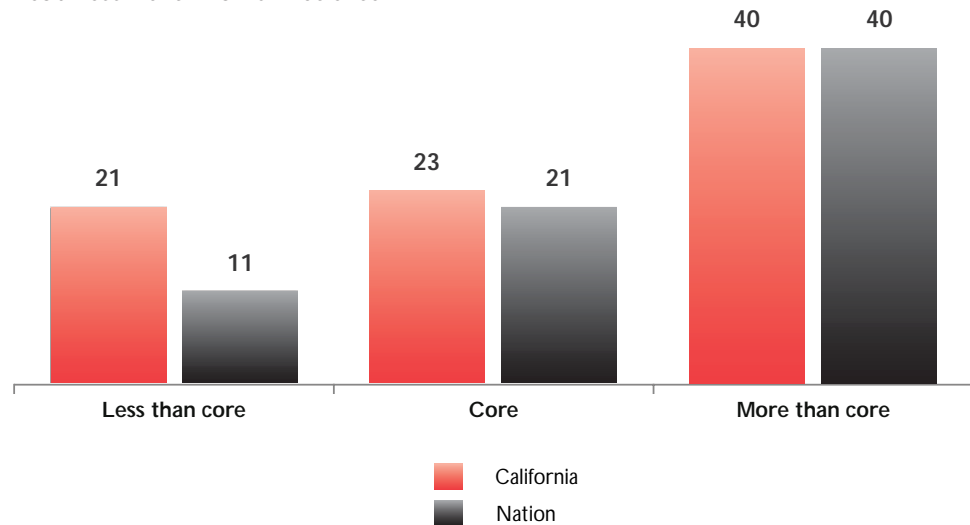
States need to strengthen professional development and examine instructional practices to make sure courses are focused on college-readiness preparation.

ACT research shows that rigor pays off. We analyzed close to 400 schools across the country that are offering rigorous core courses to *all* their students — and teaching them well — and found that their students are outpacing the national averages in college and career readiness across the board.

For example, students at these top-performing schools who took a rigorous Algebra II course (beyond Algebra I and Geometry) or a rigorous Chemistry course (beyond Biology) scored 17 and 16 percentage points higher, respectively, than all ACT-tested students who took the same courses in their high schools. These students also had greater success in college: Both college enrollment and retention were higher for students in these schools.

### Students taking science courses beyond the core curriculum are more prepared than their peers

*Percentage of your 2009 ACT-tested graduates meeting or exceeding College Readiness Benchmarks in Science*



## Are your younger students on track for college and careers?

### Early Exposure

Early exposure to challenging curriculum can help educators, parents, and students alike determine if middle grade students are on track for college.

ACT research shows that using aligned curricula, such as EXPLORE® (for 8th and 9th graders) and PLAN® (for 10th graders),<sup>6</sup> results in better performance on the ACT as well as:

- Increases educational achievement
- Encourages students to take more college-preparatory courses in high school
- Increases students' readiness for college
- Promotes educational and career planning
- Promotes college enrollment, persistence, and achievement

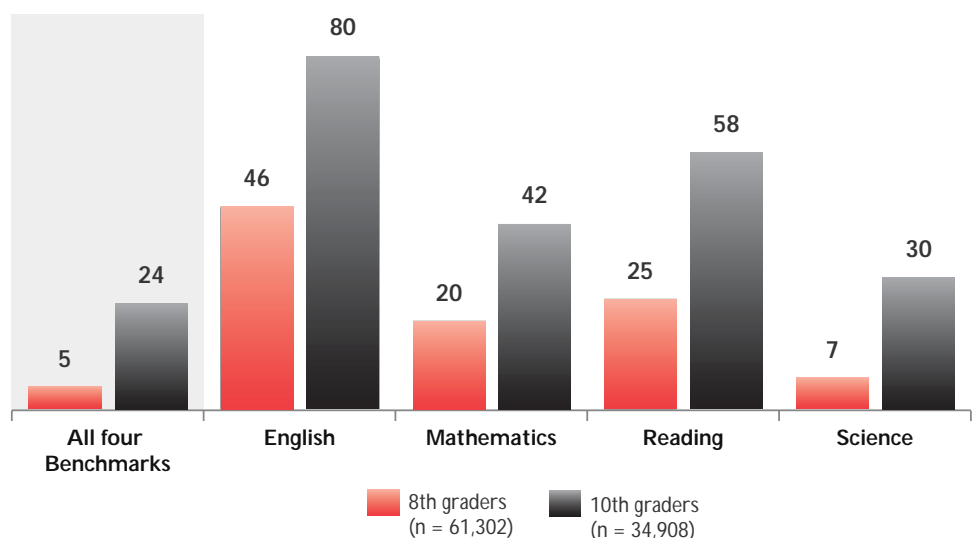
High school is too late to learn if your students are on target for college and careers. We know from our research that younger students who take challenging curricula are much better prepared to graduate high school ready for college. Moreover, recent ACT research (*The Forgotten Middle*) found that, "Under current conditions, the level of academic achievement that students attain by 8th grade has a larger impact on their college and career readiness by the time they graduate from high school than anything that happens academically in high school."

