Ohio was once known as a place where many people could find good jobs and live in strong communities; a vibrant manufacturing sector created on-ramps to the middle class for countless families. In the middle of the last century, millions left Appalachia and the south for work in Midwestern industrial centers like Dayton, Cleveland, Toledo, Youngstown and other Ohio cities. National Cash Register, GM, and Frigidaire provided opportunities to work. Strong unions helped ensure that many of these workers received a family-sustaining wage for their labor. While many women and people of color were excluded from the best opportunities, black workers had much higher median wages and many more job opportunities than African Americans in many other parts of the country.¹ The state’s renowned universities, community colleges, and apprenticeship system helped ensure that Ohio workers were well prepared for available opportunities. This was no accident; post-depression policy ensured that many Americans had access to the American Dream. The original G.I. Bill alone sent more than 7.8 million WWII veterans to college, graduate school and vocational training.² Between 1944 and 1952, VA backed loans put 2.4 million veterans in homes of their own.³ Our economy was built on making things, investments prioritized workers at all skill levels, and we were all rewarded with broadly felt economic growth.

Ohio’s economy is changing. Over the last decade, many of the jobs that brought people to the state and supported families’ climb into the middle class have disappeared. Even though the recession officially ended in the summer of 2009, unemployment remains persistently high. In October 2011 more than 526,000 Ohioans were unemployed.⁴ Even with this surplus of labor, many employers reported unfilled job openings and difficulty finding and retaining qualified workers.⁵

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³ Id.
In this report, we examine Ohio’s changing economy and whether Ohio is well positioned to meet the shifting skill demand. After examining job losses and job growth projections by sector and education attainment, we find that Ohio has projected education attainment gap for workers with some post-secondary education but less than a college degree, and for workers with a college or higher level degree. Ohio is also projected to have a surplus of workers with high school degrees or less. The state is not making the training gains it needs to make. At the same time, unfortunately, the state is losing jobs. So the proportion of new workers who will need post-secondary training is shrinking, not because we’re doing a great job with training but because we’re losing employment.

### Training Classifications

This report examines unemployment data, 2008 employment data and the 2018 Ohio industry employment projections. Similar reports use the terms low-skill, middle-skill, and high-skill to categorize jobs by the standard level of education attainment in the industry. This classification system too easily confuses the level of skill needed to master an occupation with the level of formal education required by the occupation. Using terms that seem to refer to the nature of the workers’ skills and not the required level of educational attainment can lead to erroneous assumptions about the nature and value of the work, particularly with jobs classified as middle-skill.

For example, aircraft mechanics and cabinetmakers must master a diverse, complex set of skills to competently perform their jobs; both clearly demand a high level of skill and some artistry from the worker. In fact, many of the occupations that are often classified as middle-skill require extensive training through apprenticeship and journeymen programs, which can last from three to 12 years. Yet these occupations are sometimes classified as middle-skill occupations because they do not require workers to possess a four-year degree.

To avoid this confusion, we eliminate the reference to skills and explicitly classify occupations based on the minimum training typical of the job.

- **High school or less** – occupations that do not require credentials beyond a high school education.
- **Post-secondary** – occupations that require training or credentials beyond a high school diploma but less than a four-year degree, such as apprenticeships and associate degrees.
- **College or more** – occupations that require, at minimum, a four-year college degree.

### A decade of job loss

Ohio’s economic ills did not begin with the recessions of the past decade but the 2001 and 2007 recession exacerbated long term trends. The state has yet to recover from the 2001 recession; we have lost 482,300 jobs since that recession began in March 2001. When the Great Recession began in December 2007, Ohio had 5,421,400 jobs. Ohio experienced 28 months of job loss, and recovery has

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7 *Id.*
been painfully slow, with the state adding only 58,000 jobs since the recession officially ended in June 2009. Figure 1 shows the total number of nonfarm civilian jobs in Ohio since January 2000 through October 2011. Highlights roughly mark the 2001 recession, March 2001-November 2001, the implementation of the 2005 tax overhaul, and the most recent recession, December 2007-June 2009.

