

Achieve

# The Future of the U.S. Workforce

The Limited Career Prospects for High School Graduates without Additional Education and Training



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# Introduction



The U.S. economy has undergone dramatic changes in recent decades. Jobs that required limited skills — but still paid a family-supporting wage — have disappeared and increasingly have been replaced with jobs that either require higher levels of education and skills *or* require little education and training but offer no pathways to careers (e.g., no advancement or benefits).<sup>1</sup> Simply put, increasingly sophisticated technology, changes in the structure of the economy and the growing global marketplace have put a premium on educated and skilled workers. The reality is that high school graduates without additional education and training face mostly dim and dead-end career prospects. And those prospects are far dimmer for those who fail to finish high school.

At the same time, there is also concern that the United States is facing a serious long-term challenge in maintaining its historical competitive advantage in educational attainment. The recent focus on ensuring that America regains its top international ranking in the percentage of adults completing college degrees should help address concerns about the diminishing supply of workers for “high skills” jobs — jobs that require at least a bachelor’s degree. High skills jobs make up nearly 30 percent of all U.S. jobs. Equally, if not more, important is the need to educate and train workers to fill growing “middle skills” jobs — jobs that require more than a high school education but less than a bachelor’s degree and account for nearly half of the U.S. workforce.

There is no question that middle skills jobs are important to help ensure future U.S. competitiveness and offer individuals a path to middle class wages and upward mobility. (See Achieve’s *The Future of the U.S. Workforce: Middle Skills Jobs and the Growing Importance of Postsecondary Education* for more on middle skills research.) Yet with all of the attention on high and middle skills jobs, the question remains: **What are the career prospects for individuals with only a high school diploma or less?** Or put another way, is education beyond high school really necessary to ensure a middle class lifestyle, a good living wage and career advancement opportunities?

Achieve commissioned original research to explore this question and found that the answer is a resounding “yes.” Students with a high school diploma (or less) and no additional education and training are by and large eligible only for “low skills” jobs, which offer limited career and earning prospects over a lifetime.

## ABOUT THE LOW SKILLS ANALYSIS

Historical context and projected labor market demands alone fail to provide sufficient information on the job advancement and wage earning opportunities for individuals without some postsecondary education. Therefore, Achieve commissioned original analysis by HCM Strategies of data from the Occupational Information Network (O\*NET) and the O\*NET Resource Center.<sup>2</sup> O\*NET is sponsored by the U.S. Department of Labor Employment and Training Administration, and the data are collected through questionnaires administered to a sample of the workforce as well as from other existing data sources, such as the U.S. Bureau of Labor Statistics. As illustrated in this brief, O\*NET data indicate that job advancement prospects are quite limited for individuals with only a high school diploma or less.

# What Are Low Skills Jobs?

## Jobs that Require Minimal Education, Training and Skills Attainment

There are many methodologies used to classify jobs into skill or class categories. This brief uses the O\*NET Job Zone<sup>3</sup> categories because:

- » They are a nationally recognized method for classifying occupations by skill level; and
- » O\*NET data are comprehensive and have the breadth needed to perform the type of analysis necessary for this paper.

The O\*NET Job Zones are used to classify occupations that are similar in terms of how much education, related experience and on-the-job training are needed to work in an occupation.

Table 1. O\*NET Job Zones

Job zone	Level of preparation needed
1	Little or None
2	Some
3	Medium
4	Considerable
5	Extensive

Source: O\*NET Resource Center

Low skills jobs fall into O\*NET Job Zones 1 and 2. Occupations in Job Zone 1 do not even necessarily require a high school diploma, while Job Zone 2 occupations require only “some preparation,” which equates to roughly a high school diploma, in terms of formal education.<sup>4</sup> Occupations in Job Zones 1 and 2 vary in nature but tend to be more subordinate positions. Some examples of occupations in Job Zone 1 include short-order cooks, construction laborers and sewing machine operators. Job Zone 2 occupations include bartenders, home health aides and word processors. In all, Job Zones 1 and 2 include 314 occupations.

