I. Welcome
Dear Participant,

Welcome to the 2005 National Education Summit on High Schools. This is a historic opportunity for governors, business leaders and educators to prepare our nation’s young people to not only compete but also excel in today’s global marketplace. Over the next two days, we will build on the successes already achieved in past Summits as we turn our attention to restoring the luster of the high school experience and the value of the high school diploma. Shoulder to shoulder, we stand together ready and committed in our noble effort to transform America’s high schools, making them a fully functioning and integral part of a more seamless and effective educational system.

For more than a century, our nation’s high schools embodied America’s promise: a free public education preparing conscientious students for good jobs with decent wages. Today, however, this legacy is in jeopardy because most new jobs — two-thirds during the next decade — will demand educational achievement above and beyond a high school diploma.

Unfortunately, many high schools today do not prepare students to enter college or work ready to succeed. This is particularly true in many of our large urban districts, which struggle with shortages of qualified teachers, low expectations and persistent achievement gaps. The result is a workforce that neither meets the requirements of our country’s business community nor offers any hope of economic prosperity or full participation in society for its workers.

In this second National Education Summit of the new century, we take our education reform agenda to its next logical and pivotal step. It is time we systematically upgrade the high school experience and define a new place for it within an educational pipeline that begins in a preschool classroom and ends with a successful transition to adulthood. This is a matter of the highest priority for governors, corporate leaders, educators and policymakers at all levels — and one in which we have much common ground and shared experiences. In these sessions, we look forward to listening to and learning from each other, as we advance a set of action steps that will lead to real progress.

We thank each of you for taking part in this hard but rewarding work. We also thank the sponsors of the 2005 Summit, the National Governors Association and Achieve, Inc., as well as our other partners and funders. We look forward to working together to form a strategy that restores value to our nation’s high schools and keeps our promise to future generations of young workers and citizens.

Thank you for your dedication to this shared cause. Now let’s get to work.

Sincerely,

Mark R. Warner
Governor of Virginia
NGA Chairman
Summit Co-chair

Kerry Killinger
Chairman and Chief Executive Officer
Washington Mutual
Achieve Vice Chair
Summit Co-chair
About This Summit

In 1989, President George H.W. Bush and the nation’s governors gathered at the University of Virginia in a landmark education Summit. The meeting was a pivotal step in the modern national education reform movement. For the first time in U.S. history, the president and governors agreed to establish a process for setting national education goals. In the months and years that followed, these goals helped the country establish and undergo a major state-by-state effort to restructure the American educational system.

Since that initial meeting in Charlottesville, governors, business leaders and educators have gathered three more times for National Education Summits in 1996, 1999 and 2001. These Summits have become powerful catalysts for improving educational opportunities in America. Moreover, these forums already have resulted in significant movements to bring about standards and accountability and to improve the quality of teaching and learning in our public schools. Important work that began at the state level in the 1980s has become an integral part of our current federal-state partnership.

Building and expanding on past successes, the 2005 National Education Summit on High Schools looks toward an even bolder goal: redefining the role of the high school in America while better connecting its curriculum to the expectations of colleges and employers. For too long we have regarded the high school diploma as an end in itself. It is time we look at secondary education as part of a seamless learning system that begins in preschool or kindergarten and continues through some level of postsecondary education — technical training, an apprenticeship, an associate’s or a bachelor’s degree, or other postsecondary education.

A growing number of states have begun the process of strengthening this educational continuum, for example, by aligning high school and college standards; encouraging all students to take a rigorous college-preparatory curriculum; creating meaningful articulation agreements; and collecting and reporting better data on the progress and performance of high schools, as well as postsecondary institutions. This Summit will consider an action agenda that states can use to focus their efforts, continue their momentum and build broader consensus for reform.

The 2005 National Education Summit has the most focused — and action-oriented — agenda of any previous National Education Summit. It takes us to the next level in raising standards and achieving accountability. It is no longer enough to ensure that all students are proficient at each grade level. It is time for every student to graduate both proficient and prepared for the real demands of work and postsecondary learning. The 2005 Summit presents an important opportunity for governors, business leaders and educators to ensure that every American high school student graduates with the knowledge and skills he or she needs to succeed.
Sponsors

Achieve, Inc.

Created by the nation’s governors and business leaders, Achieve, Inc., is a bipartisan, non-profit organization that helps states raise academic standards, improve assessments and strengthen accountability to prepare all young people for postsecondary education, work and citizenship.

Achieve has helped nearly half the states benchmark their standards and tests against the best examples in the United States and abroad. Through the American Diploma Project, Achieve also has developed benchmark standards that describe the specific math and English skills high school graduates must have if they are to succeed in postsecondary education and high-performance jobs, and Achieve works with states to incorporate these expectations in state standards and assessments for high schools. Achieve serves as a significant national voice for quality in standards-based reform and regularly convenes governors, CEOs and other influential leaders to sustain support for higher standards and achievement for all of America’s schoolchildren.

Achieve was founded at the 1996 National Education Summit and has sponsored subsequent Summits in 1999, 2001 and 2005.

National Governors Association

The National Governors Association (NGA) and the Center for Best Practices are the collective voice of the nation’s governors and together are one of Washington, D.C.’s, most respected public policy organizations. NGA provides governors and their senior staff members with services ranging from representing states on Capitol Hill and before the administration on key federal issues to developing policy reports on innovative state programs and hosting seminars for state government executive branch officials.

In September 2004, NGA Chairman Virginia Governor Mark R. Warner launched a yearlong initiative, “Redesigning the American High School,” intended to spur states to enact tangible systemwide reforms of high schools. NGA believes strongly that these reforms will allow every student to graduate better prepared for either college or a successful career.

NGA was founded in 1908, and its membership includes governors of all 50 states; the territories of American Samoa, Guam and the Virgin Islands; and the commonwealths of the Northern Mariana Islands and Puerto Rico.
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Redesigning the American High School Task Force

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**Business Roundtable**
Business Roundtable is an association of chief executive officers of leading corporations with a combined workforce of more than 10 million employees in the United States and $4 trillion in annual revenues. The chief executives are committed to advocating public policies that ensure vigorous economic growth, a dynamic global economy, and the well-trained and productive U.S. workforce essential for future competitiveness.

**Education Commission of the States**
The Education Commission of the States (ECS) is a national, nonprofit organization that helps governors, legislators, state education officials and others identify, develop and implement public policies to improve student learning at all levels.

**Hunt Institute**
The James B. Hunt, Jr. Institute for Educational Leadership and Policy engages governors and other leaders in strategic efforts to advance and sustain state-level education reform. Situated at the intersection of education policy and politics, the Hunt Institute helps governors and other political, business and education leaders develop and implement strategies to transform public education.

Funders

The following corporations and foundations generously provided support for the 2005 National Education Summit on High Schools:

Prudential Financial
Washington Mutual
State Farm
Intel Foundation
IBM Corporation

The Bill & Melinda Gates Foundation also provided support for Summit planning activities and publications.
II. Imperative for Action
II. Imperative for Action

**Goals for session:** To make the case for reforming America’s high schools and frame a course of action for states that will prepare all graduates to succeed in postsecondary education and the workplace.

**The Case for Action**
A significant number of America’s high school students drop out before graduating, and a significant proportion of those who do graduate are not adequately prepared for success in college and careers. This poses serious risks for our nation and for the youngsters who are being underserved.

**National Data**
- For roughly 60 percent of jobs in today’s labor market, at least some postsecondary education is needed, and that percentage is expected to increase in the years ahead.
- The median earnings of a high school graduate are 43 percent higher than those of a non-graduate, and those of a college graduate are 62 percent higher than those of a high school graduate.
- Employers and colleges are spending billions of dollars to provide their employees and students with the knowledge and skills they should receive in high school.
- Nationwide, only 71 percent of 9th grade students graduate from high school on time, and worse, only slightly more than 50 percent of black and Latino students graduate.
- Although three-quarters of students who do graduate high school go on to college, nearly a third are not college ready and are placed immediately into remedial courses.
- One out of every four students enrolled in a four-year college and nearly half of all community college students fail to return after the first year.
- Only 18 percent of 9th graders will make it through high school, enter college and earn a two- or four-year degree on time.
- Non-U.S. residents with temporary visas accounted for more than a third of the Ph.D.s awarded in science and engineering last year.

**International Data**
- America’s high school graduation rate is among the lowest in the industrialized world. According to Organisation for Economic Co-operation and Development (OECD), the United States ranks 16th out of 20 countries.
- Of the 21 countries participating in the Third International Science and Mathematics Study, American high school seniors outperformed only students from Cyprus and South Africa, and they ranked behind such nations as Sweden, Canada, New Zealand, Russia and the Czech Republic.
- On OECD’s 2003 Programme for International Student Assessments (PISA), 15-year-olds from the United States ranked 22nd in science (tied with Austria), 27th in mathematics (tied with Latvia) and 29th in problem solving out of 40 countries.
- Although the United States has one of the highest college enrollment rates in the world, the nation’s college completion rate is average to below-average among developed countries.