Nearly all sectors lost ground or had very slow growth over the last decade. Health and education occupations in the private sector made gains of more than 26 percent. This growth was, in part, due to increasing use of education vouchers, which move resources and jobs out of the public school system into the private education system. The “other services” sector, which includes occupations in repair and maintenance, laundry, personal services, and membership associations, also experienced above average growth, 11 percent.

Since the start of the 2001 recession Ohio has lost 350,000 manufacturing jobs – a loss of more than 35 percent – construction jobs are down 28 percent and information occupations evaporated with the tech bubble, dropping more than 28 percent. Transport, and utility work is down nearly 14 percent.

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8 Id. 
9 Id. 
10 Id. 
11 Id.
percent.\textsuperscript{12} As Figure 2 shows, the manufacturing, construction, and trade transport and utilities sectors experienced the highest losses in Ohio.

![Figure 2: Percent change in Ohio jobs by sector from the start of 2001 recession](http://jfs.ohio.gov/releases/unemp/201110/unemppressrelease.asp)

Much of Ohio’s job loss occurred in sectors considered on-ramps to the middle class: manufacturing, construction, trade and transport. These losses eroded post-secondary level occupations that require some training beyond a high school diploma but less than a four-year college degree.\textsuperscript{13}

**Ohio’s unemployment crisis and the skill gap**

Not surprisingly, unemployment in Ohio has remained high. In October 2011, the state’s unemployment rate stood at 9 percent, an improvement of only 0.8 points since September 2010.\textsuperscript{14} The U.S. unemployment rate was also 9 percent in October 2011. Figure 3 shows U.S. and Ohio unemployment rates since January 2000.\textsuperscript{15} Overall, Ohio’s rate has tracked the U.S. trends, mimicking the gains and losses of the national economy. However, the national numbers were marginally better than Ohio’s from early 2003 through 2010.

\textsuperscript{12}Id.

\textsuperscript{13}See also, National Employment Law Project, “The Good Jobs Deficit: A Closer Look at Recent Job Loss and Job Growth Trends Using Occupational Data,” p. 1, Data Brief, July 2011, available at [http://bit.ly/pyxQRy](http://bit.ly/pyxQRy). The National Employment Law Project found that 60 percent of the net employment losses between the first quarter of 2008 and the first quarter of 2010 were in mid-wage occupations that pay a median hourly wages range from $13.53 to $20.66. The study also found that 21.3 percent of losses were in lower-wage occupations ($7.51 to $13.52), and 18.7 percent were in higher-wage occupations ($20.67 to $53.32). Id.

\textsuperscript{14}Policy Matters Ohio, September Job Watch, *supra* at note 5, based on BLS Current Employment Statistics data, *supra* note 3.

\textsuperscript{15}Id.
In October 2011, 526,000 Ohioans were unemployed. Yet headlines regularly feature employers decrying a lack of job applicants and out-of-control turnover. This paradox is often laid at the feet of the recently displaced and unemployed. The workers simply lack the skills to compete in today’s job market, the story goes. The available data on wages and unemployment, however, do not support this explanation.

Sinking wages suggest that a skill gap is not driving unemployment. When workforce skills are in short supply, economists expect wages for employed workers with in-demand skills to rise in accordance with basic supply and demand principles. This is not reflected in the data.

Since the start of the recession in 2007, median wages decreased for workers possessing less than a high school diploma (-2.3 percent). Workers with a bachelor degree or a high school diploma made very modest gains of 2.2 percent and 2.5 percent respectively. Workers with more than a high school education but less than a bachelor degree, the segment of the workforce frequently cited as falling into the skill gap, saw the largest drop in median wages, 6.7 percent. If employers were experiencing a shortage of workers with this level of educational attainment, wages among this group would be on the rise as employers compete to secure scarce workers. Figure 4 depicts these changes.

16 Supra at note 4.
17 Gains made since the great recession are all but erased when wages are compared to pre-2001 levels. Over the last decade, workers with less than a high school diploma saw a 6.07 percent loss in wages, workers with a high school diploma saw a 1.37 percent gain, workers with a minimum of a college education saw a .12 percent wage gain, and workers with some post-secondary education saw the biggest wage decline losing 10.87 percent according to Policy Matters Ohio and the Economic Policy Institute based on Current Population Survey data.
Since the start of the 2007 recession, there has been minimal demand for workers with a high school degree or with a four-year college degree or more. Workers possessing post-secondary, or some college education lost the most ground.

