

WEST MICHIGAN VIEWPOINT

Where Can All the Autoworkers Go?

The magnitude of Michigan's loss of auto jobs during the past nine years is nothing short of breathtaking. As of September, the state's auto manufacturers and auto parts producers employed only 115,000 workers, down from 332,600 for the same month in 2000, a 65 percent drop. And during the past two years the rate of decline has only deepened, as a result of the harsh global recession.

Many of these jobs will not come back to the state even when the nation's auto industry returns to its prerecession production levels. The industry continues to migrate to the South, and automakers continue to achieve productivity improvements and develop fully integrated global supplier networks that will limit domestic job growth. Moreover, among auto manufacturing companies the state has been particularly dependent upon the Detroit Three, which have continued to lose market share throughout the decade. This leaves the state's displaced autoworkers facing the following set of reemployment strategies:

- Seek jobs performing similar tasks elsewhere in the nation's shrinking manufacturing sector.
- Look for new occupations that can utilize their existing set of skills in both manufacturing and the service-providing sector.
- Upgrade their abilities so that they can take high-skilled positions in "advanced" manufacturing.
- Retrain for entirely new occupations in growing fields such as health care.

Team assembly and other assembly and fabricator positions account for 43 percent of all jobs in the motor vehicle assembly sector—essentially automotive assembly plants—and 18.4 percent of jobs at motor vehicle parts manufacturers (Table 1). Therefore, as layoffs occur in the auto industry, those predominantly affected will be workers whose experience and skill sets are primarily focused on team assembly activities. Machine operators, general laborers, material handlers, painters, and other semiskilled workers make up a large portion of the remaining positions and will face similar challenges.

As displaced autoworkers in these occupations look elsewhere for employment, they will be challenged by the overall slow-

down across all manufacturing industries and, if they do find similar production positions, will likely be offered significantly lower wages. Manufacturing employment plunged by 12 percent during the 12-month period ending in September. Still, even in declining industries, job openings do occur as a result of retirements and workers switching careers; however, according to the Bureau of Labor Statistics' (BLS) 2006–2016 occupational forecast, fewer than 27,000 annual openings are expected nationally for team assembly positions, of which only 1,100 openings will occur in Michigan. In short, the number of openings will be far too small to accommodate very many of the displaced workers from the auto industry.

Second, those autoworkers who successfully land a new manufacturing position in the same occupation will likely face serious reductions in earnings. The shock will be especially large for former "Detroit Three" assembly workers, since the median wage for a United Auto Worker in 2008 was \$59,000, compared to an average wage of only \$27,630 for team assembly occupations across all industries.

Another approach is for former team assembly workers to seek out other occupations that make use of a set of skills similar to what they utilized at their last job. According to the Occupational Information Network (O*NET), which was developed by the U.S. Department of Labor's Employment and Training Administration, the dominant skills required by team assembly workers include

- active listening
- quality control analysis
- active learning
- instructing
- operation monitoring
- coordination
- equipment maintenance

It should be noted that these workplace know-how skills are acquired on the job and are independent of the level of formal education earned by the worker. These skills are transferable and, according to O*NET, the occupations listed in Table 2

Table 1

Motor Vehicle Manufacturing Occupations	Percent of total	Motor Vehicle Parts Manufacturing Occupations	Percent of total
Team assemblers	24.3	Team assemblers	15.2
Assemblers and fabricators, all other	18.7	Cutting, punching, and press machine setters, operators	4.2
First-line supervisors/managers of production workers	2.8	Machinists	3.7
Inspectors, testers, sorters, samplers, and weighers	2.7	Inspectors, testers, sorters, samplers, and weighers	3.5
Painters, transportation equipment	2.2	First-line supervisors/managers of production workers	3.3
Maintenance and repair workers, general	2.1	Assemblers and fabricators, all other	3.2
Laborers and freight, stock, and material movers, hand	1.8	Multiple machine tool setters, operators	2.6
Industrial truck and tractor operators	1.5	Tool and die makers	2.6
Welders, cutters, solderers, and brazers	1.3	Industrial truck and tractor operators	2.6
Industrial machinery mechanics	1.2	Laborers and freight, stock, and material movers, hand	2.1