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*Note: There is no common measure for collecting high school graduation rate data. Therefore, numbers will vary based on data-collection methods.*
The Agenda for Action

The 2005 Summit action agenda provides a five-point strategy for improving high schools and preparing high school graduates for success:

- **Restore value to the high school diploma by revising academic standards, upgrading curricula and coursework, and developing assessments that align with the expectations of college and the workplace.**
- **Redesign the American high school to provide all students with the higher-level knowledge and skills, educational options, and support they must have to succeed.**
- **Give high school students the excellent teachers and principals they need by ensuring teachers and principals have the necessary knowledge and skills and by offering incentives to attract and retain the best and brightest to the neediest schools and subjects.**
- **Hold high schools and colleges accountable for student success by setting meaningful benchmarks, intervening in low-performing schools and demanding increased accountability of postsecondary institutions.**
- **Streamline educational governance so that the K–12 and postsecondary systems work more closely together.**

The full action agenda, *An Action Agenda for Improving America’s High Schools*, can be found in the inside pocket of the briefing book.

**Additional Resources in This Section**

Included in this section of the briefing book are three additional resources that provide more in-depth information on the challenge our nation and each state is facing in equipping young people with the knowledge and skills they need to be successful. *First* is a paper making the economic case for improving America’s high schools. *Second* is a summary of data from a recent Achieve poll of high school graduates, college professors and employers. *Third* is a data profile showing how the United States and each state does at educating students from high school through college.
America’s High Schools

The Front Line in the Battle for Our Economic Future

Too many Americans think of high school only as an adolescent rite of passage, a place where the joy and turmoil of the teenage years are romanticized on television and in film and where the struggle for academic proficiency is merely one aspect of a larger drama. But the time has come to think of high school in a more crucial and substantial context.

High school is where America’s young people enter the adult world, not just socially, but more important, economically. Whether they realize it or not, it is where they begin preparing themselves for the economic environment in which they will compete and earn their livelihoods. Its importance is seen in the alarming reality that the United States has one of the lowest graduation rates of all developed nations, in the strikingly low percentage of students ready to use high school as a springboard for success in college and beyond, and in the pressing need for lifelong learning and effective citizenship in an increasingly demanding era of technology and global linkage.

This paper investigates the relationship between America’s high schools and the challenges our economy faces. The message found here is a simple but clear one: High school is now the front line in America’s battle to remain competitive on the increasingly competitive international economic stage. Over the past few years, Achieve, Inc., and the National Governors Association Center for Best Practices have undertaken a series of activities regarding the importance of high school and identified a path to high school education reform. This paper is a “call to action” for the nation’s governors and business and education leaders to combine that understanding with an appropriate sense of urgency — and to turn the nation’s high schools into a path toward economic success for all students.

Economic Change in the Years Ahead: A “Perfect Storm”

Economic change and growth are inseparable. Growth occurs as innovation and investment create new ways of doing things, which in turn make society more productive and better off. This steady stream of innovation and investment, multiplied over the years, has made America the most prosperous nation in the history of the planet. When one takes into account the convenience, mobility, health and range of amenities available to average Americans, they have a standard of living far greater than kings of previous centuries did.

But economic change also entails costs — the dislocations and displacements that occur as the old activities are replaced by the new, from mule drivers and wheelwrights to the makers of tube radios and adding machines. Over the generations of American economic history, the growth created by change has traditionally been strong enough to create new pursuits and new economic roles for those displaced by innovation. There is no reason to
doubt our economy will continue to have that capacity. However, there also are important reasons to believe our economy is about to face stresses like never before, and we must prepare for these challenges.

In fact, our economy is entering a “perfect storm” of economic change, in which three powerful forces are converging upon us at once:

- **Technology** is accelerating, and its effects are becoming more pervasive. It affects not just what we produce but also what is asked of us and how we are organized to produce it.
- **Globalization** is accelerating as well, with the links among nations becoming not just more numerous, but deeper, as the developing world moves to higher-valued services once thought the exclusive province of the advanced nations.
- **Demographics** in the United States are about to change dramatically, as baby boomers enter retirement and the prime-age adult populations shrink in comparison to the numbers of old and young.

The demographic challenge facing America, and the entire developed world, is well known. It has created expectations for health care and retirement policy that, if unchanged, the nation can no longer afford to keep. But the full extent of technological change and globalization — and the way they interact — is yet to be fully understood.

**The New Realities of the International Economy**

Despite its obvious benefits, trade has fueled economic controversy for centuries. But regardless of one’s view of trade, the new realities of the international marketplace are undeniable.

**Trade Accounts for an Increasing Share of Gross Domestic Product**

*Source: Bureau of Economic Analysis, 2004.*
First, trade is becoming pervasive. Successive rounds of trade negotiations have opened the global economy. The share of U.S. gross domestic product taken up by trade has risen from about 9 percent 40 years ago to about 18 percent 20 years ago to more than 25 percent today.\(^1\) Over those last 20 years, U.S. foreign investment has grown six times faster than trade itself. Second, trade is no longer a matter of shipments of goods from an exporter to an importer. A growing share of U.S. trade occurs through “flag-affiliated” companies — that is, U.S. subsidiaries abroad — and a growing share of trade consists of services. The two are often related — as they would be, for example, in the case of a U.S. corporation that set up an off-shore data center, technical help-line or corporate backroom operation in a low-wage nation. In short, we are increasingly competing with ourselves in international trade.

Trade in services was once seen as America’s ace in the hole. And, in fact, America has a variety of very strong service industries, from education to software to entertainment, that sell to customers around the world. But America’s trade surplus in services is steadily shrinking — service imports have grown faster than service exports for seven straight years.\(^2\)

A third reality is that an increasing number of industries and activities are now subject to international competition. As digital technology drives down the cost of information and communications, it is possible to transact business from across the globe. A company can find suppliers, partners and customers anywhere in the world thanks to pervasive information networks. Any activity within a firm — not just component manufacturing, but such business services as product design, payroll management, accounting and invoicing, systems integration and management, and even research and development itself — can be held to the standard of the world’s best competitors. And if it fails that standard, it can be “outsourced” to a company that meets it, often by bringing lower costs to the fore.
The result is firms are now making themselves more competitive by breaking down into their constituent activities and making sure that each activity is being done in the “right” place. As a result, more of these services are becoming tradable, and more of the American economy — including more of its higher-value services — is exposed to global competition. Headlines about call centers moving to India are just one example of this phenomenon, as are Web designers in Ireland, software developers in Eastern Europe and customer service centers in the Philippines. Today, almost anything can be done anywhere.

This integration of the world economy through low-cost information and communications has an even more important implication than the dramatic expansion of both the volume of trade and what can be traded. Trade and technology are making all the nations of the world more alike. Together they can bring all of the world’s companies the same resources — the same scientific research, the same capital, the same parts and components, the same business services, and even the same skills. For example, India’s 200 research universities now turn out more than 5,000 Ph.D.s a year. Although this compares to 40,000 new Ph.D.s in the United States, it is a stark indication of the potential of the developing economies to compete in new and more advanced areas. Talented young people can attend universities in Bombay, Dublin or Seoul and become what demographers call “global denizens” who travel the world looking for seasonal high-tech work. These competitors, therefore, are becoming more like us — they have rising skill levels, a strong work ethic, their own world-class university systems, and access to the world’s capital and product markets. But there remains one critical difference between those nations and our own: Their costs are lower.

How Will America Respond?

Despite sporadic successes, the American response to date has been one of complacency leading to mediocrity. The towering heights of American achievement remain unmatched around the world — our Nobel-winning scientists, the cutting edge of American technology, the balanced working of the American economy and its entrepreneurial culture. But below these heights, the base is withering. Consider these facts alone:

- A recent study by the Organisation for Economic Co-operation and Development (OECD) showed that America’s literacy rate is average among the nations of the industrialized world and that our high school graduation rate — 73 percent — is one of the lowest among the industrialized nations;
- Once the leader in education, the United States now ranks 14th in the number of years a 5-year-old may expect to attend school during the course of his or her life;
- The U.S. university dropout rate — 34 percent — is among the highest in the industrialized world;
- Of the 21 countries participating in the Third International Mathematics and Science Study, American high school seniors outperformed only students from Cyprus and South Africa and ranked behind such nations as Sweden, Canada, New Zealand, Russia and the Czech Republic.
Non-U.S. residents with temporary visas accounted for a third of the Ph.D.s awarded in science and engineering in 2003, despite any post-9/11 difficulties they might have experienced.7

Again, the U.S. economy has compelling assets. But it faces a fundamental challenge: whether it will keep up with the swift pace of human capital development being set elsewhere around the world. Mastering that challenge must start with reforming American high schools.