As of December 2, 2011, there were 77,101 job postings on the “Ohio Means Jobs” website.\(^8\) If every job posting were suddenly filled, slightly less than 15 percent of our state’s unemployed workers would be employed, providing a job for fewer than 1 out of 7 unemployed workers.\(^9\) There are simply not enough jobs for the number of people seeking work.

As Ohio shed jobs, surplus labor increased and the demand for workers fell, as did wages. The wage data echoes the jobs by sector data: Ohio is losing job opportunities that support people working in the middle of the economy. In 2008, goods-producing jobs accounted for nearly 18 percent of all Ohio jobs, by 2018 only 16 percent of all work will be goods related. The service sector is projected to expand, growing more than 7 percent to account for 78 percent of all jobs by 2018. There appears to be a gradual hollowing out of our state economy.\(^5\)

\(^{18}\) The “Ohio Means Jobs” website is a partnership between the state of Ohio and Monster.com. The website aims to be the central source for job postings and employment matching in the state. Search included all jobs in Ohio.

\(^{19}\) This comparison is useful in demonstrating the depth of our state’s unemployment crisis but it is an illustration built on estimates and assumptions. The example assumes all the jobs listed on the Ohio Means Jobs website are active and open positions, not duplicates or expired postings. The numbers in the text are also rounded figures. The job listings would cover 14.7 percent of Ohio’s unemployed, a ratio of 1 job for every 6.8 unemployed workers.

\(^{20}\) Compare to Harry, J. Holzer and Robert I. Lerman, “America’s Forgotten Middle Skill Jobs,” The Workforce Alliance, November 2007, available at [http://www.urban.org/UploadedPDF/411633_forgottenjobs.pdf](http://www.urban.org/UploadedPDF/411633_forgottenjobs.pdf). Holzer and Lerman examined pre-great recession, national job and skill projections to conclude that the hollowing out of the middle of the US economic was likely exaggerated. Ohio’s numbers appear to be heading in the opposite direction.
Skill gap, or changing HR practices?
A closer look at anecdotal reports of skill shortages uncovers alternative explanations for the employers’ perceived skill shortages. Researchers from Case Western Reserve University, Stanford University and Policy Matters Ohio collaborated to study the health and future needs of the U.S. automotive supply chain. The research team collected data through interviews, plant tours, trade association meetings, and five extensive surveys. Ultimately collecting data from over 800 firms, the project is the most comprehensive study of the automotive supply chain in over a decade.

The study revealed that resource-strapped human resource departments often perceive skill shortages where they may not exist, among other complications. The study found that four common scenarios often lead an employer to perceive a skills shortage:

Unintended consequences of lean and mean production – Human resources departments often bear the brunt of downsizing. Almost all firms that participated in the survey made reductions in HR, leaving remaining staff with less time and resources to properly seek and screen job applicants. As a result, qualified candidates for a position may exist, but a firm may have trouble finding them. This is complicated by the computerization of the job application process. Due to the ease of transmitting an electronic application and an increase of job seekers, HR departments must manage far more applications per opening than in past decades. Key word searches have become an accepted way to manage the influx. Applicants with near equivalent skills or someone with skills but without a formal degree will be passed over in initial screening.

Failure to pay a competitive wage – Firms that want skilled labor and high-quality employees must be willing to pay for them. Job loss and high unemployment can drive wages down, as there are fewer jobs available and more potential workers. A firm, particularly with a skeleton HR department, may misread the market and fail to offer a competitive wage for a skilled position. The survey found that managers at low-wage firms reported skill shortages, whereas firms paying average or higher wages for similar work reported no such shortage.

Failure to invest in human capital – In some situations, the reported skill shortage was genuine, meaning workers at the firm lacked certain specialized skills. This is the situation captured in the “purple squirrel” problem, where an employer is seeking a candidate so highly specialized that it is essentially seeking a purple squirrel, a creature so unique it does not naturally exist. Some firms find themselves in this situation because there was a failure to “skill up” incumbent workers. Investment in human capital is sometimes seen as a luxury or a low priority. The return on the investment can be difficult to quantify or can be seen as accruing to the worker and not the company. Thus firms defer investments that could resolve specific skill shortages.