Table 2
Occupations with Skills Similar to Team Assemblers in Job Zones Below 4

Skills matched (out of 10)	Job zone	Occupation
9	2	Forest firefighters
9	2	Plasterers and stucco masons
9	2	Riggers
9	2	Petroleum pump system operators, refinery operators, and gaugers
9	3	Respiratory therapy technicians
8	1	Derrick operators, oil and gas
8	2	Rotary drill operators, oil and gas
8	2	Pump operators, except wellhead pumpers
8	3	Radio operators
8	3	Forest firefighting and prevention supervisors
8	3	First-line supervisors/managers of animal husbandry and animal-care workers
8	3	Automotive master mechanics
8	3	Refrigeration mechanics and installers

Job zone:

1 = Little or no experience required.

2 = Some preparation needed, usually requires H.S. diploma, some experience or job coursework.

3 = Medium preparation needed, usually 1–2 years of OJT; some require an associate degree.

both closely match the skills of team assemblers (9 of O*NET's 10 skill factors for team assembly) and typically require only a high school diploma and some work experience (no higher than O*NET's Job Zone 3).

Unfortunately, job openings in these occupations are expected to grow only modestly in Michigan and to pay wages that are, not surprisingly, way below what the average autoworker previously earned.

The third possible employment strategy listed above for displaced autoworkers is to seek retraining so that they can compete for jobs in the state's advanced manufacturing sectors (Table 3). Such a move can build on the workers' tacit knowledge and experience of working in a manufacturing environment and provide higher wages than many other industries. Still, a substantial skill and education upgrade is required to qualify for the best occupations in advanced manufacturing. Indeed, to qualify for jobs in most of the fastest-growing and highest-paying advanced manufacturing occupations, former autoworkers will find it necessary to go back to school for at least two years of college, if not four, a hurdle that for financial and academic reasons may be too high for some to overcome. Older workers face the added risk that they may not be in the workforce long enough to have such an investment pay off.

The final strategy is to switch careers; however, such a strategy carries significant risks. Not only does a cross-industry career change require substantial new training, but also the worker must forfeit much of the tacit knowledge gained through years of experience in a manufacturing work setting. As shown in Table 4, most growth occupations that do not require more than two years of training are in very different environments, such as offices, health care facilities, schools, and small businesses.

Moreover, many of these occupations pay lower wages than were previously earned by autoworkers in high-wage union

positions. While workers formerly employed in nonunion team assembly jobs at nonunion automotive parts manufacturers may find an opportunity for wage growth in some of the growth occupations, one or two years of additional training will most likely be required.

Finally, the transitioning to a new occupation may be especially difficult if the required activities do not fit the worker's inherent interests (Table 5). For example, given the positive forecast for nearly all occupations in the health care field, some displaced autoworkers may consider retraining for a health occupation, many of which require only a brief training program or two-year degree. However, to be successful in nearly all health-related occupations, the individual should have a social interest in providing services to others. Again, according to O*NET, this is an interest that is not shared by most team assemblers, who are more interested in solving hands-on problems on the job.

In conclusion, Michigan's displaced autoworkers face some significant challenges in selecting a reemployment strategy. Without extensive education and retraining, it is likely that most will earn substantially less than before, no matter what course they choose. Staying with manufacturing would allow workers to use their tacit knowledge of the manufacturing environment and, if they are able to upgrade their skills to be eligible for positions in advanced manufacturing, they may come close to retaining their former earning level. However, the downside is that the total number of manufacturing jobs in the state and elsewhere is likely to continue to shrink.

The other option is to transition to a new career, which can be promising for those workers with the aptitude and willingness to make a substantial investment in acquiring new skills. Positions in fields such as health care offer strong security and growth potential, although wage rates may be below what the worker earned previously. However, as with advanced manufacturing, this option may not be viable for older displaced workers, for whom the substantial investment in training and skills acquisition may not make sense for the limited number of years remaining in their careers.