Training for Zone 1 jobs typically may be accomplished through instruction by a more experienced worker, simply following written or verbal instructions, and/or by assisting others for a period of time — and this training can range from a couple of days to a few months. Zone 2 jobs typically require a high school diploma and some on-the-job training or experience (perhaps covered by time spent in a Zone 1 job). Jobs in this category usually involve using knowledge and skills to help others, although the types of knowledge and skills are still typically fairly limited. Comparatively, occupations in Job Zones 3, 4 and 5 generally require more specific training as well as additional and more complex skills. (See Table 3.)

# What Opportunities Do Low Skills Jobs Provide?

## Below-Average Wages, Limited Growth and Increased Competition

Table 2 displays the number of occupations, total employees, and median hourly and median annual wages by job zone. With some exceptions, the occupations in Job Zones 1 and 2, on average, provide lower wages than occupations requiring more education and

training. Not only is the median wage range narrower, but the median wages also tend toward the lower end of the range. For context, the median annual wage for all full-time employees in the United States is \$37,128.<sup>5</sup>

**Table 2. Number of Occupations, Total Employees, and Median Hourly and Annual Wages by Job Zone**

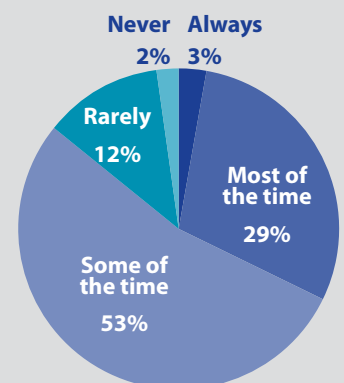
Job skill level	Job zone	Number of occupations	Total employees	Median hourly wage			Median annual wage		
				Min	Max	Median	Min	Max	Median
Low	1	53	23,504,500	\$8.63	\$23.44	\$10.60	\$17,950	\$48,750	\$22,035
	2	261	48,203,130	\$8.70	\$28.87	\$15.28	\$18,090	\$60,040	\$31,780
Middle	3	241	34,212,980	\$9.28	\$51.94	\$20.99	\$19,300	\$108,040	\$43,520
High	4	179	26,745,030	\$10.70	\$55.78	\$30.39	\$19,260	\$116,020	\$61,690
	5	129	8,147,800	\$17.33	\$79.37	\$34.77	\$32,750	\$165,080	\$70,960

Source: U.S. Bureau of Labor Statistics. (2011, May). *National Compensation Survey: Occupational Earnings in the United States, 2010*. [www.bls.gov/hcs/ncswage2010.htm](http://www.bls.gov/hcs/ncswage2010.htm). Averaged over December 2009 through January 2011.

Another important indicator of opportunities within low skills jobs is their “outlook,” or projected growth over time. Occupations with a “bright outlook” are expected to grow faster than average, have more than 100,000 projected job openings from 2008 to 2018, or are new or emerging occupations in a high-growth industry. According to the analysis, fewer than a quarter of low skills jobs have a bright outlook, meaning that more than three-quarters of low skills jobs are not projected to have substantial growth.

One other trend worth highlighting is that some jobs considered to be low skills are currently being filled by workers with higher levels of education and training. According to a survey of approximately 4,000 human resource (HR) managers, about a third of respondents (32 percent) acknowledge that they “always” or “most of the time” hire employees with educational credentials above a high school diploma for jobs that — *as posted* — require only a high school diploma, with another 53 percent saying they do so “some of the time.”<sup>6</sup> This mismatch may be driven by high unemployment (and individuals being willing to enter jobs for which they are overqualified) coupled with employers’ desire to have employees with more training and skills in any and all positions.

**For current job openings that require a minimum of a high school diploma or equivalent, how often are newly hired employees’ education credentials actually higher than the minimum education listed in the job announcement?**



Source: Unreleased research from Achieve and the Society for Human Resource Management, 2012

# What Opportunities Do Workers Have To Advance Out of Low Skills Jobs?

## Minimal All Around

has a clear promotional pathway — a career — that is largely accessed through gained experience. O\*NET’s data include an element called “recognition” that is used to indicate the potential for advancement in an occupation. Subject matter experts were asked to indicate, on a seven-point scale, the extent to which certain occupations offer advancement, have potential for leadership and are considered prestigious. The responses to the individual items were used to create a recognition index.