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21 Federal Department of Labor funded research teams in Ohio, Michigan, and Indiana to study workforce needs and economic competitiveness throughout the American auto industry. This work has produced a number of reports that can be found at www.drivingworkforcechange.org, and this research will inform federal decisions on workforce development policy.


23 See, Peter Cappelli, supra at note 5.
Genuine geographic skill gap – In some situations, the survey uncovered genuine geographic skill gaps. This scenario may grow as more firms locate to rural areas or elsewhere to cut costs. For example, the survey found that employers in regions relatively new to auto supply manufacturing, such as Cincinnati, reported skill shortages, while regions with historic roots in auto manufacturing did not. Compounding the problem is the fact that the housing crisis has reduced people’s ability to sell their homes and relocate for a job. Reduced mobility can exacerbate a geographic skill shortage.

While it is likely that very real skill shortages exist in particular regions of the state and in particular industries, economic indicators do not suggest that the gaps are pervasive enough to be a driver of the current unemployment crisis.

Projected job growth and loss
Although Ohio’s persistently high unemployment rate does not appear to be driven by an underlying skill gap, workforce skills are critical to Ohio’s economic future. The existence of a well-trained labor pool is a central factor in attracting and retaining employers. Investments in training are also linked to better firm performance, even in times of economic contraction. The auto supplier survey, for example, revealed that firms that made investments in workforce training and paid competitive wages fared better through the recession than firms that responded to the economic downturn by cutting costs and jobs.24 Readily accessible opportunities for vocational training and education are also essential to building strong communities and creating pathways out of poverty and into the mainstream economy.

Job projections from the Bureau of Labor Statistics (BLS) suggest that Ohio will be narrowing the worker-to-job gap in the crucial post-secondary level occupation category, in part because fewer jobs will require that particular level of education. Jobs requiring a college level or higher degree or a high school diploma or less are also projected to grow. Still, even with a shrinking post-secondary occupation sector, the vast majority of all work in Ohio requires some education or training beyond a high school diploma.

24 Id.
In 2008, more than 50 percent of all work in Ohio required some education beyond a high school diploma but less than a four-year college degree. Figure 5 breaks down Ohio jobs by education attainment as of 2008.
By 2018, the overall mix of education levels in Ohio’s job market is projected to change slightly. The majority of jobs will still require some education beyond high school but less than a college degree. However, these occupations will account for a smaller share of all available jobs, 48.6 percent – a slight decline from 50.9 percent in 2008. Jobs at the bottom and at the top of the economy, in terms of education attainment will expand slightly as a share of available jobs. Figure 6 breaks down the 2018 employment projections by education attainment, while Table 1 compares 2008 figures with 2018 estimates.
As Table 1 shows, the change in the share of jobs held by post-secondary level occupations is due to a continuing loss of these jobs, combined with greater growth in the less-educated and more-educated job categories. As Figure 7 shows, the number of post-secondary level occupations is projected to essentially remain stagnant, shrinking by a miniscule .4 percent in actual numbers and, as Table 1 shows, by 2.3 percent in share of occupations. Much of this decline is due to projected losses in production/manufacturing. Figure 7 also shows the projected change in jobs, from 2008 to 2018 by educational attainment.
The projections suggest very modest growth, 4.3 percent, in jobs across the board. Occupations requiring a high school diploma or less, or the minimum of a college degree are projected to grow more than 9 percent while the post-secondary category remains essentially stagnant.

Peeling back the broad categories to look at projected changes by major occupation categories, Figure 8 shows big losses in production, farming, fishing and forestry and very minimal growth in installation, maintenance and repair, and transportation and material moving occupations.

Even with the projected changes, in terms of skill needs Ohio’s economy will continue to look like an oval instead of an hourglass, with the majority of jobs falling in the post-secondary education range. Ohio needs to boost education attainment to keep closing existing skill gaps and to maintain the
state’s real competitive advantage, a well-trained, highly skilled workforce. Figure 9 shows that only 48 percent of Ohioans had a two-year post-secondary credential or more in 2009.

