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Promoting Workforce Readiness for Urban Growth

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Abstract
Between 2003 and 2009, the gap between the educational attainment of the population and the educational demands of available jobs (that is, "structural unemployment") increased in all but four of the nation's hundred largest metropolitan areas (Rothwell and Berube 2011). Given that a larger education gap between the demand and supply of educated workers is associated with a higher unemployment rate in the metropolitan area (2011), these data demonstrate the need to imporve educational attainment in all metropolitan areas.

Disciplines
Adult and Continuing Education | Education | Educational Methods | Higher Education | Teacher Education and Professional Development | Training and Development

CHAPTER 13

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Between 2003 and 2009, the gap between the educational attainment of the population and the educational demands of available jobs (that is, "structural unemployment") increased in all but four of the nation's hundred largest metropolitan areas (Rothwell and Berube 2011). Given that a larger education gap between the demand and supply of educated workers is associated with a higher unemployment rate in the metropolitan area (2011), these data demonstrate the need to improve educational attainment in all metropolitan areas.

Equally troubling, educational attainment tends to be lower for demographic groups that tend to be relatively overrepresented in our nation's metropolitan areas' central cities. *The State of Metropolitan America* report reveals a consistent pattern of racial/ethnic group differences: educational attainment is higher for Whites and Asians than for Blacks and Hispanics in all hundred of the nation's largest metropolitan areas (Berube 2010a). These racial/ethnic group differences in educational attainment likely contribute to observed racial/ethnic group differences in unemployment and other labor market outcomes, as unemployment rates are notably higher for Blacks and Hispanics than for Whites (14.1 and 10.7 percent versus 7.3 percent in February 2012; Bureau of Labor Statistics 2012).

As Edward Glaeser argues in his chapter in this volume, education is key to a city's economic and social success. This chapter goes one step further. It argues that educational attainment is a reasonable proxy for workforce readiness and documents the low levels of workforce readiness in urban ar-

eas. Recognizing some of the challenges associated with improving educational attainment, the chapter draws from a review of available data and research to offer seven recommendations for promoting workforce readiness of workers in our nation's urban areas.

What We Know: Educational Attainment Improves Labor Market Outcomes

With higher levels of educational attainment come improved labor market outcomes in both central cities and suburbs of metropolitan areas. Table 13.1 shows that labor market outcomes are lower on average in central cities and that, on average, in the central city as for the metropolitan area as a whole, labor market outcomes improve as the level of educational attainment rises. As just one example, in 2009 labor force participation rates in Baltimore city ranged from 34.7 percent for those who had not completed high school, to 57.8 percent for those who had graduated from high school, to 70.4 percent for those with some college or an associate's degree, to 73.6 percent for those who had completed at least a bachelor's degree (Bureau of Labor Statistics 2009). Unemployment rates also improve as educational attainment rose, declining in Baltimore (as one example) from 26.2 percent for those with less than high school, to 14.0 percent for high school graduates, to 6.8 percent for those with some college or an associate's degree, to 4.9 percent for those with at least a bachelor's degree (Bureau of Labor Statistics 2009). Table 13.1 also shows that these patterns are replicated in other metropolitan areas and center cities across the United States.

The benefits of higher levels of educational attainment are especially dramatic in an economic downturn. The negative implications of the Great Recession have been particularly severe for both individuals and metropolitan areas with the lowest levels of educational attainment (Berube 2010b). Even with the continued high overall unemployment rate in July 2011 (9.1 percent), unemployment rates were substantially lower for individuals who held a bachelor's degree (4.3 percent) than for those who held only a high school diploma (9.3 percent) and those who did not complete high school (15.0 percent) (Rothwell and Berube 2011). Between 2007 and 2009, metropolitan areas with the highest levels of educational attainment experienced smaller declines in employment rates than other metropolitan areas, even among workers without a high school diploma (Berube 2010b).