United States Trails Most Countries in High School Graduation Rate

<table>
<thead>
<tr>
<th>Rank</th>
<th>OECD Reporting Country</th>
<th>Graduation Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Denmark</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Norway</td>
<td>97</td>
</tr>
<tr>
<td>3</td>
<td>Germany</td>
<td>93</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>92</td>
</tr>
<tr>
<td>5</td>
<td>Poland</td>
<td>90</td>
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<tr>
<td>5</td>
<td>Switzerland</td>
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<td>7</td>
<td>Finland</td>
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<td>7</td>
<td>Greece</td>
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<td>Hungary</td>
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<td>Italy</td>
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<td>12</td>
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<td><strong>16</strong></td>
<td>United States</td>
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<tr>
<td>18</td>
<td>Spain</td>
<td>68</td>
</tr>
<tr>
<td>20</td>
<td>Slovak Republic</td>
<td>61</td>
</tr>
</tbody>
</table>

New Skills for a New Age

Our high schools are not working for too many of our students. Consider, for example, the results of the OECD’s international comparisons of math and science conducted in 2003. Among those ranked, U.S. high school students tied for 27th place in math with Latvia and were slightly ahead of Portugal. Their science skills were roughly comparable to those of students in Iceland and Austria. These deficient skills translate directly into a reduced ability to solve basic problems, such as map-reading, scheduling, and converting weights and measures.

American teenagers rank at the bottom of the industrialized world in math problem solving and only in the middle of a list of nations at dramatically lower levels of development. How important is this skills difference? Economist Eric Hanushek of Stanford University estimates that if the gap were closed, American economic growth would increase by half a percentage point every year, or about a 20 percent increase in the economy’s long-term potential.

American Teenagers Lag Behind Their Developed World Counterparts in Problem Solving …

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>547</td>
</tr>
<tr>
<td>Australia</td>
<td>530</td>
</tr>
<tr>
<td>Canada</td>
<td>529</td>
</tr>
<tr>
<td>Belgium</td>
<td>525</td>
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<tr>
<td>Switzerland</td>
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<td>Sweden</td>
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</tr>
<tr>
<td>Ireland</td>
<td>498</td>
</tr>
<tr>
<td>United States</td>
<td>477</td>
</tr>
<tr>
<td>Italy</td>
<td>469</td>
</tr>
</tbody>
</table>

Note: This table includes a representative sample of developed nations that participated in the PISA study.

High school is important not just because it allows those who complete it to be more productive and to earn more, but because it is the first rung of an earnings ladder that provides affluence and mobility to those who climb it. Economists understand that education leads to productivity, which leads to income. Census data show the median earnings of a high school graduate ($30,800) are 43 percent higher than those of a non-graduate ($21,600) and those of a college graduate are 62 percent higher than those of a high school graduate.10

But technology is amplifying these differences; it is demanding new and advanced skills that our high schools are failing to teach. A generation ago, insurance claims adjusting, truck dispatching, steel foundry process management and machine lathing were all dramatically different in every respect. Today, they are all fundamentally similar — each requires manipulating data on a computer screen and using them to solve problems. Technology has changed the skills people need to work; as Harvard Business School’s Shoshana Zuboff said in her epochal In the Age of the Smart Machine, technology has “migrated work from the muscles to the senses.”11 Economists David Autor, Frank Levy and Richard Murmane found that these changes in the skills required in existing jobs and occupations — that is, not even considering new jobs and occupations — accounted for a third or more of the greater demand for college graduates, mostly since 1980.12

These changes are pervasive. Economists Anthony Carnevale and Donna Desrochers found almost all categories of employment now require more advanced education today than they did 30 years ago.13 They show the share of office workers with “some college” has increased from 37 percent to 60 percent over that span; the share with a bachelor’s degree has almost doubled, from 20 percent to 38 percent. Even factory work demonstrates the

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### Table: Mean Scores for Selected Countries in PISA Study

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>550</td>
</tr>
<tr>
<td>Hong Kong-China</td>
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<tr>
<td>Czech Republic</td>
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<td>Poland</td>
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<tr>
<td>Latvia</td>
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<td>United States</td>
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<tr>
<td>Thailand</td>
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<tr>
<td>Serbia</td>
<td>420</td>
</tr>
<tr>
<td>Brazil</td>
<td>371</td>
</tr>
</tbody>
</table>

trend — the share of factory workers with some higher education has increased fourfold, from 8 percent to 31 percent in the past three decades. And along with these higher levels of skill have come higher incomes. In a seminal report, economist Alan Krueger estimated that simply working with a computer implies a 15 percent increase in earnings, even after education and other factors are taken into account. In short, when jobs pay well, it is often because they demand the skills of a trade-intensive, high-tech world.\textsuperscript{14}

In addition, trade is accelerating this trend toward higher skills. As foreign suppliers step into more advanced service industries, American workers must respond by becoming more productive. Insurance adjusters, truck dispatchers, lathers, machinists and foundry workers were the middle class of a generation ago. But the middle class of the next generation will be the people who work at terminals controlling those processes and the people who create the technology — the ideas, machines, software and services — that allow those jobs to change. Thus, America is faced with a stark choice — we can either climb the productivity ladder and re-create the American middle class, or we can watch our nation’s middle class fade away as other countries’ teenagers continue to outperform our children.

**Why High School?**

Taken together, these various findings display a disturbing pattern — our high schools are failing to provide enough of our children with the skills that are becoming most important. This is the one of the reasons why repairing our nation’s high schools is so vital. America’s distressingly low secondary graduation rate would be cause enough to justify a massive intervention in high school education. But high school is the bridge to higher education, and the bridge is increasingly in danger of collapse.

It is high school, specifically, where the failure occurs. For example, international student comparisons show American students report levels of both accomplishment and interest in math and science on par with their counterparts in other nations at both the 4th and 8th grade levels. But by grade 12, they fall far behind in their proficiency and report dramatically lower levels of interest. It is between 8th and 12th grade where the failure occurs.

And the failure resonates throughout the rest of a student’s education. Success in high school readily translates into access to, and success at, higher levels of education. Research from the U.S. Department of Education indicates that the rigor of high school coursework is more important than parent education level, family income or race/ethnicity in predicting whether a student will earn a postsecondary credential.\textsuperscript{15} In short, being prepared for college is the best ticket for getting there. However, Jay Greene of the Manhattan Institute estimates that the high school graduation rate — by his estimate, 71 percent — is already low by international standards. Moreover, the share of high school students who take a course load preparing them for college is as low as 34 percent,\textsuperscript{16} and the share of high school students who are actually “college ready” is only 32 percent.\textsuperscript{17} In fact, his work shows that the college-ready rate is below 50 percent in every state in the
Moreover, this share of college-ready students is disproportionately low for non-whites, who are growing as a share of the overall youth population.

This breakdown in building a bridge to college education is even more disturbing when the efforts of the 50 states to provide higher education and advanced graduate training are considered. Together, the 50 states spend $63 billion annually to subsidize higher education. Obviously, this is an important part of a strategy to build local economies and attract a skilled workforce. Yet these investments will not yield the expected dividends unless high schools do a far better job of preparing students for postsecondary education. We register great concern over the declining number of U.S.-born or permanent resident Ph.D.s in the math, science and engineering areas. By tolerating low levels of achievement in high school, we are dramatically curtailing the pool of potential new Ph.D.s.

Beyond allowing American students access to higher levels of productivity and earnings, functioning high schools generate compelling societal benefits. As the endogenous growth theorists, led by economist Paul Romer, have noted, an ample supply of skilled workers accelerates the innovation process throughout the economy. Greater numbers of skilled and educated workers make it easier to produce the “incremental improvements” that account for the vast majority of long-term economic growth: They lower the cost of doing research; they make it easier to disseminate new knowledge and adopt it to new uses; and they allow for greater specialization in research and science, among other benefits. In short, high schools are the spring from which these vital sources of growth flow.

And high school builds a better citizenry. Aside from the obvious benefits of educational achievement — lower demands for social services, lower rates of incarceration, better parenting and public health, and better preparation of the subsequent generation of small children for school, among many others — higher levels of education prepare our citizenry for the ever more sophisticated issues they must confront.