In 2009, 28 percent of Ohioans possessed at least a bachelor’s degree. In 2008, 29 percent of jobs required a college degree or more. The share of college-level jobs shrank in 2009 to 28 percent but these jobs are expected to grow, increasing the demand for workers with at least a four-year degree.

Jobs that require a high school diploma or less are also projected to grow in the post-recession economy. These jobs are often poorly paid. Further, even with expanding opportunities for work, there will be too many Ohioans seeking the available positions because they are locked out of jobs that require greater skills. Too many Ohioans have not been able to get education beyond high school, leaving them with few options for good jobs in Ohio’s post-recession economy.
Conclusion and recommendations

The BLS jobs projections data suggest that the hollowing out of the Ohio economy, which was exacerbated by the 2001 and 2007 recessions, will continue. Ohio’s biggest losses are projected to occur in production/manufacturing. Transportation and material-moving will also see declines. Installation, maintenance, and repair will see very minimal growth. Overall, the job projections are bad news for the state as the heaviest losses are in occupations that often lead to family-sustaining wages for manageable educational investment.

The shrinking share of post-secondary level jobs should not be viewed as a reason to reduce investment in education and training. On the contrary, the BLS data is a call to action both to boost educational attainment across the state and to directly address our lagging economy. The BLS job projections are just that: projections. Changes to state and federal policy can change our trajectory and the state needs to change its trajectory.

Policymakers at the state and federal levels should reinvest in Ohio’s middle class economy. The decline in manufacturing that is driving Ohio’s job loss is a complex problem that demands multifaceted solutions. Similarly, Ohio cannot retain its primary competitive advantage, our highly skilled workforce, if we are not bringing more Ohioans into skilled work. Economic development and workforce training must be part of the same dialogue. The following recommendations focus on spurring job growth while building skills.

Develop sector partnerships

Workforce advocates of all political stripes have called for better alignment between the workforce training system and employers. The workforce policies arising from this call to action tend to cater to employer needs, through vouchers and tax incentives, but fail to build bridges between employers and the public institutions that can help them navigate their HR needs and build vibrant businesses.

As an answer to this call, the Kasich administration has proposed a $50 million voucher program for incumbent worker training. Vouchers will go directly to employers or workers and cover a portion of training costs. This program may meet some individual employers’ needs but without substantial...
rulemaking it will not help build the kind of industry/public partnerships that can enhance employer performance, reduce HR burdens, and strengthen sectors. In the same vein, the state has outsourced much of its economic development function to the quasi-private JobsOhio, leaving programs that connect economic development to workforce training, like the workforce guarantee program, at the Ohio Department of Development. Without a clear structure and designated liaisons between the entities, workforce maybe left out of the development conversation. Neither initiative presents a statewide strategy for integrating workforce-training resources with economic development.

Pennsylvania provides an alternative model with the state’s Industry Partnerships program. In 2005-06 Pennsylvania designated $20 million in state revenue funds, and $10 million in WIA funds to support Industry Partnerships, which bring together employers from a single regional industry or sector with state workforce practitioners, and nonprofit workforce advocates to identify common needs and obstacles. The Pennsylvania program has had more than 80 partnerships, assisted more than 6,000 firms and created curricula and credential outcomes for community college and WIA training programs. Workers trained through Industry Partnerships on average saw a 6.62 percent increase in wages within the first year after training. Pennsylvania used sector partnerships to guide its state workforce programing.

Ohio’s manufacturing sector has been decimated. State support for manufacturing sector partnerships could help revive and strengthen the sector. A partnership targeting regional auto-supply chain manufacturers could help take the pressure off the HR function for small and mid-sized tier producers, making all partners more competitive. Partnerships could also help firms identify and implement policies to improve overall firm performance. Ohio’s Manufacturing Extension Program (MEP) already provides assistance in assessing and accessing internal needs, management training, and long-term strategic planning. MAGNET and TechSolve assist with identifying and solving technology problems. A well-supported state-initiated auto-supplier network could bring all these potential partners to the same table. Ohio could have the best minds in the state working to preserve and protect our auto-manufacturing sector. Linking participation in the partnership to competitive funds for capital investment could promote participation and implementation.