Table 13.1. Labor Market Outcomes in Selected Metropolitan Areas for Noninstitutional Population Age 25 Years and Older, 2009 Annual Average

		Civilian labor force (%)		*Unemployment rate (%)*	
Metro area	*Educational attainment*	*Metro area*	*Central city*	*Metro area*	*Central city*
Baltimore	Less than high school	40.9	34.7	13.6	26.2
	High school graduate	63.0	57.8	9.5	14.0
	Some college/associate	74.2	70.4	5.1	6.8
	Bachelor degree	79.9	73.6	2.9	4.9
Chicago	Less than high school	51.6	47.0	15.2	16.4
	High school graduate	62.5	57.9	10.4	11.6
	Some college/associate	73.5	71.3	9.7	10.6
	Bachelor degree	79.7	81.7	5.7	7.0
Cleveland	Less than high school	36.9	38.8	17.3	24.0
	High school graduate	64.1	52.7	12.7	15.4
	Some college/associate	69.9	65.4	6.9	12.4
	Bachelor degree	81.9	77.1	6.2	13.5
Dallas	Less than high school	62.3	65.7	9.5	11.9
	High school graduate	68.5	65.2	7.4	11.4
	Some college/associate	74.5	70.7	6.8	9.9
	Bachelor's degree	80.6	76.0	3.9	1.6
Denver	Less than high school	58.6	54.9	13.2	14.2
	High school graduate	68.7	66.5	6.5	12.0
	Some college/associate	75.8	78.6	8.3	9.4
	Bachelor's degree	80.1	86.4	3.5	4.2
Detroit	Less than high school	34.5	33.8	21.5	38.8
	High school graduate	56.2	50.6	20.2	26.7
	Some college/associate	67.8	55.4	14.0	18.1
	Bachelor's degree	75.4	64.5	7.9	6.2
Houston	Less than high school	57.8	60.3	11.1	11.0
	High school graduate	66.9	65.8	8.1	10.5
	Some college/associate	71.7	71.3	7.5	9.3
	Bachelor's degree	77.7	74.9	3.7	3.7
Las Vegas	Less than high school	60.9	55.2	19.4	17.3
	High school graduate	68.7	70.4	11.5	13.4
	Some college/associate	72.5	73.5	9.6	10.4
	Bachelor's degree	76.6	72.1	6.6	4.2
Los Angeles	Less than high school	58.1	64.2	13.5	13.9
	High school graduate	64.3	64.6	11.3	12.5
	Some college/associate	70.9	67.7	9.8	13.8
	Bachelor's degree	78.4	80.6	6.6	8.5

Table 13.1. (continued)

		Civilian labor force (%)		*Unemployment rate (%)*	
Metro area	*Educational attainment*	*Metro area*	*Central city*	*Metro area*	*Central city*
Minneapolis	Less than high school	44.6	48.6	20.3	25.4
	High school graduate	62.9	69.6	9.8	12.3
	Some college/associate	78.6	77.0	7.7	12.9
	Bachelor degree	81.8	84.5	4.1	5.8
New York	Less than high school	46.2	42.7	11.2	10.4
	High school graduate	60.2	57.9	8.0	8.2
	Some college/associate	72.2	70.2	9.0	9.9
	Bachelor degree	78.3	79.0	5.6	6.2
Philadelphia	Less than high school	35.1	32.8	13.3	18.1
	High school graduate	59.2	55.7	10.0	12.3
	Some college/associate	71.3	68.4	10.0	10.3
	Bachelor degree	79.0	72.4	4.8	4.7
Phoenix	Less than high school	55.5	54.6	12.2	10.8
	High school graduate	63.5	69.8	9.7	8.6
	Some college/associate	68.7	68.2	8.6	9.3
	Bachelor degree	77.1	82.1	4.8	5.3
San Diego	Less than high school	54.0	55.3	9.6	10.4
	High school graduate	55.6	61.6	9.0	6.0
	Some college/associate	68.3	73.8	8.7	7.0
	Bachelor degree	77.5	83.8	4.7	4.7
St. Louis	Less than high school	41.0	36.4	21.2	18.1
	High school graduate	65.2	59.0	11.8	19.9
	Some college/associate	76.9	72.0	8.0	7.4
	Bachelor degree	79.9	78.6	5.0	8.7
Washington	Less than high school	58.3	49.9	10.9	13.6
	High school graduate	67.8	58.4	8.2	16.5
	Some college/associate	74.3	64.4	5.7	11.2
	Bachelor degree	83.0	83.5	3.5	3.9

Bureau of Labor Statistics 2009, Table 28, www.bls.gov/opub/gp/pdf/gp09_28.pdf.

Metropolitan areas with higher levels of educational attainment are also better able to recover from deindustrialization. The metropolitan areas that experienced the largest increases in unemployment rates during the Great Recession were those that had both large gaps between the educational attainment of the population and the educational requirements of available jobs (that is, high "structural unemployment") and high concentrations of

such industries as wood product manufacturing, textile mills, construction, and transportation equipment manufacturing. More specifically, between 2005 and 2011 the average unemployment rate was about 2 percentage points lower in the metropolitan areas with the lowest education gap and the most resilient industry composition than in the metropolitan areas with the highest education gap and most vulnerable industry composition (Rothwell and Berube 2011).