Finally, entrepreneurship is another option that may be viable to some displaced workers. Indeed, according to O*NET, one of the major interests of assembly workers is in starting new projects. Moreover, recent evaluation studies of entrepreneurial development courses for displaced workers show promising results. So while successfully running a small business requires strong financial, marketing, and managerial skills and presents plenty of headaches and late nights, it may be a strategy for some that not only fits their interests but could prove that there is life after autos.

Table 3 - Advanced Manufacturing Cluster Occupations in Job Zone 2 or 3 and Michigan Opportunities

Occupation	Annual openings in Michigan	Median salary in Michigan (\$)	Job zone
Medical equipment preparers	20	30,500	2
Helpers--installation, maintenance, and repair workers	110	23,500	2
Team assemblers	1,110	27,700	2
Bakers	130	21,000	2
Multiple machine-tool setters, operators, and tenders, metal and plastic	160	36,000	2
Welding, soldering, and brazing machine setters, operators, and tenders	110	35,500	2
Stonecutters and carvers, manufacturing	30	30,000	2
Molding and casting workers	30	30,000	2
Purchasing agents, except wholesale, retail, and farm products	260	59,200	3
Electronic drafters	30	51,000	3
Electrical drafters	30	51,000	3
Mechanical drafters	150	52,000	3
Electronics engineering technicians	120	50,000	3
Electrical engineering technicians	120	50,000	3
Industrial engineering technicians	190	46,200	3
Mechanical engineering technicians	100	48,500	3
Chemical technicians	120	39,600	3
Computer, automated teller, and office machine repairers	60	42,900	3
Electrical and electronics repairers, commercial and industrial equipment	110	51,000	3
Industrial machinery mechanics	270	47,900	3
Maintenance and repair workers, general	340	36,600	3
Medical equipment repairers	70	41,900	3
Glassblowers, molders, benders, and finishers	30	30,000	3
Potters, manufacturing	30	30,000	3

SOURCE: O*NET and CareerOneStop.

Table 4 - Growth Occupations That Require Two Years or Less of Education or Training

Level of education required	Fastest growth rate	Largest numerical job growth expected
Associate degree	Veterinary technologists and technicians	Registered nurses
	Physical therapist assistants	Computer support specialists
	Dental hygienists	Paralegals and legal assistants
	Environmental science and protection technicians, incl. health	Dental hygienists
	Cardiovascular technologists and technicians	Legal secretaries
Postsecondary vocational award	Makeup artists, theatrical and performance	Nursing aides, orderlies, and attendants
	Skin-care specialists	Preschool teachers, except special education
	Manicurists and pedicurists	Automotive service technicians and mechanics
	Fitness trainers and aerobics instructors	Licensed practical and licensed vocational nurses
	Preschool teachers, except special education	Hairdressers, hair stylists, and cosmetologists
Work experience in a related occupation	Sales representatives, services, all other	Executive secretaries and administrative assistants
	Gaming managers	Sales representatives, services, all other
	Gaming supervisors	Sales representatives, wholesale and manufacturing, except technical and scientific products
	Aircraft cargo-handling supervisors	First-line supervisors/managers of food preparation and serving workers
	Self-enrichment education teachers	First-line supervisors/managers of office and administrative support workers
Long-term on-the-job training	Audio and video equipment technicians	Carpenters
	Interpreters and translators	Cooks, restaurant
	Athletes and sports competitors	Police and sheriff

SOURCE: BLS 2006–2016 occupation forecasts.

Table 5

Team assembler interests	Dental hygienist interests
Realistic—hands-on problem solving	Social—provides services to others
Conventional—follows routines	Realistic—hands-on problem solving
Enterprising—starts up projects	Conventional—follows routines
Nursing aide interests	Registered nurse interests
Social—provides services to others	Social—provides services to others
Realistic—hands-on problem solving	Investigative—searches for facts
Conventional—follows routines	Conventional—follows routines