

I. Introduction

The recent national recession has altered the economic and workforce landscape for years to come. The manufacturing sector is near the bottom of a long-term decline, displacing generations of middle class jobs, and the auto industry is one of the hardest hit.

In 2009, automotive sales were only 10.4 million units—the worst year for the market in almost 30 years. Correspondingly, U.S. production levels fell to just 5.7 million units, the lowest level since 1982. The economies of Indiana, Michigan and Ohio depend heavily on automotive and parts production, accounting for 44 percent of all U.S. production in 2009 and nearly 47 percent in 2010. As a result, the automotive crisis and broader economic recession hit these three states particularly hard.

While the U.S. transportation equipment manufacturing (TEM) industry, as measured by automotive and parts employment, declined 50.4 percent between 2000 (the most recent peak) and 2010, automotive and parts employment in Indiana, Michigan and Ohio fell by 57.8 percent. In Michigan alone, auto industry employment contracted 64.1 percent. Also, the Detroit Three (Chrysler, Ford and General Motors) have lost significant U.S. market share in the past half century. Whereas the Detroit Three's share of the U.S. market was 65.6 percent in 2000, it had declined to 45.1 percent by 2011.¹

It is highly unlikely that the losses in motor vehicle and parts employment attributable to structural changes will be mitigated in the near future. However, some employment recovery is evident

since the employment losses due to the cyclical downturn. Since the low point in June 2009, motor vehicle and parts manufacturing has added almost 50,000 jobs, reaching 577,100 in January 2011.²

It is important to remember that the automotive industry's restructuring was well underway when the financial crisis hit in the fall of 2008. Already, many automotive manufacturing and supplier plants had been shuttered, and communities were dealing with the impact of thousands of workers who had been bought out, retired or laid off. It is fortunate that the industry's underlying demographics meant that a large portion of the workers were able to retire rather than be laid off, as would have been the case in previous recessions. However, the crisis and the subsequent government-orchestrated bankruptcies of both General Motors and Chrysler accelerated the workforce transition, leaving the industry forever changed. For many workers, their jobs were gone, and they weren't coming back. For talented younger workers who might have considered an automotive career, the instability of the industry has led them to look elsewhere.

The automotive industry is also facing pressures to produce greener vehicles that meet higher fuel economy and greenhouse gas emission mandates, stricter safety regulations, and consumer demand for greater safety, connectivity and entertainment. Developing, engineering and manufacturing these advanced vehicle technologies drives the transformation of the workforce and skill needs as well.

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¹ Automotive News Data Center, www.autonews.com. Data reflect year totals of core Detroit Three brands.

² Bureau of Labor Statistics, “Current Employment Statistics.” Data reflect NAICS 3361 and 3363, March 2011.

In some cases, it means the industry is seeking new employees with a brand new set of skills; in others, it means adding more of certain types of workers already employed by the industry; and finally, it means upgrading the skills of the incumbent workforce to handle the increased complexity of the products and processes. Educating and training the automotive workforce was made all the more difficult because many internal corporate training programs were cut back or suspended, partnerships with outside organizations and educational institutions were put on hold, and many workforce development efforts were shelved during the crisis.

The federal government has invested heavily in the resurgence of the automotive industry, and a large portion of the recent public and private automotive investments have been made in the three states of Indiana, Michigan and Ohio. The tri-state region has attracted new investments from existing employers, as well as new automotive-related industries (such as energy storage) and other new entrants to the automotive market.

New opportunities are arising in other sectors of the green economy. Investment drives innovation and ultimately results in more jobs. While the automotive industry may never return to previous employment levels, there is a future for substantial automotive and green employment in the tri-state region. Preparing a skilled green workforce for automotive and related green industries should remain a priority in this region for years to come.

1.1 This Study: Rationale and Objectives

At the outset of this study, there was limited understanding of the specific nature of the transformation and skills relevant to efficient and renewable vehicle technologies and other career opportunities in the green economy. In the last two years, job losses in the TEM industry, as well as the national recession and its aftermath, have impacted Indiana, Michigan and Ohio particularly hard. This has led to an overwhelming number of mass layoffs, forcing states to seek emergency assistance from the federal government to serve dislocated workers. Approximately 70 percent of employees in

manufacturing have a high school diploma or less³ and are finding it difficult to compete for current job opportunities in high-growth and high-demand industries.

In order to more effectively serve the large numbers of dislocated auto industry workers and those at risk of losing their jobs, Michigan, Ohio and Indiana formed the Driving Change consortium to investigate this matter and provide analysis to:

- **Characterize the structural transformation** from the “old” auto industry to the “new” auto industry and identify new skill and training requirements
- **Identify the auto parts supply chain impact** of auto industry structural transformation
- **Find alternative career path opportunities** for dislocated auto and auto parts workers for jobs in demand, including those in the green economy
- **Determine current and projected skills gaps** of the auto and auto parts workforce and the required training needed to compete for jobs in demand and green job opportunities

The consortium offers its findings to those in the workforce, industry and education arenas with the anticipation of fostering ongoing collaborative efforts between these fields for the benefit of all and the economic well-being of the region. 

³ American Community Survey, U.S. Census Bureau