The Challenge: Low Levels of Workforce Readiness

One reason for the positive relationship between educational attainment and desirable labor-market outcomes is that educational attainment is a measure of the readiness of individuals to perform available jobs. According to one survey of 400 human resource professionals across the United States, employers wish that individuals with all levels of educational attainment had a broader set of basic and applied skills (Casner-Lotto and Benner 2006). But employers' dissatisfaction is substantially greater for workers who possess only a high school diploma than for those who hold at least a bachelor's degree. Nearly half (40 percent) of employers perceive high school graduates to be "deficient" in overall preparation for entry-level employment, with particular weaknesses in such basic skills as writing in English, mathematics, and reading comprehension and such applied skills as written communications, critical thinking/problem solving, and professionalism/work ethic. In contrast, only a small fraction of employers perceive that two-year college graduates (11 percent) and four-year college graduates (9 percent) are insufficiently prepared for the entry-level jobs they hold.

Various other indicators point to the increasing importance of educational attainment to workforce success. For instance, additional results from the survey by Casner-Lotto and Benner (2006) reveal that, over the next five years, a substantial share of employers expect to hire fewer workers who possess only a high school diploma (27.7 percent of respondents). In contrast, more than half (59 percent) expect to hire more four-year college graduates and about half (50 percent) expect to hire more two-year college graduates (Casner-Lotto and Benner 2006).

Given the benefits of higher levels of educational attainment to the economic and social well-being of metropolitan areas and individuals, efforts

to raise college-degree attainment especially among Blacks and Hispanics, individuals from low-income families, and individuals living in our nation's central cities must not only continue but also become more effective. Also, available data suggest the benefits of an approach that increases the emphasis on high-quality educational programs that result in workforce readiness but not necessarily a college degree. Projections of the educational attainment required for future jobs suggest the value to both individuals and local labor markets of credentials beyond high school but less than an associate's or bachelor's degree.

Drawing on data from the Bureau of Labor Statistics and their assumptions about the continued "upskilling" of current jobs (Zumeta 2011), Anthony Carnevale, Nicole Smith, and Jeffrey Stohl (2010) report that 63 percent of jobs in 2018 will require some level and type of postsecondary education. In contrast, only 28 percent of jobs in 1973 required workers with education beyond high school. Moreover, while Carnevale and colleagues estimate that, in 2007, 59 percent of all jobs required some postsecondary education, nearly a fifth (17 percent) of these jobs required some college but not a degree. Of all jobs in 2007, 10 percent required an associate's degree, 21 percent required a bachelor's degree, and 11 percent required more than a bachelor's degree (Carnevale, Smith, and Stohl 2010). Consistent with these estimates, data collected from focus groups and interviews of leaders of large and mid-sized businesses in Texas and Ohio in 2011 suggest that, although a four-year degree may have many benefits, this degree is not required for economic and social prosperity (Farkas 2011).

Employers are also critical of the basic and interpersonal skills of all workers, including those with only a high school education. Among other recent reports (see Perna 2012 for a review), the National Governors Association's 2011 report, *Degrees for What Jobs?*, notes the mismatch between the qualifications of workers and the skills required for available jobs. The report concludes that "businesses and states are not getting the talent they want—and students and job seekers are not getting the jobs they want" (8).

Particularly important is the availability of workers prepared for "skilled jobs," that is jobs that require more than a high school diploma (Carnevale, Smith, and Stohl 2010). Based on their review of labor market trends, Anthony Carnevale and his colleagues predict that the economy will continue a transformation begun in the early 1980s from an industrial to "a new services economy that demands more education and different skills of its workers"

(Carnevale, Smith, and Stohl 2010: 6). The occupations with the greatest projected job openings from 2008 through 2018—management, business operations specialists, financial specialists, computer and mathematical science occupations, architects and technicians, life and physical scientists, social scientists and technicians, among others—all tend to require at least some postsecondary education (Carnevale, Smith, and Stohl 2010).