That's why ACT is working closely with states to raise parent and student awareness about the importance of the middle grades, begin monitoring early to make sure younger students are on track for college and careers, and help teachers intervene in more timely ways.

Nationally, 10 percent of students met all four EXPLORE Benchmarks in 2008–09 and 19 percent met all four PLAN Benchmarks in 2008–09.

### Early preparation is essential to college readiness and success

*Percentage of your 8th and 10th graders on track to meet College Readiness Benchmarks, 2009*



## Are you collecting the right data to keep students on track for college and careers?

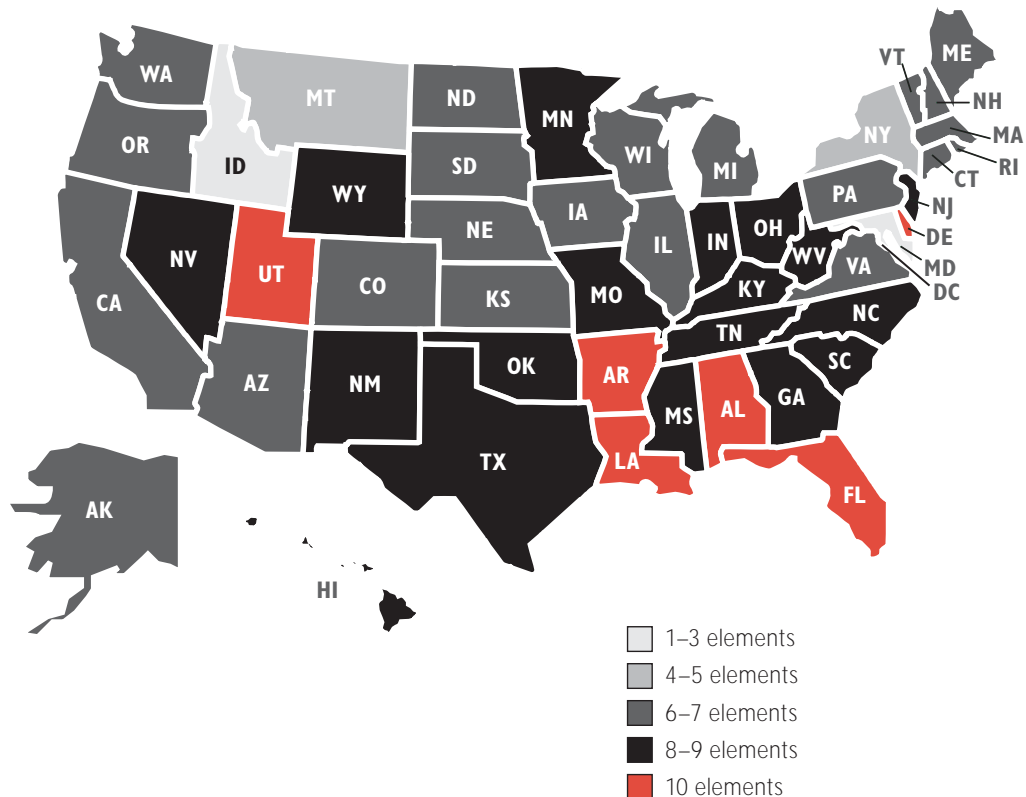
### 10 Essential Elements of a State Longitudinal Data System

1. Statewide student identifier (48 states have this element)
2. Student-level enrollment data (49 states)
3. Student-level test data (48 states)
4. Information on untested students (41 states)
5. Statewide teacher identifier with a teacher-student match (21 states)
6. Student-level course completion (transcript) data (17 states)
7. Student-level SAT, ACT, and AP exam data (29 states)
8. Student-level graduation and dropout data (50 states)
9. Ability to match student-level P-12 and higher education data (28 states)
10. State data audit system (45 states)

If states are serious about ensuring that more of their students are prepared for college and careers in the 21st century, they must establish longitudinal P-20 data systems — closely monitoring student performance at every stage of the learning pipeline, from preschool through the elementary, middle, and high school grades and all the way through college and into the workforce.