Create pathways out of poverty
Ohio has too many people stuck at the bottom of the economic ladder. Post-secondary training once lead to a full-time job, with family-sustaining wages and benefits. This is no longer true. Wages for that segment of the workforce and the jobs that once allowed many families to climb into the middle class have eroded. As the incentives of a good job and security have evaporated and the cost of post-secondary education has increased, many will not make the investment.

Ohio needs to lower the cost of obtaining a post-secondary credential and make training or re-skilling a viable option for working Ohioans. Ohio’s workforce system could better coordinate state and federal funds for workforce training. Currently WIA, TANF, Pell, and TAA provide some cash

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assistance for training. Using the right pool of funds for the right training could help the assistance go further in their education.

Accelerated training programs that integrate basic or remedial education with vocational training could also deliver more skills per education dollar invested. Washington state has made real progress in integrated learning with the Integrated, Basic Education and Skills Training program (I-BEST). Students no longer have to complete a series of basic skill courses before entering technical training. I-BEST students have access to integrated training and receive remedial education while training for a career. The program is at all Washington community colleges.

Training programs need to conform to the realities of the adult workforce. If Ohio is to make gains in bringing up the skills of our workforce we must have career pathways and buildable credentials. Few working adults have the time or resources to complete a traditional four-year degree. Stackable credentials helps adults reach measurable educational attainment goals and manage their lives. Stackable certificates and credentials can lead to associates degrees, bachelor’s degrees, or professional degrees. Adults can earn a credential, return to work or manage family needs, then return to school and build their education. Wisconsin’s Shifting Gears initiative identified training needs in critical sectors and developed training and credential pathways to meet those needs.

The Greater Cincinnati Workforce Network has accomplished many of these recommendations at the regional level. The program brings together employers, advocates, and policy researchers, to close skill gaps in priority industries, and to improve and coordinate support services. The state should bring this model to scale.

Pave the high road
The state should encourage high road employment practices. The promise of decent wages and benefits would drive many Ohioans back to the classroom or to the apprenticeship floor. Too often state and local tax incentives have been doled out with little regard to the quality of job being sustained. A now-notorious example is the state giving $8 million in incentives to Bob Evans to help the company move its corporate headquarters from South Columbus to New Albany. Not only did the deal pit neighboring cities against one another in the incentives race but it also supported a company that offers “shabby” pay and benefits, as described by Governor Kasich, who authorized some of the largesse. The state cannot afford the low-road model of economic development.

State incentives, whether they are in the form of tax credits or training vouchers, should come with strings attached. Training subsidies should prioritize sector partnership participation and/or credentialed training. Tax incentives should be available to employers who pay livable wages and decent benefits.

High road firms have generally fared better during the economic downturn. Ohio cannot compete with low road job creation. Firms in Asia and the Southeastern U.S. will always undercut Ohio firms.

on labor costs. Promoting high road practices protects our true competitive advantage, a highly skilled workforce.

Pass and preserve federal legislation that supports Ohio’s middle class, promotes skills The American Jobs Act would bring much needed investment to the state; creating jobs and modernizing our infrastructure. Key investments in Ohio would include more than $1 billion to improve our highway and transit infrastructure, creating an estimated 13,700 jobs; more than $1 billion to keep teachers and first responders on the job, retaining an estimated 14,000 jobs; $9.85 million to modernize schools, creating an estimated 12,000 jobs; and $577.2 million for rehabilitating foreclosed properties.30 Passing the Jobs Act would help Ohio retain and grow post-secondary level jobs. Failing to pass the Act or only passing the tax credit and incentives portions of the Act will only delay Ohio’s recovery.

Protect Workforce Investment Act and Pell Grant funding. Workforce Investment Act funding has been declining for years. Ohio’s WIA allotment was reduced more than 13 percent in the last budget. The House Majority’s Labor, Health and Human Services, and Education draft bill contains devastating cuts to the programs. The bill shifts WIA’s funding year from a program year to a fiscal year scheme. This seemingly innocuous change will eliminate $2.2 billion in WIA funding for FY2012. The same bill would cut Pell grants by $44 billion over the next ten years, eliminating grants for more than 550,000 students next year. WIA and Pell are programs that create pathways into viable careers. Ohio should protect funding for these critical programs.