Changes in technology underlie these changes in the nature of available jobs (Carnevale, Smith, and Stohl 2010). Regardless of the industry, technological changes, particularly changes in information technology, are creating greater demand for "workers with more education" as these individuals "have the expertise to handle more complex tasks and activities" (2010: 15). At the same time, technological changes reduce the demand for workers with low levels of education, by eliminating the need for these jobs across industries (2010). Summarizing the changes in the economy and the implications of these changes for individual workers and metropolitan areas, Carnevale et al. conclude that

> Jobs created in recent recoveries looked nothing like those that were lost, and the people hired for those new positions looked nothing like the people laid off from the old ones. In the past two recessions, the typical job loser was a high school-educated male in a blue collar job, such as manufacturing or construction, working in the middle of the country. In the past two recoveries, the typical job gainer was a female with a postsecondary education who lived on either coast and worked in a service occupation—particularly healthcare, education, or business services. That picture is not changing. (16)

Seven Recommendations for Promoting Workforce Readiness in Urban Areas

Much of the existing research examining the effects of initiatives designed to improve the readiness of workers for current and future jobs has a number of limitations (Perna 2012). Perhaps most importantly, existing research provides few insights into which programs and approaches cause improved outcomes or how existing programs may be producing desired results (Perna 2012). Moreover, existing research not only uses varying definitions of workforce readiness but also considers only a narrow range of short-term

outcomes (typically earnings), ignoring the noneconomic and longer-term outcomes that individuals and society also value.

Nonetheless, one recent review (Perna 2012) identifies many dimensions of the perceived mismatch between the readiness of workers and the skills and qualifications that current and future jobs require. While acknowledging the weaknesses in the existing knowledge base, the volume also offers a number of useful perspectives for understanding how to improve workforce readiness, particularly among workers in our nation's metropolitan areas. The final chapter identifies seven recommendations for preparing students for work that cut across the volume's chapters (Perna 2012). The seven recommendations are the following:

> 1. Provide a range of high-quality educational opportunities that recognize that not all individuals will earn college degrees.
> 2. Develop mechanisms that enable students to choose to participate in different education and career pathways without "tracking" them into specific options.
> 3. Ensure that all individuals have the information and knowledge required to choose the most appropriate education and career pathways.
> 4. Recognize that both generic and specific skills are required for jobs and careers in metropolitan America.
> 5. Develop mechanisms that support meaningful collaboration between education providers and employers.
> 6. Provide the supports and structures required to ensure that students successfully complete the educational programs that they enter.
> 7. Use public policy to encourage and support improved linkages between education and employment. (263)

The first two recommendations recognize that a traditional four-year bachelor's degree program is not the only, or even the ideal, postsecondary educational goal for all students and acknowledges the advantages of the diverse array of postsecondary educational options available in the United States. These two recommendations are also consistent with the Pathways to Prosperity Project's (2011) emphasis on the benefits of multiple high-quality pathways from high school into adulthood. A multiple pathways approach assumes that some type of postsecondary education and training is

increasingly required for economic and social well-being, even if a traditional four-year college degree is not the optimal path for everyone (Pathways to Prosperity Project 2011).

Along the same lines, the volume also notes the promise of various different educational sectors and providers in promoting workforce readiness (Perna 2012). In the United States, a diverse set of educational providers is available to promote the readiness of workers for current and future jobs. These providers include career and technical education, for-profit postsecondary educational institutions, community colleges, and four-year colleges and universities.

Nonetheless, in their current forms, these multiple pathways are not without challenges (Perna 2012). For example, designating career and technical education (CTE) as a viable option requires first overcoming the legacy of the past failure of these programs. Noting the success of CTE in other nations, Nancy Hoffman (2012) describes the potential of career and technical education for effectively preparing youth for productive employment. But as Hoffman and others (Pathways to Prosperity Project 2011) note, attention to career and technical education as a potential effective and productive pathway for promoting workforce readiness requires improving the quality of CTE programs and changing negative perceptions of value of CTE. Along the same lines, William Tierney (2012) discusses the many questions that currently exist about for-profit postsecondary education institutions, including the strengths and weaknesses of relying on for-profit postsecondary education institutions in preparing students (both traditional age and adult) for work.

The third recommendation underscores the importance of improving information and knowledge about available educational and career choices (Perna 2012). Along the same lines, the Pathways to Prosperity report also recognizes the need to provide mechanisms including personalized career and college counseling that enable individuals to identify the option that best meets their goals and requirements. Developing mechanisms that provide individualized counseling that ensures that all students have the opportunity to participate in the full range of options is critical. Such efforts must avoid and correct a history in which low-income students and students of color were disproportionately tracked into career and technical education programs that had consistently poor outcomes, as well as the current tendency of Black, Hispanic, and low-income students to enroll in high-cost for-profit institutions of unknown quality (Perna 2012).