**The Road Not Taken**

High school, beyond the front line of international economic competition, is the dividing line between those workers whose incomes have been rising and those whose incomes have been falling. The average wages of high school graduates and those individuals who never graduated high school have fallen over the last two decades; the average incomes of those who went beyond high school have risen. This demarcation promises to become even starker in the coming years, as technology and trade separate the economy into two camps — those with the skills to participate in the global economy and those who lack them. If we do not make a concerted effort to move our society beyond this boundary, we will find ourselves a society cut in two — one side enfranchised in the modern economy, experiencing its affluence, the other lacking the means of access to the future. In short, we run the risk of losing our middle class.
A nation that cannot compete will never achieve prosperity. Absent the productivity that generates income, no combination of monetary or tax policies can undo the economy’s hollowness. A lower standard of living will be forced on us. We will be engulfed in new service imports and will sell our assets to the rest of the world to pay for them. As growth slows, we will be unable to pay for an ever-shrinking pool of public services and will watch as our federal debt spirals out of control. At the very least, we will experience slow growth and stagnant wages with an upper tier of the labor force that gradually detaches from the rest of America’s economy.

There is an alternative, but it is an alternative that requires our focus and effort. Economic change need not damage us if we prepare for it. There have always been exciting innovations in the economy. There have always been cheaper foreign competitors. And there have always been complex challenges to our economic growth. If we anticipate them and act, they can be turned into the basis for a higher standard of living for future generations of Americans.

High school lies at the center of this crisis. Fifty years ago, it was finishing school for the American middle class. Today, it must be more. It must be a bridge to higher education, to a productive and innovative economy, and to an informed citizenry. It is time to transform our country’s high schools to reflect these new realities.
Notes

Rising to the Challenge
Achieve National Survey of High School Graduates, Employers and College Instructors

In its American Diploma Project, Achieve described the knowledge and skills that employers and faculty say that high school graduates need to do well in college courses or on the job. As a partial reality check on how well prepared recent graduates actually are for these challenges, in early February 2005 Achieve released results from a comprehensive national survey of 1,500 recent high school graduates, 400 employers and 300 college instructors. Major findings follow.

Large Numbers of High School Graduates Say They Are Not Prepared for College or Work

Almost two in five recent graduates (39 percent) currently in college believe they have gaps in their preparation. Almost half (46 percent) of recent graduates not currently in college agree.

In skill areas that are important for success in college or the workplace, many recent high school graduates believe they are not fully prepared. Almost equal percentages of graduates who are in college and those not now in college say they have gaps in critical communications, math/science and research skills. Almost nine in 10 current college students (86 percent) report some gaps in at least one critical skill area. One-third of college students report having a large gap in at least one critical skill area.

Many Graduates Cite Gaps in Preparation

How well did your high school education prepare you for college or the work/jobs you hope to get in the future?

- Extremely well: prepared for everything
- Very well: generally able to do what’s expected
- Somewhat well: some gaps
- Not well: large gaps/struggling

<table>
<thead>
<tr>
<th></th>
<th>High school graduates who went to college</th>
<th>High school graduates who did not go to college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely well</td>
<td>61%</td>
<td>53%</td>
</tr>
<tr>
<td>Very well</td>
<td>39%</td>
<td>46%</td>
</tr>
<tr>
<td>Somewhat well</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>Not well</td>
<td>7%</td>
<td>12%</td>
</tr>
</tbody>
</table>

2005 National Education Summit on High Schools 21
Many Graduates Cite Gaps in Preparation (cont.)

In each area, percentage saying there are at least some gaps in their preparation

35% of college students report large gaps in at least one area. 86% report some gaps in at least one area.

Employers and College Instructors Agree That High School Graduates Are Inadequately Prepared

Large percentages of college instructors and employers agree that public high schools are not equipping students with critical skills. College instructors estimate that 42 percent of college students are not adequately prepared by their high schools to meet college expectations. Meanwhile, employers estimate that 39 percent of recent high school graduates are unprepared for entry-level jobs; they believe that an even larger proportion (45 percent) are not prepared to advance beyond entry-level jobs.

College Instructors/Employers Confirm Graduates’ Lack of Preparation

Average estimated proportions of recent high school graduates who are not prepared

College instructors

Public high school graduates who are not prepared for college-level classes

42%

Employers

Public high school graduates who are not prepared with skills to advance beyond entry-level jobs

45%
College instructors were most likely to be dissatisfied with graduates’ abilities to understand complicated materials (70 percent), writing quality (62 percent), ability to do research (59 percent) and math skills (52 percent).

As a result, almost three-fourths of college instructors (70 percent) say they spend class time teaching students material they should have learned in high school. About one-quarter of instructors say they spend “significant” class time on this remediation.

High school graduates who rely on their diplomas alone face limited prospects for employment or advancement. Only 25 percent of employers believe a person with a recent high school diploma alone is well prepared for a typical job in their companies, and only 18 percent of employers believe a graduate with just a high school diploma is well prepared to advance within their companies.

![Few Employers Feel High School Graduates Prepared for Advancement

<table>
<thead>
<tr>
<th></th>
<th>Extremely/very well prepared for typical job in my company</th>
<th>Extremely/very well prepared for advancement in my company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicants with no</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>high school degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent public high</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>school graduates who</td>
<td></td>
<td></td>
</tr>
<tr>
<td>have no further</td>
<td></td>
<td></td>
</tr>
<tr>
<td>education/training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent graduates of</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>two-year college or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>training program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent graduates of</td>
<td>72%</td>
<td>78%</td>
</tr>
<tr>
<td>four-year colleges</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

High Standards and Challenging Coursework Lead to Better-Prepared Graduates

Most recent high school graduates report being only moderately challenged in high school. Just 26 percent of graduates in college and 20 percent of graduates in the workplace said they were significantly challenged. Taken together, one in five recent high school graduates reported that “it was pretty easy to slide by.”
Few Say Expectations Were High

Academic expectations of me in high school were:

- High/I was significantly challenged
- Moderate/I was somewhat challenged
- Low/it was pretty easy to slide by

<table>
<thead>
<tr>
<th></th>
<th>All HS graduates</th>
<th>High school graduates who went to college</th>
<th>High school graduates who did not go to college</th>
</tr>
</thead>
<tbody>
<tr>
<td>High expectations</td>
<td>24%</td>
<td>26%</td>
<td>20%</td>
</tr>
<tr>
<td>Moderate expectations</td>
<td>56%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>Low expectations</td>
<td>20%</td>
<td>17%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Expectations were high

- All HS graduates 24%
- Respondents with:
  - Below average income 23%
  - Average income 23%
  - Above average income 24%
- Respondents from:
  - City 23%
  - Suburbs 31%
  - Small town/rural area 20%
- Respondents who took:
  - General studies in HS 17%
  - College prep in HS 30%

Graduates who believed their high school expected more of them were more likely to feel extremely well prepared for their futures. This is true of both those who went on to college and those who did not. Eighty percent of college students who experienced high expectations in high school said they felt well prepared for the next step — as did 72 percent of high school graduates who were not in college. Those who reported being held to low expectations in high school were less likely to feel prepared for college or the workplace.

Graduates Who Faced High Expectations Twice as Likely To Feel Prepared

*Percentage saying they were extremely/very well prepared for college/future job*

<table>
<thead>
<tr>
<th>High school graduates who went to college whose high schools held them to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>High expectations</td>
</tr>
<tr>
<td>Moderate expectations</td>
</tr>
<tr>
<td>Low expectations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High school graduates who did not go to college whose high schools held them to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>High expectations</td>
</tr>
<tr>
<td>Moderate expectations</td>
</tr>
<tr>
<td>Low expectations</td>
</tr>
</tbody>
</table>

The more rigorous their coursework, the more prepared students felt. Among students who completed Algebra II or higher in high school, two-thirds of students who did not go to college and 60 percent of those who did reported feeling well prepared for the working world or for college. In contrast, among students who completed less than Algebra II, fewer than half of those who did not go to college and just one-fourth of those who did felt well prepared.
Algebra II Critical for Work World and College

*When it comes to mathematics, how well were you prepared in high school for the expectations you face in college/working world?*

- Extremely/very well prepared
- Somewhat/not too/not at all well prepared

<table>
<thead>
<tr>
<th></th>
<th>High school graduates who went to college</th>
<th>High school graduates who did not go to college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed less than Algebra II</td>
<td>46%</td>
<td>60%</td>
</tr>
<tr>
<td>Completed Algebra II/more</td>
<td>54%</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Graduates Wish They Had Worked Harder in High School**

In hindsight, most recent high school graduates say they wish they had worked harder on their academics. This includes almost two-thirds of college students (65 percent) and more than three-fourths of students who did not go to college (77 percent).