Figure 1 on page 7 displays the distribution of occupations across recognition values. While it is difficult to articulate the exact added value of each additional recognition point, it is notable that nearly all of the low skills jobs displayed on the next page have a recognition value below the midpoint. Generally, a higher recognition value equates to greater advancement opportunities and more prestige within an occupation. For example, bank teller (a Zone 2 job) has a recognition value of 2.33, meaning that individuals employed in that occupation are unlikely to be offered advancement. Loan officer, on the other hand (a Zone 3 job), has a recognition value of 4.67, as individuals in this occupation are more likely to be promoted to management and have skills that are transferable to more advanced positions.

Given that a low score on the recognition value scale typically equates to an occupation that does not have a lot of advancement potential, and given that there are 301 low skills jobs that index a 3.5 or below on the recognition scale, it is fair to estimate that about 9.5 out of 10 occupations in Zones 1 and 2 fall short on offering advancement and prestige. Employees in these occupations likely will not be able to further their careers without some kind of formal education or training outside their current occupations. Comparatively, about half of the occupations in Zone 3 — and all but 12 of the 308 occupations in Zones 4 and 5 — have a recognition value above a 3.5.

Cut another way, when searching in O\*NET for occupations for which recognition level is the most critical work value (compared to *achievement, independence, relationships, support* and *working conditions*), 63 occupations fully meet the threshold — only one of which is a Zone 1 job (a model) and four of which are Zone 2 jobs (athletes, singers, demonstrators and product promoters, and farm labor contractors), while the remaining 58 occupations are in Zones 3, 4 and 5.<sup>7</sup>

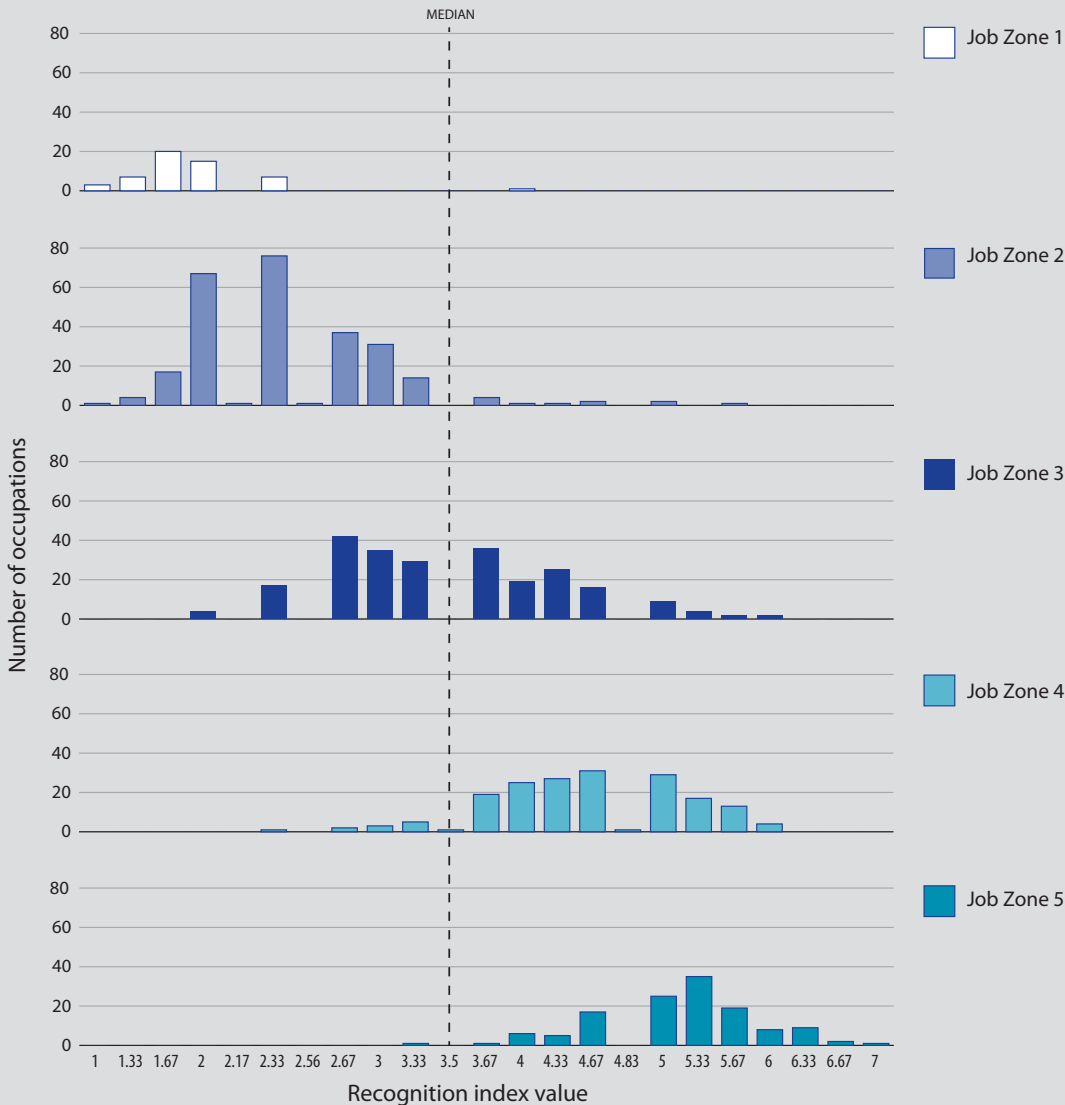
In other words, the O\*NET data confirm that the majority of individuals who have only a high school diploma are employed in occupations with limited advancement and leadership opportunities.