The fourth recommendation pertains to the nature of the education and skills that should be provided. Although "workforce readiness" has not been consistently defined or operationalized, available data and research suggest that workers need both generic and specific skills (Perna 2012). Moreover, existing research demonstrates the positive outcomes that are associated with participation in programs that intentionally connect and integrate vocational training into academic courses. Known as pathways programs, career pathways, and work-based learning initiatives, these initiatives include career academies; Washington State's Integrated Basic Education and Skills Training (I-BEST) program; Youth Corps, Job Corps, and ChalleNGe programs; and the U.S. Department of Labor Youth Opportunities Program.

The fifth recommendation pertains to the relationship between educational providers and employers (Perna 2012). By developing meaningful collaborative relationships with employers, educational providers may help improve students' readiness for work (Perna 2012). Similarly, the Pathways to Prosperity Project (2011) notes the need for greater employer involvement in preparing students for work, suggesting the benefits of employer-sponsored internships and employer assistance with program development. The Pathways to Prosperity Project also observes that a collaborative relationship with employers may improve students' exposure to work environments and provide students with beneficial mentoring and supervision.

The sixth recommendation stresses the importance of enabling students to finish the educational programs that they start (Perna 2012). Regardless of the type of educational program a student chooses, students must also have access to the resources and supports that are required to persist to program completion. As illustrated by the degree completion data in Table 13.2, too few students are completing the postsecondary educational programs in which they enroll. The failure to complete these programs has substantial costs for individuals and society. Individuals lose the real costs of funds invested (via savings, earnings, and/or loans) in tuition, fees, books, supplies, and such, as well as the costs of earnings not received from working rather than attending class. Society loses the costs of financial aid provided to students as well as the funds a state government appropriates to the educational institution to offset the costs of providing the education. "Society"—and metropolitan areas in particular—loses the opportunity to improve the individual's productivity and future labor market contributions, and the resulting enhancements to the economic health and well-being of the community.

Table 13.2. Graduation Rates of First-time Postsecondary Students Who Started as Full-Time Degree-seeking Students, by Sex, Race/Ethnicity, and Level and Control of Institution Where Student Started

	Total		*White*		*Black*	
Level & Control of Institution	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
% completing bachelor's degrees in 4 years (2002 start)						
All 4-year institutions	31.3	40.5	33.8	43.9	14.7	24.3
For-profit institutions	17.0	11.6	20.9	14.0	11.8	8.7
Public institutions	24.5	34.3	26.6	37.2	11.0	20.9
Not-for-profit institutions	46.3	54.7	49.1	57.8	22.9	34.0
% completing bachelor's degrees in 6 years (2002 start)						
All 4-year institutions	54.1	59.7	57.3	62.5	34.0	44.2
For-profit institutions	23.6	20.5	27.8	23.1	16.6	16.1
Public institutions	51.7	57.5	54.4	59.9	32.9	43.7
Not-for-profit institutions	61.9	66.7	64.8	69.1	38.6	49.4
Open admissions	25.4	28.6	31.2	34.4	14.8	21.1
90 percent or more accepted	42.5	48.8	44.9	51.2	26.0	33.6
75.0 to 89.9 percent accepted	51.3	57.2	53.8	59.6	34.9	44.2
50.0 to 74.9 percent accepted	56.4	62.7	59.5	65.5	36.9	48.4
25.0 to 49.9 percent accepted	71.0	74.7	77.2	80.2	39.8	51.7
Less than 25.0 percent accepted	82.3	83.5	84.5	84.4	53.4	60.8
% completing certificates or associate's degrees within 150% normal time (2005 start)						
All 2-year institutions	25.3	29.3	27.0	29.9	18.6	25.2
For-profit institutions	57.7	57.7	64.8	61.6	43.1	49.4
Public institutions	19.9	21.2	22.1	23.8	12.0	12.1
Not-for-profit institutions	44.5	51.3	49.1	54.9	38.7	44.9

National Center for Education Statistics (2011). Digest of Education Statistics 2010, Table 341.