That's why ACT supports the Data Quality Campaign (DQC), a national, collaborative effort to improve the collection, availability, and use of high-quality education data to boost student achievement. DQC has identified 10 essential elements for building a longitudinal data system. It is also working with states to ensure that all policymakers, educators, parents, and others have access to this information and know how to use it ([www.dataqualitycampaign.org](http://www.dataqualitycampaign.org)).

### California has 6 of the 10 essential data elements<sup>7</sup>







## Notes and Next Steps

- Please visit [www.act.org/crr/2009](http://www.act.org/crr/2009) for additional information, interactive charts, and a listing of other state and national data.
- There is significant need for college and career readiness professional development workshops in the state of California. This year, ACT will provide service workshops for this need throughout the state from October 6 through October 22. For dates, locations, and other information regarding the College and Career Readiness Workshops, please visit [www.act.org/ccrw](http://www.act.org/ccrw).
- ACT has several programs that assist postsecondary institutions with early outreach to better prepare secondary students for postsecondary success. These programs can assist California initiatives such as those funded through ARRA, Title I.
- ACT Research Finding One: Students who meet the EXPLORE and PLAN College Readiness Benchmarks have a very high chance of meeting the College Readiness Benchmarks for the ACT and of being ready for entry-level college courses by the time they graduate from high school.
- ACT Research Finding Two: 85 percent of students who meet both the EXPLORE and PLAN Mathematics Benchmarks are likely to be prepared for college algebra by the time they graduate from high school.
- ACT Research Finding Three: 82 percent of students who meet both the EXPLORE and PLAN Science Benchmarks are likely to be prepared for college biology by the time they graduate from high school.
- *The Forgotten Middle* research found that 1) improvement in 8th grade academic achievement and being on target for college and career readiness in 8th grade are more beneficial than any high school-level academic enhancement, 2) improving middle school students' achievement by just two score points on EXPLORE in each subject area would have a cascading effect over the succeeding levels of education, and 3) the 13-point increase in the percentage of high school graduates ready for college-level mathematics should later produce about 25,000 additional degree completers at two- and four-year colleges (and about 25,000 fewer college dropouts) each year in the United States.





## Resources: 2009 ACT State Averages and Percentages of Graduates Tested

This table provides a compiled list of the state averages and percentages of graduates who took the test in 2009. In providing this table, ACT is not advocating ranking the various states' educational systems. In most states, students who take the ACT are self-selected and do not represent the state's entire student population.

Further, the percentages of students who take the ACT vary significantly from state to state, as do the backgrounds and characteristics of those students. Many factors — among them, motivation, the desire to learn, parental support, the quality of teaching received, socioeconomic status, and extracurricular experiences — contribute to individual and group student achievement. However, ACT research has shown a core college-preparatory program to be a significant precondition to success both on the ACT and in postsecondary studies. (ACT defines a core college-preparatory program as four years of English and three or more years each of mathematics [starting with Algebra I], science, and social studies courses.)

State	Percentage of graduates tested *	Average Composite score	Average English score	Average Math score	Average Reading score	Average Science score
Alabama	76	20.3	20.5	19.5	20.7	20.1
Alaska	29	21.0	20.1	21.1	21.7	20.7
Arizona	15	21.9	21.3	22.1	22.4	21.3
Arkansas	73	20.6	20.6	20.1	21.0	20.2
California	19	22.2	21.8	22.8	22.4	21.4
Colorado	100	20.8	20.1	20.5	21.1	20.8
Connecticut	21	23.5	23.6	23.5	24.0	22.6
Delaware	11	22.6	22.2	22.5	23.1	22.0
Florida	62	19.5	18.7	19.7	20.2	19.0
Georgia	40	20.6	20.1	20.6	20.9	20.3
Hawaii	22	21.5	20.9	22.1	21.4	21.0
Idaho	58	21.6	20.9	21.3	22.3	21.4
Illinois	97	20.8	20.5	20.7	20.8	20.7
Indiana	24	22.2	21.6	22.4	22.6	21.6
Iowa	59	22.4	21.9	21.9	22.9	22.4
Kansas	74	21.9	21.4	21.7	22.4	21.8
Kentucky	100	19.4	18.8	19.0	19.8	19.7
Louisiana	89	20.1	20.3	19.6	20.2	20.0
Maine	9	23.1	23.0	23.0	23.6	22.3
Maryland	17	22.1	21.9	22.1	22.5	21.5
Massachusetts	18	23.9	23.9	24.3	24.3	22.8
Michigan	100	19.6	18.6	19.6	19.6	20.1
Minnesota	68	22.7	22.0	22.7	23.1	22.6
Mississippi	93	18.9	19.1	18.3	19.0	18.7
Missouri	67	21.6	21.5	20.9	22.1	21.5
Montana	54	22.0	21.2	21.7	22.7	21.7
Nebraska	72	22.1	21.9	21.8	22.5	22.0