**Knowing What They Know Today, Graduates Would Have Worked Harder**

- Would have applied myself more
- Would have applied myself the same/less

<table>
<thead>
<tr>
<th></th>
<th>High school graduates who went to college</th>
<th>High school graduates who did not go to college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing what you do today about the expectations of college/the work world, if you were able to do high school over again, would you have worked harder and applied yourself more to your coursework even if it meant less time for other activities?</td>
<td>65%</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Moreover, four of five graduates (82 percent of college students and 80 percent of students who did not go to college) say they would have worked harder if their high schools had challenged them with tougher standards and higher expectations.
Had High School Demanded More, Graduates Would Have Worked Harder

If your high school had demanded more of students, set higher academic standards, and raised the expectations of how much course work and studying would be necessary to earn a diploma, would you have worked harder to meet these expectations?

Knowing what they do today about what is expected in college or the workplace, large majorities of both students who went to college and those who did not say they would have taken more challenging courses in math, science or English. Almost two-thirds of students who went to college and three-fourths of those who did not (72 percent) say they would have taken more challenging courses in at least one of these areas.

Majorities of Graduates Would Have Taken Harder Courses

Knowing what you know today about the expectations of college/the work world, if you were able to do high school over again, when it comes to math/sciences/English, would you have taken higher-level and more challenging courses if they were available?

Would have taken more challenging courses in at least one area:

- High school graduates who went to college
- High school graduates who did not go to college

Would have taken more challenging courses in:

- Math
- Science
- English
About the Survey

The national survey was commissioned by Achieve, Inc., and conducted in December 2004 by Peter D. Hart Research Associates (D) and Public Opinion Strategies (R). The sample of 1,487 public high school graduates included 861 who were currently enrolled in two- or four-year colleges and 626 who were not currently enrolled in college, including 267 graduates who had enrolled in college but withdrew. The sample included oversamples for 303 African Americans, 287 Latino Americans and 353 current college students who have taken a remedial course. We also interviewed 400 employers who make personnel decisions and 300 college instructors who teach first-year college students.

For complete results of the Rising to the Challenge poll, go to the Achieve Web site, at www.achieve.org.
National Summary
Education Pipeline Data Profile

February 2005

This data profile provides an important perspective on how well the nation is doing in preparing young people for college and work by comparing the progress of students across the country with that of students in top-performing states. Note that this profile includes only those data that were available for all states. Other agencies and organizations have additional data disaggregated by state, county, program, district or school that allow a closer look at education pipeline issues.
The Big Picture

To be successful in today’s economy, all students will need education and training that go beyond the high school diploma. The data below show how well the nation is moving students through the education pipeline. How many graduate from high school? How many drop out? How many go on to postsecondary education, either a four-year institution or community college? How many are well enough prepared when they get there to be successful and ultimately earn a bachelor’s or an associate’s degree? How well are the nation’s top-performing or highest-improving states doing?

How many make it to, and through, college?

How many young adults earn degrees?

Is educational attainment improving?

<table>
<thead>
<tr>
<th>25 to 34 Year Olds with Bachelor’s Degree in 1990</th>
<th>Nation’s Improvement</th>
<th>Top Improver (MN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.7%</td>
<td>+ 4.8</td>
<td>+ 8.7</td>
</tr>
<tr>
<td>27.5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Preparation for postsecondary education and good jobs begins well before high school. Students who take challenging courses and meet high standards in middle school are much more likely to enter high school ready to succeed. Algebra is widely recognized as a “gateway” course — students who take it by the end of 8th grade are much more likely to take rigorous courses in high school that lead to a college degree.

**Are students taking “gateway” courses?**

**Are there inequities in course taking?**

**Are more students taking gateway courses over time?**

<table>
<thead>
<tr>
<th>8th Graders Taking Algebra in 1992</th>
<th>8th Graders Taking Algebra or Higher in 2003</th>
<th>Nation’s Improvement</th>
<th>Top Improver (CA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19%</td>
<td>31%</td>
<td>+ 12</td>
<td>+ 35</td>
</tr>
</tbody>
</table>

While each state gives its own reading and math assessments in grades 3–8, the standards for proficiency on those tests differ from state to state, making cross-state comparisons unreliable. The National Assessment of Educational Progress (NAEP) is a common test taken by a sample of students in every state and in the nation as a whole, making it a reliable yardstick for comparing achievement through middle school.

**Are students meeting proficiency in math?**

**... in reading?**

**8th Grade Math Achievement (2003) [Bar Graph]**

- Nation: 27% Basic, 46% Proficient or Advanced
- Top States*: 36% Basic, 45% Proficient or Advanced

**Nation's Improvement**

**Top Improver (CA)**

**8th Grade Reading Achievement (2003) [Bar Graph]**

- Nation: 30% Basic, 42% Proficient or Advanced
- Top States*: 39% Basic, 43% Proficient or Advanced

*Median of top five states in percent proficient or advanced.
Source: National Assessment of Educational Progress. Analysis of data downloaded from nces.ed.gov/nationsreportcard/nced.
Middle School, continued

Is math achievement improving?

<table>
<thead>
<tr>
<th>8th Graders Proficient or Advanced in 1992</th>
<th>8th Graders Proficient or Advanced in 2003</th>
<th>Nation’s Improvement</th>
<th>Top Improver (NC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>27%</td>
<td>+ 7</td>
<td>+ 20</td>
</tr>
</tbody>
</table>

Is reading achievement improving?

<table>
<thead>
<tr>
<th>8th Graders Proficient or Advanced in 1998</th>
<th>8th Graders Proficient or Advanced in 2003</th>
<th>Nation’s Improvement</th>
<th>Top Improver (DE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>30%</td>
<td>+ 0</td>
<td>+ 8</td>
</tr>
</tbody>
</table>

Across the nation and in most states, there is an achievement gap that separates African American, Hispanic and Native American students from white and Asian students. How large is that gap, and how successful has the nation been in closing it over time?

Are there inequities in math achievement? Have gaps narrowed over time?

Across the nation and in most states, there is an achievement gap that separates African American, Hispanic and Native American students from white and Asian students. How large is that gap, and how successful has the nation been in closing it over time?

Are there inequities in reading achievement? Have gaps narrowed over time?

Across the nation and in most states, there is an achievement gap that separates African American, Hispanic and Native American students from white and Asian students. How large is that gap, and how successful has the nation been in closing it over time?
Research has shown that a powerful predictor of whether high school students will graduate and earn a college degree isn’t only grades or even test scores, but rather the rigor of the high school curriculum they complete. Taking a high-level math course beyond Algebra 2 is a key indicator of such a curriculum. Advanced Placement (AP) exams show how many students are taking challenging courses and attempting to earn college credit while still in high school.

**Are students taking “gateway” courses?**

![Graph showing percentage of students taking a math course beyond Algebra 2 by graduation (2002)]

* Trigonometry or precalculus. ** Median of top five states.

**Are more students taking gateway courses over time?**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>29%</td>
<td>41%</td>
<td>+ 12</td>
<td>+ 44</td>
</tr>
</tbody>
</table>

* Trigonometry or precalculus.

**Are students participating in AP courses?**

![Graph showing percentage of juniors and seniors taking AP exams (2003)]

* Median of top five states.
Source: Analysis of data from College Board AP Summary Reports for 2003 and NCES Common Core of Data. Includes public school students only.

**Are there inequities in AP participation?**

![Graph showing percentage of U.S. juniors and seniors taking AP exams (2003)]

Source: Analysis of data from College Board AP Summary Reports for 2003 and NCES Common Core of Data. Includes public school students only.
High School, continued

Are more students participating in AP over time?

<table>
<thead>
<tr>
<th>Juniors and Seniors Taking AP Exams in 1997</th>
<th>Juniors and Seniors Taking AP Exams in 2003</th>
<th>Nation’s Improvement</th>
<th>Top Improver (MD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.6%</td>
<td>11.4%</td>
<td>+ 3.7</td>
<td>+ 7.4</td>
</tr>
</tbody>
</table>

Nationwide, nearly 30 percent of high school students don’t graduate on time, and the figures are much lower for disadvantaged minority students than for white and Asian students. Without a high school diploma, students’ chances for success in college or the workplace are severely restricted.

How many students graduate on time? Are graduation rates equitable?

- **Freshmen Graduating On Time with a Regular Diploma (2002)**
  - Nation: 71%
  - Top States*: 85%

- **U.S. Freshmen Graduating On Time with a Regular Diploma (2002)**
  - African American: 56%
  - Asian: N/A
  - Latino: 52%
  - Native American: N/A
  - White: 78%

* Median of top five states.
Are high school graduation rates improving over time?

