



# **North Central Ohio Career Transitions**

*Report prepared by:*

**Economic Modeling Specialists, Inc.  
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### Region: North Central Ohio

Ashland County  
Crawford County  
Huron County  
Knox County  
Marion County  
Morrow County  
Richland County  
Seneca County  
Wyandot County

## KEY TERMS

### Replacement Jobs

The number of job openings (over a given timeframe) expected in an occupation as the result of turnover—e.g., employees changing occupations, retiring, etc. It is derived by multiplying estimated annual turnover by the number of years in the given timeframe.

### Standard Occupational Classification (SOC) Code

The federal system of classifying occupations using six-digit codes. See [www.bls.gov/soc/](http://www.bls.gov/soc/).

### North American Industry Classification System (NAICS)

A system of classifying North American industries using six-digit codes.

### EMSI Staffing Pattern

A staffing pattern is a way of showing what percentage of jobs in a given industry are in a specific occupation. For example, a (simplified) staffing pattern for the industry “Hospitals” might show that 10% of jobs in the hospitals industry are occupied by surgeons, 15% by general practitioners, 20% by nurses, 5% by information technology support staff, 5% by janitors, 1% by chief executives, and so on. EMSI uses regionalized staffing patterns that are available by Occupational Employment Statistics (OES) region.

### Worker Adjustment and Retraining Notification Act

WARN offers protection to workers, their families and communities by requiring employers to provide notice 60 days in advance of covered plant closings and covered mass layoffs. This notice must be provided to either affected workers or their representatives (e.g., a labor union); to the State dislocated worker unit; and to the appropriate unit of local government.

### Job Projections

Employment projections of growth or decline are not equivalent to labor market “supply” or “demand.” They are based on past trends and economists’ consensus about the near future, and cannot account for unexpected regional or national events that may affect employment. Full supply/demand analysis requires local knowledge such as can be obtained by surveying employers and job seekers.

# INTRODUCTION

North Central Ohio faces the prospect of a rapidly changing economy. With the loss of a significant number of jobs and plant closings, primarily in manufacturing, this report aims to develop a way to positively counter the recent trends and redistribute the lost jobs to other profitable industries, thereby revitalizing the regional economy.

This report will define the scope of the problem and possible solutions, **1)** by identifying the affected jobs and industries; **2)** by quantifying the knowledge and skill sets relevant to displaced workers; and, **3)** by suggesting ways to re-channel the lost jobs into new occupations and new industries which require the same kinds of knowledge and skills.

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## ANALYZING JOB TRANSITIONS

Taking into account the Worker Adjustment and Retraining Notifications (WARNs) issued in north central Ohio since 2006, this report identifies the most impacted occupations, categorized by SOC code. Some WARN notifications list specific job titles, and many give the total number of employees affected by a plant closing. However, in order to identify specific occupation data, and to align it with Bureau of Labor Statistic SOC codes, this report used EMSI's regionalized staffing patterns and O\*Net occupation definitions to help identify and quantify the extent of the job loss.

Workers displaced by layoffs and business closures often find it difficult to find reemployment quickly and in positions with competitive wages. Real costs, opportunity costs, and availability of postsecondary programs are just a few of the barriers to significant career changes requiring additional education. This report uses O\*Net data to determine the most important and compatible knowledge and skill sets (competencies) for the top 15 occupations most impacted by job losses. Suggested transitions are determined after analyzing, **1)** whether the displaced workers can find work in other regional industries employing workers in the same occupational category (e.g. a team assembler moving from the household appliance industry to the wood product industry); or, **2)** whether the knowledge and skills inherent to an occupation are transferable to other related occupations.

### **O\*NET**

The O\*NET program, the nation's primary source of occupational information, contains information on hundreds of standardized and occupation-specific descriptors. The O\*Net database is continually updated by surveying a broad range of workers from each occupation.

### **Occupation compatibility**

Occupation compatibility is the similarity between two occupation's O\*NET competencies. The compatibility of two occupations is derived by comparing their O\*NET skill, knowledge, and ability profiles, which contain two scores for each competency element (e.g., knowledge of biology): the generally required attainment level and importance level of this element for each occupation. Compatibility is based on a 100 point scale.

### **Competencies**

The term "competencies" refers to the three categories of "knowledge, skills, and abilities" used in O\*NET occupation profiles. Knowledge refers to academic attainment in various subjects such as math, science, biology, English, and so on. Skills refer to areas of applied and experiential knowledge, such as "time management," "reading comprehension," or "critical thinking."