State	Percentage of graduates tested *	Average Composite score	Average English score	Average Math score	Average Reading score	Average Science score
Nevada	30	21.5	20.9	21.4	22.0	21.0
New Hampshire	15	23.5	23.3	23.4	24.1	22.6
New Jersey	16	23.1	22.9	23.5	23.2	22.1
New Mexico	65	20.0	19.3	19.6	20.7	20.0
New York	25	23.1	22.5	23.4	23.3	22.7
North Carolina	15	21.6	20.9	22.0	21.9	21.1
North Dakota	78	21.5	20.7	21.5	21.8	21.6
Ohio	64	21.7	21.1	21.4	22.2	21.7
Oklahoma	71	20.7	20.5	19.9	21.4	20.5
Oregon	33	21.4	20.5	21.5	21.9	21.1
Pennsylvania	14	22.1	21.7	22.2	22.4	21.5
Rhode Island	10	22.8	23.0	22.5	23.4	21.8
South Carolina	50	19.8	19.2	20.0	19.9	19.8
South Dakota	74	22.0	21.2	21.8	22.3	22.0
Tennessee	92	20.6	20.7	19.8	21.0	20.4
Texas	30	20.8	19.9	21.3	20.9	20.6
Utah	68	21.8	21.4	21.1	22.6	21.6
Vermont	24	23.1	22.9	22.9	23.7	22.5
Virginia	20	21.9	21.7	21.8	22.3	21.4
Washington	18	22.8	22.4	22.9	23.5	22.1
Washington, DC	30	19.4	19.1	19.5	19.7	18.6
West Virginia	62	20.7	20.8	19.6	21.4	20.5
Wisconsin	67	22.3	21.7	22.2	22.6	22.3
Wyoming	99	20.0	18.9	19.8	20.4	20.2
<b>National</b>	45	21.1	20.6	21.0	21.4	20.9

\* Totals for graduating seniors were obtained from *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1992 to 2022*, 7th edition. Boulder, CO: Western Interstate Commission for Higher Education, March 2008.







## Endnotes

1. State long-term occupational projections for 2006-2016 (based on job growth and job replacement) provided by California Employment Development Department. Career interests and achievement results based on 2009 ACT-tested California students (n = 51,070) with valid career information and subject scores. Example occupations of the state's high-growth career fields are Education (secondary teachers, administrators, etc.); Management (convention planners, hotel/restaurant managers, etc.); Computer/Information Specialties (computer programmers, database administrators, etc.); Marketing/Sales (insurance agents, buyers, etc.); Community Services (social workers, school counselors, etc.).
2. Ibid.
3. ACT (2006). *ACT's College Readiness System: Meeting the Challenge of a Changing World*. Iowa City, IA: Author.
4. ACT (2006). *Reading Between the Lines*. Iowa City, IA.
5. Peske, H. G., & Haycock, K. (2006). *Teaching Inequality: How Poor and Minority Students Are Shortchanged on Teacher Quality*. Washington, DC: The Education Trust.
6. ACT (2006). *EPAS: A System that Works*. Iowa City, IA: Author.
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# ACT National and Field Offices

## ACT National Office

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Iowa City, IA 52243-0168  
Telephone: 319/337-1000

## West Region

**Denver Office**  
3131 S. Vaughn Way, Suite 218  
Aurora, CO 80014-3507  
Telephone: 303/337-3273

**Sacramento Office**  
2880 Sunrise Boulevard, Suite 214  
Rancho Cordova, CA 95742-6549  
Telephone: 916/631-9200

## Midwest Region

**Chicago Office**  
300 Knightsbridge Parkway, Suite 300  
Lincolnshire, IL 60069-9498  
Telephone: 847/634-2560

**Columbus Office**  
700 Taylor Road, Suite 210  
Gahanna, OH 43230  
Telephone: 614/470-9828

**Michigan Office**  
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Lansing, MI 48917-8249  
Telephone: 517/327-5919

## Southwest Region

**Austin Office**  
8303 MoPac Expressway N.  
Suite A-110  
Austin, TX 78759-8369  
Telephone: 512/345-1949

## Northeast Region

**Albany Office**  
4 Pine West Plaza, Suite 403  
Albany, NY 12205-5564  
Telephone: 518/869-7378

## Southeast Region

**Atlanta Office**  
3355 Lenox Rd. N.E., Suite 320  
Atlanta, GA 30326-1332  
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**Florida Office**  
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