<table>
<thead>
<tr>
<th>High School Graduation Rate in 1992</th>
<th>High School Graduation Rate in 2002</th>
<th>Nation's Improvement</th>
<th>Top Improver (NV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>73%</td>
<td>71%</td>
<td>- 2</td>
<td>+ 9</td>
</tr>
</tbody>
</table>

Jay Greene and Greg Forster of the Manhattan Institute have created several measures of college readiness. The data below consider whether students have earned a regular high school diploma, have completed the minimum coursework necessary to apply to college and have performed at least at the basic level on the NAEP reading test.

How many students prepare for college?

<table>
<thead>
<tr>
<th>Freshmen Graduating On Time College-Ready (2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nation</td>
</tr>
<tr>
<td>Top States*</td>
</tr>
</tbody>
</table>

* Median of top five states.

Are rates of college preparation equitable?

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Latino</td>
</tr>
<tr>
<td>Native American</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>


Are college-readiness rates improving over time?

<table>
<thead>
<tr>
<th>College-Readiness Rate in 1992</th>
<th>College-Readiness Rate in 2002</th>
<th>Nation's Improvement</th>
<th>Top Improver (WV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27%</td>
<td>34%</td>
<td>+ 7</td>
<td>+ 13</td>
</tr>
</tbody>
</table>

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Postsecondary Attainment

Earning a postsecondary credential has become increasingly important in today’s economy, and some states have made significant gains in college-going rates. However, college admission is only the first step. Nationally, a quarter of college freshmen will not return for their sophomore year. Only slightly more than half of students in four-year colleges earn a degree within six years. The better prepared students are when they graduate from high school, the better their chances of getting into and succeeding in college.

How many high school graduates enroll in college the following fall?

Are more high school graduates enrolling immediately in college over time?

<table>
<thead>
<tr>
<th>College-Continuation Rate in 1992</th>
<th>College-Continuation Rate in 2002</th>
<th>Nation’s Improvement</th>
<th>Top Improver (SC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.3%</td>
<td>56.7%</td>
<td>+ 2.4</td>
<td>+ 16</td>
</tr>
</tbody>
</table>

How many persist to sophomore year? ... at 2-year colleges?

* Median of top five states.
Are college retention rates improving over time?

<table>
<thead>
<tr>
<th>Retention Rates at 4-Year Colleges in Fall 1988</th>
<th>Retention Rates at 4-Year Colleges in Fall 2001</th>
<th>Nation's Improvement</th>
<th>Top Improver (NV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.8%</td>
<td>73.6%</td>
<td>-1.2</td>
<td>+12.3</td>
</tr>
</tbody>
</table>

How many graduate from college?

**Freshmen at 4-year Colleges Earning Degree within 6 Years (2002)**

- **Nation**: 54%
- **Top States**: 64%

* Median of top five states.


Are college graduation rates equitable?

**U.S. Freshmen at 4-year Colleges Earning Degree within 6 Years (2002)**

- **African American**: 30%
- **Asian**: 63%
- **Latino**: 45%
- **Native American**: 37%
- **White**: 57%

* Median of top five states.

Source: Unpublished data provided by the National Information Center for Higher Education Policymaking and Analysis. From federal IPEDS survey.

Are college graduation rates improving over time?

<table>
<thead>
<tr>
<th>6-Year Grad Rate from 4-Year Institutions in 1997</th>
<th>6-Year Grad Rate from 4-Year Institutions in 2002</th>
<th>Nation's Improvement</th>
<th>Top Improvers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.2%</td>
<td>54.3%</td>
<td>+2.1</td>
<td>+10</td>
</tr>
</tbody>
</table>

* Median of top three states (AK, DE and WY).
III. Aligning High School, College and Workplace Expectations
III. Aligning High School, College and Workforce Expectations

Goal for Session: To identify strategies for ensuring that a high school diploma signifies that students are prepared for postsecondary education and work.

Problems

1. High school standards in most states do not reflect requirements for success in credit-bearing coursework in college or entry-level, well-paying jobs.
   - Few states have had employers and college faculty verify that high school standards reflect their requirements for success.

2. High school students in most states are not required to complete a college- and work-ready curriculum to graduate from high school.
   - Only two states (Arkansas and Texas) require all students to complete at least three years of rigorous math through Algebra II. Parents must “opt out” if they wish their students to complete a lesser diploma.

3. Few states have high school tests that measure college and work readiness.
   - Most high school tests measure 8th, 9th or 10th grade skills.
   - Colleges rarely use scores on high school tests for admissions or placement, requiring students to take additional tests for these purposes.

4. Few states have the ability to determine how high school graduates perform in college or on the job and therefore lack the data to inform high school improvement efforts and hold high schools accountable.
   - Few states collect data on how successful high school graduates are once they get to college, including the percentage of college freshmen needing remediation, returning for their sophomore year and graduating from college.
Solutions

1. **Align high school standards to college and workplace expectations.**
   - Higher education systems in California, Kentucky and Oklahoma have established “remediation-free” standards to clarify what incoming students need to know to place into credit-bearing courses.
   - Oregon has identified the level of knowledge and skill needed for college entry and aligned this with the state’s high school standards.

2. **Upgrade the high school curriculum.**
   - Arkansas and Texas have made a college- and work-preparatory curriculum the “default” — all students will be automatically enrolled in such a course of study unless parents specifically choose not to have their students participate.
   - When the San Jose Unified School District in California required all students to follow the college-preparatory curriculum required for admission to the University of California system, test scores of black 11th graders increased nearly seven times as much as those of other black students across the state.

3. **Create college- and work-ready tests.**
   - The California State University system supplements the state 11th grade test with a set of college-ready questions to use in admissions and placement decisions.
   - Texas uses the same test — but different scores — for high school graduation and college placement.
   - Michigan policymakers have agreed to replace the state’s high school exam with a college-ready test.

4. **Measure progress of students from entry into the K–12 system through high school and into college and the workplace. Hold high schools and higher education accountable for students’ postsecondary access and success.**
   - Florida has created a unified data system, combining information on the performance of students in high school with data on their performance in postsecondary education.
   - Kentucky’s higher education system measures and rewards students’ postsecondary access and success. Since this system was put in place, college-level course taking in high school has increased by 350 percent.
Questions for Summit Participants

- How can you build public understanding and will in your state for raising standards in high schools? Will most educators and parents agree that all students can and should achieve college and work readiness? What role can business and postsecondary leaders play?

- How can your state phase in higher standards and graduation requirements over time to better reflect the requirements for success in credit-bearing college courses and well-paying jobs?

- What will it take to build college- and work-ready tests into your state’s high school assessment system? Are there opportunities for the K–12 and postsecondary systems to work together on this?

- What will motivate higher education to make student performance on state high school assessments a key factor in placement or admissions decisions?

- What will it take to build a data system in your state that allows you to track student progress from elementary, middle and high school through postsecondary education and the workplace? What are the benefits of putting such a system in place? What are the barriers to doing it?

- Are postsecondary institutions in your state held accountable for increasing access, retention and completion of enrolled students?
IV. Redesigning High Schools
IV. Redesigning High Schools

**Goal for Session:** To identify approaches that ensure all high schools are designed to prepare students for successful transitions to work, college and citizenship.

**Problems**

1. **Today’s high schools have yesterday’s mission.**
   - High schools are fulfilling their historic mission, but this mission does not reflect today’s economic realities. High schools today graduate 35 percent of students college-ready. This production does not match society’s needs, as three-quarters of the top 50 fastest-growing jobs require education beyond high school.
   - Changing demographics make the outdated high school mission a national civic challenge. The fastest-growing segments of most states’ high school populations and the future workforce are groups that drop out of high school at the highest rates: immigrants, minorities and youth from low-income families. Even one year of postsecondary education increases lifetime earnings by as much as 15 percent per year. The nation needs these increased wages to reduce poverty and support the baby boom generation’s retirement.
   - For every 10 students who start high school, seven will get a diploma, only four will enroll in a postsecondary institution and fewer than two will complete a bachelor’s or an associate’s degree in a timely manner. Even fewer African American and Latino youth complete high school and make a successful transition to college.

2. **Too many students arrive unprepared for high school work.**
   - About 70 percent of students are reading below grade level when they enter the 9th grade.
   - Among our nation’s 8th graders who participated in the National Assessment of Educational Progress in mathematics, 33 percent fell below basic, 40 percent reached the basic level and only 27 percent reached the proficient level.