## SUMMARY

The number of jobs lost, as reported by WARNs for the nine county region in North Central Ohio, totals **over 1300 jobs** since 2006. These jobs span almost a dozen different industries. The top 15 occupations affected by the WARNs are:

Team assemblers	110
First-line supervisors/managers of production and operating workers	67
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	57
Helpers--Production workers	55
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	48
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	44
Packers and packagers, hand	39
Laborers and freight, stock, and material movers, hand	39
Inspectors, testers, sorters, samplers, and weighers	34
Maintenance and repair workers, general	31
Extruding and drawing machine setters, operators, and tenders, metal and plastic	30
Stock clerks and order fillers	28
Cashiers, except gaming	28
Welders, cutters, solderers, and brazers	20
Industrial truck and tractor operators	18

In order to determine where the displaced workers should be transitioned, this report used O\*Net compatibility scores (see box below) and EMSI's wage and occupation data. A good candidate for transition would be an occupation which has very similar knowledge and skill sets to the declining occupation and one which also has a similar pay scale and a decent job growth projection. This report identifies a total of **32 possible occupations** which might host the displaced workers (many of these new occupations are compatible to host workers from several of the top 15 declining occupations listed above). In these 32 host occupations, EMSI projects that there will be **over 10,000 job openings in North Central Ohio by 2012**. These job openings are composed of both *newly created jobs* and *replacement jobs* in multiple industries, and range widely in pay scale and in prior work-experience required. Job projections are determined using the most recently-released state and federal projections and EMSI's local industry and occupation data.

### Background on Occupational Compatibility

*Occupation compatibility*, or the similarity between two occupation's competencies, is another term that is crucial for interpreting career transitions. This report calculates the compatibility of two occupations by comparing their O\*NET skill and knowledge profiles, which contain two scores for each competency element (e.g., Mechanical knowledge): the attainment level and the importance level. Our algorithm uses the differences between competency levels, weighted by importance levels, to determine how compatible two occupations are. Several assumptions are made in calculating compatibility:

- The desirability of transitioning workers from one occupation to another decreases exponentially as the distance increases between a source occupation's O\*NET score in one category and the target occupation's score in that category.
- Over-qualification is just as much of a problem as under-qualification for a worker moving from one job to another.

The compatibility formula first adds up squared differences in every competency category and weights each difference according to its importance to the target occupation's job requirements. This number we might call "competency divergence." Only occupations with a divergence in the lowest quartile are considered compatible, and the maximum divergence number in this group is used to create the scale of the *compatibility index*, which is a number from 0 (not compatible) to 100 (perfectly compatible).

## Team assemblers (SOC 51-2029)

**O\*Net definition:** Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included.

**Alternative Job Titles:** Assembler, Assembly Line Machine Operator, Assembly Operator, Assembly Line Worker, Assembly Associate, Certified Composites Technician (CCT), Operator Technician, Production Line Worker, Assembly Inspector, Assembly Technician

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>110</b>
2007 Occupational Jobs	6,939
2012 Occupational Jobs	6,990
Total Change	51
Total % Change	1%
New and Replacement Jobs	772
Median Hourly Earnings	\$16.60
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **110 people** have been laid off who were employed as Team assemblers (51-2092). Businesses affected by the loss include Honeywell Autolite (Seneca), Hospira (Ashland), Mueller Plastics (Wyandot), Neer EGS (Richland), Tekni-Plex (Crawford), TRW (Knox), and Baja Marine (Crawford). Prior to notification about the job loss in these industries, the *Team assembler* occupation had been projected to require a total of 772 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$16.60**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Agriculture, construction, and mining machinery manufacturing**, NAICS 333100 (327 positions in 2007, projected to add 49 new positions by 2012);
- **Household appliance manufacturing**, NAICS 335200 (1,111 positions in 2007, projected to add 116 new positions by 2012)
- **Other wood product manufacturing**, NAICS 321900 (163 positions in 2007, projected to add 5 new positions by 2012).