Finally, available data and research also point to the role of public policy in encouraging and improving workforce readiness (Perna 2012). Among the promising public policies are those that include attention to sectoral initiatives that promote the development of human capital in a metropolitan area (Wolf-Powers and Andreason 2012), as well as government support for other workforce training initiatives (Holzer 2012). A component of broader or regional development strategies, sectoral initiatives typically involve collaborations between employers, educational institutions (such as community colleges), and industry representatives (such as economic devel-

Hispanic		*Asian/ Pacific Isander*		*American Indian/ Alaska Native*		*Non-resident alien*	
Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
21.8	29.9	37.4	47.4	17.2	23.0	36.6	41.0
20.1	18.1	33.3	23.9	17.6	6.0	4.0	3.1
15.8	23.4	30.4	40.8	12.7	18.5	30.3	37.0
38.8	47.8	57.6	63.6	32.1	39.9	50.6	59.2
44.1	52.5	64.0	69.8	35.1	40.7	53.9	56.7
26.7	28.3	38.4	31.3	23.5	12.0	11.7	13.0
41.4	50.0	61.3	67.7	32.2	38.3	52.5	59.0
55.4	62.2	73.8	76.3	46.6	52.1	65.4	71.5
21.9	29.0	31.8	28.9	12.1	14.6	17.3	16.4
28.5	38.5	51.1	54.8	33.0	37.2	48.8	58.5
42.1	50.4	52.5	58.1	29.7	37.1	53.0	62.2
46.4	55.9	61.7	68.2	42.8	48.1	56.8	61.9
57.7	65.2	79.4	84.5	61.2	71.5	72.9	77.4
80.4	87.3	91.2	94.8	72.4	80.2	89.6	91.9
21.8	28.6	28.4	34.6	23.4	25.9	29.4	34.8
57.5	63.3	65.7	65.8	56.3	55.7	56.3	58.6
14.6	16.4	23.5	28.2	18.7	17.8	27.4	32.2
42.9	49.6	43.7	40.1	10.4	18.0	47.7	55.2

opment agencies or industry associations) and focus on preparing students for employment in targeted industries and occupations. State and local governments can encourage the development of sectoral initiatives that improve workforce readiness within a metropolitan area by strategically investing resources that incentivize such initiatives (Wolf-Powers and Andreason 2012). Public policymakers should focus available resources, including technical assistance, on initiatives designed to improve the connections between education and employment among individuals within a metropolitan area who are least prepared to meet workforce demands, that is those

with the lowest educational attainment (Holzer 2012; Wolf-Powers and Andreason 2012). Through the federal Elementary and Secondary Education Act (ESEA), the Workforce Investment Act (WIA), the Perkins Act, and other legislation, the federal government should allocate grants that encourage the development of education-employment connections in our nation's metropolitan areas (Holzer 2012).

Some data indicate the benefits of initiatives designed to promote the readiness of workers in particular industries. Such approaches may be particularly appropriate for addressing the upskilling of jobs that is occurring in response to technological changes, as described earlier in this chapter and identified by Carnevale, Smith, and Stohl (2010). For instance, sponsored by the U.S. Department of Labor Employment and Training Administration, the High Growth Job Training Initiative awarded 161 grants between 2001 and 2007 to create industry-focused job training and capacity-building projects (Eyster et al. 2010). About one-fourth of grantees were in the health care sector (24 percent and one-fifth were in advanced manufacturing (21 percent). All initiatives included attention to job training, which was typically provided via apprenticeships or internships. Most initiatives included activities designed to increase the quantity and quality of training and education programs for preparing workers in the targeted industry (for example, creating new curricula and pedagogical approaches, establishing career training models, recruiting more students for the programs, increasing the number of instructors, and so forth). Although various forces limited the extent to which evaluators could isolate the effects of the program on various outcomes, descriptive analyses suggest that participants in these programs realized small improvements in employment and earnings (Eyster et al. 2010).

Concluding Note

The current and future economic and social vitality of our nation in general and of many of our nation's metropolitan areas in particular depends on the readiness of its residents to work available jobs. Yet, as measured by educational attainment, the readiness of many workers, especially those in metropolitan areas that are experiencing deindustrialization, is problematically low. While increasing bachelor-degree attainment is an important and worthwhile goal, available data also suggest the benefits to individuals and

metropolitan areas of increasing the shares of students who are completing other high-quality education and training programs. Institutional and public policymakers should carefully consider not only the ways to use available resources to promote educational attainment but also the potential contributions of multiple educational sectors and providers for improving the connections between workers' skills and the requirements of current and future jobs. Although more research is required to understand more completely "what works" and how and why particular initiatives produce beneficial results, this chapter offers suggestions to guide future efforts in this area.