About 0.5 out of 10 occupations in Zones 1 and 2 offer advancement and prestige, compared to 7.5 out of every 10 occupations in Job Zones 3, 4 and 5.



Interestingly, when HR managers were asked about the advancement potential for employees with only a high school diploma or equivalent, about half noted opportunities were available. The promotion pathways identified, however, were generally lateral or one step (e.g., a promotion to supervisor or team leader) — perhaps individuals moving from a Zone 1 to a Zone 2 job. About a third of HR managers did claim that pathways were endless, depending on the employee’s aptitude and work ethic. It is important to remember that many of the jobs requiring only a high school diploma or equivalent are being filled by individuals with more education and training than the positions required.<sup>8</sup>

**Figure 1. Distribution of Occupations across Recognition Values**



Source: O\*NET Resource Center, analysis by HCM Strategies and Achieve

# How Can Individuals Advance Out of Low Skills Jobs?

## With More Education and Training

Given the limited prospects within low skills jobs, how do individuals advance in or out of a low skills occupation? The answer is quite clear — for low skills workers to advance out of dead-end, low skills jobs, and presumably into more upwardly mobile middle skills jobs (or beyond), they must acquire the knowledge and skills necessary to perform middle skills jobs. Simply put, these workers will need to attain higher levels of education and training — be it at a four-year, two-year or technical institution or on the job — to advance out of these jobs and secure higher wages.

Table 3 displays the O\*NET-defined skill areas for middle skills jobs. For each area, the average skill *importance* and required skill *level* are provided and compared to those in low skills jobs. The areas are listed in order of importance for middle skills jobs, and the areas are assessed on a scale of one to five (with five being most important and one least). While most of the skill areas shown rate more important for middle skills than for low skills occupations, there is a much more significant gap between the average skill *level* required in each of these areas.

In some instances, workers in low skills jobs could develop skills through work experience to advance into middle skills jobs. However, the chance of being exposed to such opportunities on the job is quite limited. These skills (e.g., complex problem solving, writing, management of personnel resources, systems analysis and evaluation, reading comprehension, social perceptiveness, mathematics, and science) simply are not required in most low skills jobs. As such, to advance into middle skills jobs, workers will likely need to acquire these skills and associated knowledge through formal postsecondary education or training, such as a specialized certification, degree program or significant on-the-job training.