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Team assemblers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Solderers and Brazers (51-4121.07)

This occupation employs 1328 workers and is projected to require **223 new and replacement workers** by 2012. It also has an average wage of **\$18.32/hour**, which is higher than the declining occupation. Employment in this occupation is projected to **increase 6%** by 2012, which is higher than the state. *Note: Employment numbers are for SOC 51-4121 which*

includes Welders, Cutters, and Welder Fitters (O\*NET SOC 51-4121.06) in addition to Solderers and Brazers (O\*NET SOC 51-4121.07).

Key knowledge and skill similarities include:

- Intermediate levels of Mechanical knowledge and Production & Processing knowledge
- Intermediate levels of Monitoring, Quality Control Analysis and Learning Strategies and Manual Dexterity skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Computers & Electronics, and English
- Skills in Reading comprehension and Time management

Top host industries for this occupation based on employment size and growth include Agriculture, construction, and mining machinery manufacturing (NAICS 333100), Motor vehicle body and trailer manufacturing (NAICS 336200), and Motor vehicle parts manufacturing (336300).

### **Sawing Machine Setters, Operators, and Tenders, Wood (51-7041.00)**

This occupation employs 142 workers and will require up to **24 new and replacement workers** by 2012. It also has an average wage of **\$15.41/hour** which is slightly less than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is almost the same rate as the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematics knowledge and Production & Processing knowledge.
- Intermediate and advanced levels of Quality Control Analysis skills, Operation Monitoring skills, and Equipment Selection skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge, Repairing skills, and Equipment Maintenance.

The top host industries for this occupation based on employment size and growth include Other wood product manufacturing (321900), Veneer, plywood, and engineered wood product manufacturing (321200), and Household and institutional furniture manufacturing (337120).

### **Helpers—Production Workers (51-9198.00)**

This occupation employs 1,964 workers and will require up to **283 new and replacement workers** by 2012. It also has an average wage of **\$14.38/hour**, which is lower than the declining occupation. Employment in this occupation is projected to outpace the state, growing 2% by 2012.

Key knowledge and skill similarities include:

- Intermediate levels of Public Safety & Security, and English Language knowledge.
- Intermediate and advanced levels of Equipment Selection skills, Learning Strategy skills, and Quality Control Analysis skills.

The top host industries for this occupation are Motor vehicle parts manufacturing (336300), Converted paper product manufacturing (322200), and Bakeries and tortilla manufacturing (311800).

# First-Line Supervisors/Managers of Production and Operating Workers (SOC 51-1011)

**O\*Net definition:** Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

**Alternative Job Titles:** Production Supervisor, Manufacturing Supervisor, Shift Supervisor, Team Leader, Production Manager, Plant Manager, Assembly Supervisor, Department Manager, Converting Supervisor, Molding Supervisor

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>67</b>
2007 Occupational Jobs	2,543
2012 Occupational Jobs	2,566
Total Change	23
Total % Change	1%
New and Replacement Jobs	297
Median Hourly Earnings	\$22.79
Education Level	Work experience in a related field

## OVERVIEW

According to WARN notices, **67 people** have been laid off who were employed as First-Line Supervisors/Managers of Production and Operating Workers (51-1011). Businesses affected by the loss include Honeywell Autolite (Seneca), American Standard (Seneca), Giant Eagle Grocery Store (Seneca), Hospira (Ashland), Kable Fulfillment (Marion), Mueller Plastics (Wyandot) Neer EGS (Richland), Tekni-Plek (Crawford), TRW Automotive (Knox) and Baja Marine (Crawford). Prior to notification about the job loss in these industries, the *First-Line Supervisors/Managers of Production and Operating Workers* occupation had been projected to require a total of 297 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$22.79**.

## INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Household appliance manufacturing**, NAICS 335200 (110 positions in 2007, projected to gain 12 jobs by 2012)
- **Crop and animal production**, NAICS 11A000 (147 positions in 2007, projected to lose 9 jobs by 2012)
- **Other general purpose machinery manufacturing**, NAICS 333900 (145 positions in 2007, projected to lose 9 jobs by 2012)

## CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *First-Line Supervisors/Managers of Production and Operating Workers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

### Industrial engineering technicians (17-3026.00)

This occupation employs 138 workers and is projected to require **22 new and replacement workers** by 2012. It also has an average wage of **\$28.80/hour**, which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which outpaces the state growth rate of 2%.