3. **Too many students are disengaged and fall through the cracks.**
   - In a survey of high schools students, about 40 percent reported they were just going through the motions; more than one-third reported they neither tried hard nor paid attention in class.
   - In a national poll of recent high school graduates, 80 percent reported that they should have taken more rigorous classes in high school.
   - The United States ranks 16th out of 20 Organisation of Economic Co-operation and Development (OECD) countries in high school graduation rates. When *A Nation at Risk* was published in 1983, the nation’s graduation rate was 74 percent. By 2000, it had declined to 67 percent.
   - Only 56 percent of African American students and 52 percent of Latino students actually graduate from high school, compared to 78 percent of white students.
Solutions

1. **Reorganize low-performing high schools first — those that fail to educate a majority of their students to even minimal standards.**

   - Make intervention in the lowest-performing high schools your state’s top priority. School districts in California, Illinois, Massachusetts and New York are aggressively closing down large, urban comprehensive high schools that are persistently failing. In their place, state and local leaders are opening small, accountable high schools.
   - Make local district leadership a partner in turning around low-performing schools. Require that high school improvement plans be based on research-based effective practices, and use models that have been shown to raise performance, such as High Schools That Work, from the Southern Regional Education Board; the Talent Development High School, from Johns Hopkins University; and America’s Choice, from the National Center on Education and the Economy.

2. **Expand high school options in all communities to engage all students in preparing for college and work.**

   - Regularly assess student progress toward meeting high school, college and work readiness standards. Texas’ personalized graduation plans and individual study guides and Florida and Oklahoma’s SAT/ACT preparation testing inform instruction, curriculum and teacher training.
   - Encourage the development of a range of high school options that provide a rigorous college- and work-ready curriculum that may include existing high schools, “schools-within-schools,” online or virtual high schools, and small high schools created by local communities.
   - Expand and finance college-level learning opportunities in high school. For example, various types of early college programs in Ohio, North Carolina, Utah and Washington give students the opportunity to accelerate learning and earn an associate’s degree along with the high school diploma in four to five years.

3. **Provide support to low-performing students.**

   - Help more students meet high standards by providing multiple opportunities for testing and by developing and funding statewide efforts that may include online tutorials, intensive intervention programs and summer academies. Massachusetts, Pennsylvania and Virginia have extended learning opportunities in the 9th grade, including summer school, before and after school, and during elective periods to help students get on track to take college-prep classes by 10th grade.
Questions for Summit Participants

- How must high schools change if their job is to make sure that all of their students graduate with a common core of knowledge and skills necessary for postsecondary education and well-paying jobs? What can your state do to help bring about those changes as rapidly as necessary?

- Once your state identifies low-performing high schools, what happens to them? Does your state education agency have the capacity — the expertise and resources — to effectively intervene in those schools? Do your local districts have the capacity?

- Does your state adequately invest in extra help for high school students who are not meeting standards? If not, why not? How do you know if the academic support programs you are funding are making a difference?
V. Strengthening Teaching and School Leadership
V. Strengthening Teaching and School Leadership

**Goal for Session:** To identify strategies for ensuring all high school students have access to the effective teaching and school leadership they need to graduate ready for college and work.

**Problems**

1. **Too many high school classes are taught by teachers who do not have a solid background in the subject.**
   - Nationally, one out of four secondary classes in core academic subjects is assigned to a teacher lacking even a college minor in the subject being taught. Classes in high-poverty schools are 77 percent more likely to be assigned an out-of-field teacher than classes in low-poverty schools are.
   - The rates of out-of-field teaching are particularly high in mathematics. Nationwide, more than one-third (35 percent) of secondary-level math classes are taught by someone lacking even a minor in math or a math-related field. Nearly half (49 percent) of math classes in high-poverty schools and 44 percent of math classes in high-minority schools are taught by someone teaching out of field.
   - More than half of entering high school students in the largest urban districts are reading at the 6th grade level or below, yet few high school teachers, including English teachers, have been trained to teach struggling readers in their subject areas.

2. **The systems and tools for improving instruction in high schools are not well developed.**
   - There is less evidence about effective curriculum and instructional practices in high school than there is in elementary school. There also is a weaker research base on teaching English language learners and students with special needs.
   - Diagnostic and end-of-course assessments that provide data to inform instructional improvement are not used widely.
   - State and local investments in teacher professional development are not used effectively. One national study estimates that less than a third of the training teachers receive involves in-depth study in their particular subject. An audit for one large urban district found that 77 percent of the $23.5 million spent on professional development was not aligned with the district’s priorities.
3. **High school teachers often underestimate their students’ postsecondary plans and needs.**
   - In a recent survey, secondary school teachers responded that they believe only about half of their students will attend a two- or four-year college. In fact, 75 percent of high school graduates enroll in postsecondary institutions within two years of completing high school, and growing numbers will need some postsecondary education to be prepared to get a good job.

4. **The job of the high school principal — always a demanding one — is getting more demanding. Expectations and accountability for school performance are increasing and threaten to outstrip the preparation, support and authority principals receive.**
   - School districts with the greatest concentrations of poverty, the most challenging conditions and the lowest salaries find it increasingly difficult to attract and retain candidates for the principalship.
Solutions

1. **Improve teacher knowledge and skills.**
   - Create or revise standards for what high school teachers should know and be able to do in their subjects.
   - Incorporate teacher knowledge standards into performance-based licensure requirements — including subject matter tests that teachers must pass to become certified. Connecticut has created a tiered licensure system that requires teachers to demonstrate increasingly higher levels of knowledge and skills to earn each successive level of license.
   - Institutions of higher education should redesign teacher preparation programs and be held accountable for success in preparing candidates to meet standards. Louisiana required all of its schools of education to undergo a redesign process and has created new program approval standards that include indicators of the quality of their graduates. The state is planning to add a component measuring graduates’ impact on student achievement.

2. **Create and target recruitment incentives to attract teachers where they are needed most, and provide supports to keep them there.**
   - Louisiana’s system of program approval for its teacher education programs includes incentives for increasing the number of graduates entering critical shortage subject areas and working in districts that are chronically hard to staff. It also monitors the retention of graduates after three years.
   - North Carolina surveys teachers about working conditions and is using the information to address teacher concerns and better retain teachers where they are needed most.
   - Mississippi offers a variety of monetary incentives to encourage teachers to teach in schools and subjects with critical shortages.
   - California and New York are among the states that provide financial incentives for teachers certified by the National Board for Professional Teaching Standards to teach in high-need schools.

3. **Improve principal recruitment, preparation and professional development.**
   - State and local education leaders should work together to define more clearly the role of the high school principal as instructional leader, provide principals with the necessary authority over budget and personnel to carry out their role effectively, and hold them accountable for results.
   - States need to rethink principal licensure and training to make training more school based and to provide future principals with on-the-job experience.
   - States should target recruitment incentives and programs to attract minorities, identify and attract teachers with leadership skills that make them good candidates for becoming future principals, and attract effective principals to low-performing schools.
Questions for Summit Participants

- How can your state ensure teachers and principals are adequately trained to teach and lead effectively in redesigned high schools with higher expectations for all students?

- How can your state more effectively hold postsecondary institutions accountable for the quality of the teachers and principals they prepare?

- Over the last decade we have made very little progress in reducing the number of teachers teaching out of field. What is it going to take to address this problem in your high schools?

- What will it take to get effective teachers and principals to work in high-poverty and low-performing high schools?
  - Will the existing compensation system attract and retain the quality candidates your students need?
  - How do the current practices for assigning teachers and principals to schools need to be changed?
VI. Call to Action
VI. Closing Session: A Call to Action

**Goals for session:** To identify the most important ways the federal government can support state leadership to improve high schools, and to identify the most important action steps Summit participants can take to move this agenda forward in their states.

**Proposals for Federal Action**
There are a number of significant opportunities in this Congress to align federal education policy with state high school reform initiatives and support a seamless education system from preschool to postsecondary education. President Bush has proposed a package of high school reform initiatives, and Congress will consider the reauthorization of the Higher Education Act and the Carl D. Perkins Vocational Education Act, as well as the reauthorization of Head Start.

This tab contains brief descriptions of the administration’s proposal and the programs scheduled for reauthorization.

**A Call to Action**
The final session will call on governors and business, education and foundation leaders to identify the most significant steps they will take to translate the Summit discussions into action in their states. Specific state strategies are outlined in *An Action Agenda for Improving America’s High Schools* in the front pocket of this briefing book.
In the 109th Congress, three of the five major education laws — Head Start, the Carl D. Perkins Vocational and Technical Education Act (Perkins), and the Higher Education Act (HEA) — are scheduled for reauthorization. Congress reauthorized the Individuals with Disabilities Education Act last year.

**Head Start (P.L. 105-285)**
Head Start provides comprehensive child development services to serve low-income children (ages birth to 5), pregnant women and families. The program is intended to improve the school readiness of young children in low-income families by providing a range of individualized services in the areas of education and early childhood development; medical, dental and mental health; nutrition; and parent involvement. Head Start programs adhere to performance standards to ensure the highest possible quality of services. Each year, Head Start serves more than 900,000 children.