**For low skills workers to advance out of dead-end, low skills jobs, and presumably into more upwardly mobile middle skills jobs, they must acquire the knowledge and skills necessary to perform middle skills jobs.**

Table 3. Skill Areas and Differences between Middle and Low Skills Jobs

Skill area	Average skill level required — middle skills occupations (1–5 scale)	Difference in level required between middle and low skills	Average skill importance — middle skills occupations (1–5 scale)	Difference in importance between middle and low skills
Reading Comprehension	3.52	+0.74	3.37	+0.47
Active Listening	3.43	+0.55	3.62	+0.35
Critical Thinking	3.49	+0.56	3.51	+0.39
Speaking	3.33	+0.59	3.51	+0.33
Monitoring	3.33	+0.45	3.29	+0.17
Coordination	3.15	+0.32	3.15	+0.23
Writing	3.14	+0.69	3.07	+0.49
Judgment and Decisionmaking	3.12	+0.56	3.22	+0.32
Complex Problem Solving	3.09	+0.57	3.19	+0.40
Active Learning	3.09	+0.70	3.05	+0.46
Social Perceptiveness	3.04	+0.48	3.18	+0.23
Time Management	3.03	+0.42	3.17	+0.28
Service Orientation	2.89	+0.47	2.93	+0.24
Instructing	2.81	+0.51	2.72	+0.30
Persuasion	2.76	+0.52	2.76	+0.31
Learning Strategies	2.73	+0.64	2.64	+0.36
Operation Monitoring	2.61	+0.12	2.81	-0.01
Negotiation	2.59	+0.50	2.65	+0.29
Management of Personnel Resources	2.57	+0.45	2.65	+0.29
Systems Analysis	2.54	+0.81	2.58	+0.49
Systems Evaluation	2.52	+0.85	2.50	+0.43
Quality Control Analysis	2.49	+0.26	2.65	+0.13
Mathematics	2.41	+0.54	2.46	+0.25
Operation and Control	2.20	-0.06	2.47	-0.14
Troubleshooting	2.01	+0.20	2.31	+0.08
Operations Analysis	1.90	+0.89	2.16	+0.51
Science	1.61	+1.07	2.02	+0.66
Equipment Maintenance	1.43	-0.05	1.97	-0.02
Management of Material Resources	1.43	+0.40	1.94	+0.20
Equipment Selection	1.39	+0.10	1.94	+0.05
Repairing	1.39	-0.03	1.93	0.00
Management of Financial Resources	1.24	+0.46	1.78	+0.23
Technology Design	1.02	+0.46	1.65	+0.26
Programming	0.74	+0.47	1.52	+0.31
Installation	0.57	+0.17	1.37	+0.10
<b>AVERAGE</b>		<b>+0.47</b>		<b>+0.27</b>

Source: O\*NET Resource Center, analysis by HCM Strategies and Achieve

# Remaining Questions about Low Skills Jobs

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Although the evidence presented in this brief solidly supports the claim that all individuals benefit greatly from education and training beyond the level of a high school diploma, more research is needed to fully assess the job and advancement prospects of the workforce — particularly workers with lower levels of education. The O\*NET data do not give a comprehensive picture as to who is employed in low skills occupations and, importantly, who gets promoted out of low skills jobs. To that end, questions still remain about low skills workers, such as the following:

- » In what stage of life are individuals who hold these jobs (e.g., teenage years, early adulthood, retirement)? Are these jobs part-time supplemental work (e.g., police officers moonlighting as security guards)? If either case is true, then how many low skills jobs actually are held full time by working-age adults?
- » Why do individuals with high school diplomas stay in low skills jobs? Is it because they lack the preparation for the postsecondary education and training that would make middle or high skills jobs possible? What other factors most influence this decision? What role does access to and understanding of career pathways play?
- » What are the characteristics/abilities/education/training requirements of individuals who get promoted out of low skills work?
- » What are the most effective programs and pathways to help adult workers advance out of low skills occupations?

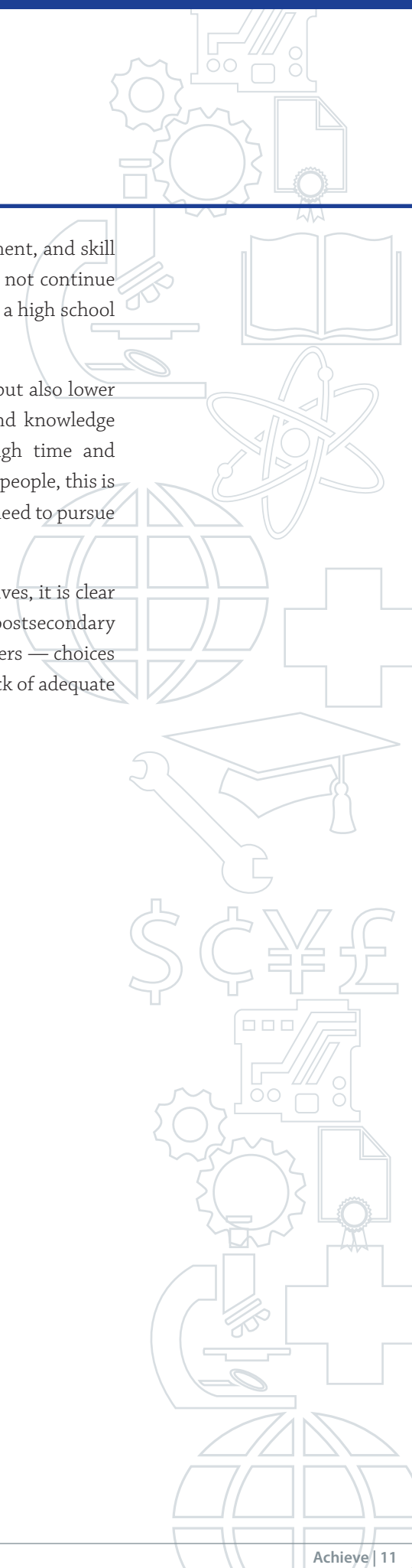
# Conclusion

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Taking into consideration the analyzed data in their totality (wage, outlook, advancement, and skill and knowledge information), the employment picture is bleak for individuals who do not continue their education beyond high school — and even more bleak for those who do not earn a high school diploma, as shown by the wages and recognition values for Zone 1 jobs.

Workers with only a high school education face not only more limited job prospects but also lower wages, lower prestige and more limited career advancement pathways. The skills and knowledge necessary for higher-skill and higher-wage jobs are not naturally acquired through time and experience in low skills jobs. Although some low skills jobs can lead to success for some people, this is not the norm. If individuals want to have a foothold in the middle class, then they will need to pursue additional education and training to access middle and high skills jobs.

No matter what career pathways individuals choose over the course of their working lives, it is clear that a K–12 education that prepares graduates for entry — without remediation — into postsecondary pathways gives them the best foundation from which to make choices about their careers — choices that are predicated on more options and more doors being open rather than shut for lack of adequate academic preparation.



# Endnotes

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- 1** Lee, M. A. and Mather, M. (2008, June). *U.S. Labor Force and Trends*, 63(2). Washington, DC: Population Reference Bureau.
- 2** The O\*NET Resource Center can be accessed at [www.onetcenter.org](http://www.onetcenter.org). The O\*NET Online resource can be accessed at [www.onetonline.org](http://www.onetonline.org).
- 3** As noted in the paper, the O\*Net Job Zones are one method of categorizing middle and low skills jobs. While some occupations found in Zones 1 and 2 might be considered middle skills jobs based on the level of knowledge and skills required in practice, this system generally classifies jobs in a manner that has a high degree of face value.
- 4** [www.onetonline.org/help/online/zones](http://www.onetonline.org/help/online/zones)
- 5** U.S. Bureau of Labor Statistics. (2011, May). *National Compensation Survey: Occupational Earnings in the United States, 2010*. [www.bls.gov/ncs/ncswage2010.htm](http://www.bls.gov/ncs/ncswage2010.htm). Averaged over December 2009 through January 2011.
- 6** Unreleased research from Achieve and the Society for Human Resource Management, 2012.
- 7** By and large, the five low skills jobs that score high on the recognition scale are not commonly held occupations. As such, “skills” for these occupations may be defined in a very different manner than they are for other occupations in these zones. Additionally, they may be occupations with small numbers of individuals who advance in meaningful ways (as is the case with actors and athletes).
- 8** Unreleased research from Achieve and the Society for Human Resource Management, 2012.

*The Future of the U.S. Workforce: The Limited Career Prospects for High School Graduates without Additional Education and Training* was the result of many months of hard work. Achieve would like to thank those individuals whose efforts made it possible:

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**Michael Cohen**

President  
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