The Head Start program is administered by the Head Start Bureau; the Administration on Children, Youth and Families (ACYF); the Administration for Children and Families (ACF); and the U.S. Department of Health and Human Services (HHS). Grants are awarded to local public agencies, private non-profit and for-profit organizations, Indian Tribes, and school systems to operate Head Start programs at the community level.

The Carl D. Perkins Vocational and Technical Education Act (Perkins) supports a broad range of career and technical education and services in high schools, community colleges, and career and technical centers to develop the academic, vocational and technical skills of secondary and postsecondary students. Perkins is intended to prepare students to succeed in the workplace, as well as in postsecondary education.

The Perkins programs are administered by the U.S. Department of Education, Office of Vocational and Adult Education (OVAE). The majority of funds appropriated under the Perkins Act are awarded as grants to state education agencies. Perkins is the single largest federal source of funding for high schools.
Higher Education Act of 1965 (P.L. 105-244)
The Higher Education Act (HEA) provides student financial assistance that enables expanded access for all students to higher education institutions; ensures affordability for low- and moderate-income families; and provides for federal programs to strengthen graduate education, minority-serving institutions and international education. HEA also provides support for teacher training, development and recruitment activities. Additionally, HEA authorizes discretionary grant programs to increase the number of low-income students who are prepared to enter and succeed in postsecondary education.

The U.S. Department of Education, Office of Postsecondary Education (OPE) administers more than 40 programs authorized in HEA. Federal Student Aid (FSA) administers student financial assistance programs.
FY 2006 Budget Facts: Bringing NCLB To The High School Level

President Bush has called recent evidence of poor performance by America's high schools "a warning, and a call to action." Only 68 of 100 9th graders in our public schools will graduate on time, and only 18 of those will go on to obtain a college degree. In addition, recent international assessments show that our high school students score well behind those of other nations in key subjects like mathematics. Since most well-paying jobs in our technology-based, globally competitive economy require at least some postsecondary education, the failure to prepare our high school students with the knowledge and skills to succeed literally places our national prosperity at risk.

In response, the President's 2006 request includes a comprehensive proposal that builds on the stronger accountability of No Child Left Behind to improve the quality of secondary education and ensure that every student not only graduates from high school, but graduates prepared to enter college or the workforce with the skills to succeed. The President's budget provides nearly $1.5 billion for his High School Initiative, which includes a High School Intervention program and new High School Assessments, along with an additional $329 million for related proposals:

- **$1.24 billion for a High School Intervention initiative** that would focus on strengthening high school education and providing specific interventions, including assessment-based performance plans for each student, designed to improve the academic achievement of students at greatest risk of not meeting challenging State academic standards and not completing high school.

- **$250 million to help States develop and implement new High School Assessments** in reading/language arts and mathematics. The proposal would provide State formula grants to add, by the 2009–2010 school year, annual assessments at two additional high school grades, which along with the one grade currently required by NCLB would ensure that students are assessed at least three times during high school. The request also includes a $22.5 million increase for the National Assessment of Educational Progress to implement State-level assessments in reading and mathematics at the 12th grade in 2007.

- **A $175 million increase for the Striving Readers program**, funded for the first time in fiscal year 2005, to significantly expand the development and implementation of research-based interventions to improve the skills of teenage students who are reading below grade level.

- **$120 million for a new Secondary Education Mathematics Initiative** under the Mathematics and Science Partnership program that would provide competitive grants to accelerate the mathematics learning of secondary-school students.

- **A $22 million increase for the Advanced Placement program** to expand the availability of Advanced Placement and International Baccalaureate programs in schools with large populations of low-income students and to train teachers for those programs.

- **$12 million for State Scholars Capacity Building** to increase the number of States implementing State Scholars programs, which encourage high school students to complete a rigorous four-year course of study. This proposal would complement a $33 million request for Enhanced Pell Grants for State Scholars, which would increase Pell awards by up to $1,000 for students who complete a State Scholars program in high school.
Acknowledgments

The 2005 National Education Summit on High Schools would not have been possible without the hard work and dedicated efforts of many individuals and organizations. Achieve and the National Governors Association would like to thank all those whose contributions helped make the Summit a success.

First, we’d like to thank the companies and foundations that helped finance the Summit. Prudential Financial, Washington Mutual, State Farm, Intel Foundation and IBM Corporation provided the full range of resources necessary to plan and carry out the Summit. The Bill & Melinda Gates Foundation also provided support for Summit planning activities and publications.

Second, we would like to thank our partner organizations, Business Roundtable, the James B. Hunt Institute and the Education Commission of the States, for collaborating with us on this important event. In particular we’d like to thank Susan Traiman from the Roundtable, Judith Rizzo from the Hunt Institute and Charles Coble from the Education Commission of the States for their advice and counsel.

Achieve also would like to thank the key staff who represented the governors and business leaders from our board and helped provide strategic advice and direction as we planned the Summit: Mary O’Malley and Lata Reddy from Prudential Financial; Susan Bodary from Governor Taft’s office; Marc Frazer from Washington Mutual; Sue Carnell from Governor Granholm’s office; Kathy Havens Payne from State Farm; Donna Cooper from Governor Rendell’s office; Cathleen Barton from Intel; Lucille Davy from Governor Cody’s office; Virginia Fox from Governor Fletcher’s office; and Dale Bertsch from Governor Rounds’ office.

NGA would like to thank the following members of the Redesigning the American High School Task Force for their strategic advice and support: Virginia Governor Mark R. Warner, Arkansas Governor Mike Huckabee, Maine Governor John Baldacci and Ohio Governor Bob Taft. We also would like to thank the other state officials and members of the governors’ staffs who provided guidance: Virginia Secretary of Education Belle Wheelan, Maine Commissioner of Education Susan Gendron, Suzette Denslow and Eileen Filler-Corn from Governor Warner’s office, Terri Hardy from Governor Huckabee’s office, and Susan Bodary from Governor Taft’s office.

Thanks to Adam Kernan-Schloss, Bonnie Jacob, Kathy Ames, Jessica Palmer, Shona Stanish, Jay Christian and their colleagues at KSA-Plus Communications for managing the design and production of these materials.

Thanks also to independent consultants Karen Glass and David Whitman for their editorial support on the action agenda and to Craig Jerald for his help with the state data profiles.
Special thanks are due to IBM for its support of the Summit Web site. In particular, we would like to thank Stanley Litow and Robin Willner for their leadership and James Amsterdam, Kim Foland, Steve Griswold, Stephen Hammer, Robin Lunceford, Gary Reiss, Elise Torrado and Dave Womack of the IBM Web team for their contributions.

Thanks to Shep Ranbom, Matt Maurer, Lani Poblete, Albert Lang and Perry Grossman of CommunicationWorks for their support with Summit communications and media outreach.

Thanks also to Beth Singer, Howard Smith, Chris Hoch and Lisa DiConsiglio of Beth Singer Design for designing the Summit stage set, signage and lighting.

Finally, special thanks are due to the many dedicated staff of Achieve and NGA who made the Summit a priority over the past few months. Achieve’s work was led by Michael Cohen, Matthew Gandal and T. Jason Weedon. Christine Tell, John Kraman, Tiffany Pache, Ronn Robinson, Vickie Barber, Sonja Jerome and James MacDonald also provided invaluable support. Onsite assistance and support provided by Eveline Carpenter, Mara Clark, JoAnne Eresh, Kaye Forgione, Laura McGiffert, Levon Saunders and Jean Slattery.

NGA’s work was led by Raymond C. Scheppach, John Thomasian and Dane Linn, all of whom deserve special thanks. Thanks also is due to Ilene Berman, Kristin D. Conklin, Bridget Curran and Joan Wodiska, who were essential to this work. NGA’s communications expertise was provided by Christine LaPaille, with support from Kimberly-Ann Boyer, John Blacksten, Jeff Green and Jodi Omear.

Finally, many of the logistics were handled by NGA staff members: Susan Dotchin, Kaye Habetler, Renee Rucker, Janice Webb-Blanc, Darla Ralston, Maxine Worthy, Laura Shiflett, Tess Moore and Suzan Weihofen. Further support came from the staff of the Education Division at the NGA Center for Best Practices: Anna Lovejoy, Cardella Mingo and Elisabeth Wright. Karen Krause of NGA’s Social, Economic, and Workforce Programs Division also provided assistance. Kevin Silard and Colleen O’Reilly of NGA’s Office of Corporate Relations provided essential help and support in recruiting CEOs and corporate fellows for the Summit.
The following corporations and foundations generously provided support for the 2005 National Education Summit on High Schools:

Prudential Financial
Washington Mutual
State Farm
Intel Foundation
IBM Corporation

The Bill & Melinda Gates Foundation also provided support for Summit planning activities and publications.