Key knowledge and skill similarities include:

- Advanced levels of Production & Processing knowledge and Education & Training knowledge
- Intermediate levels of Social Coordination and Active Listening

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Clerical knowledge, and Mathematics knowledge

- Skills in Critical Thinking, and Active Learning

Top host industries for this occupation based on employment size and growth include Motor Vehicle Parts Manufacturing (336300), and Other General Purpose Machinery Manufacturing (333900).

### **First-line supervisors/managers of mechanics, installers, and repairers (49-1011.00)**

This occupation employs 843 workers and is projected to require **143 new and replacement workers** by 2012. It also has an average wage of **\$23.83** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 5%** by 2012, which is slightly higher than the state.

Key knowledge and skill similarities include:

- Advanced levels of knowledge in Personnel & Human Resources, and Administration & Management
- Advanced levels of Social Coordination skills and Management of Personnel Resources skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Building & Construction
- Installation skills, and Management of Financial Resources skills

The top host industries for this occupation based on employment size and growth include Local Government (930000), Rail Transportation (482100), and Automotive Mechanical and Electrical Repair and Maintenance (811110).

### **First-line supervisors/managers of transportation and material-moving machine and vehicle operators (53-1031.00)**

This occupation employs 503 workers and is projected to require **85 new and replacement workers** by 2012. It also has an average wage of **\$18.61/hour**, which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase by 7%** by 2012, which is slightly higher than the state.

Key knowledge and skill similarities include:

- Advanced levels of Administration & Management knowledge, and Production & Processing knowledge.
- Advanced levels of Social Perceptiveness skills, and Equipment Selection skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Transportation knowledge, and Customer & Personal Service knowledge.

The top host industries for this occupation are General Freight Trucking (484100), Direct Selling Establishments (454300), and Local Government (930000).

## Extruding, forming, pressing, and compacting machine setters, operators, and tenders (SOC 51-9041)

**O\*Net definition:** Set up, operate, or tend machines, such as glass forming machines, plodder machines, and tuber machines, to shape and form products, such as glassware, food, rubber, soap, brick, tile, clay, wax, tobacco, or cosmetics.

**Alternative Job Titles:** Machine Operator, Extruder Operator, Extrusion Operator, Tuber Operator, Upkeep Mechanic, Glass Forming Crew Member, Job Change Crew Member, Microwave Extruder Operator, Mill Room Machine Operator, Rubber Extrusion Operator

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>57</b>
2007 Occupational Jobs	539
2012 Occupational Jobs	522
Total Change	-17
Total % Change	3%
New and Replacement Jobs	54
Median Hourly Earnings	\$15.17
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **57 people** have been laid off who were employed as Extruding, forming, pressing, and compacting machine setters, operators, and tenders (51-2092). Businesses affected by the loss include American Standard (Seneca), Hospira (Ashland), and Tekni-Plex (Crawford). Prior to notification about the job loss in these industries, the *Extruding, forming, pressing, and compacting machine setters, operators, and tenders* occupation had been projected to require a total of 54 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$15.17**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Cement and concrete product manufacturing**, NAICS 327300 (47 positions in 2007, with no new jobs projected by 2012)
- **Glass and glass product manufacturing**, NAICS 327200 (31 positions in 2007, projected to add 2 new positions by 2012)
- **Converted paper product manufacturing**, NAICS 322200 (25 positions in 2007, projected to lose 1 job by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Extruding, forming, pressing, and compacting machine setters, operators, and tenders*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

### Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061.00)

This occupation employs 1,612 workers and is projected to require **148 new and replacement workers** by 2012. It also has an average wage of **\$18.15/hour**, which is higher than the declining occupation. Employment in this occupation is projected to decline at 2% by 2012, while the state is projected to decline by 5%.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Mechanical knowledge and Production & Processing knowledge
- Intermediate and advanced levels of Equipment Maintenance skills and Operation Monitoring skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Customer & Personal Service and Mathematics
- Skills in Quality Control Analysis

Top host industries for this occupation based on employment size and growth include Motor vehicle parts manufacturing (NAICS 336300), Household appliance manufacturing (NAICS 335200), and Plastics product manufacturing (326100).

### **Sawing Machine Setters, Operators, and Tenders, Wood (51-7041.00)**

This occupation employs 142 workers and will require up to **24 new and replacement workers** by 2012. It also has an average wage of **\$15.41/hour** which is slightly less than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is almost the same rate as the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematics knowledge and Production & Processing knowledge.
- Intermediate and advanced levels of Quality Control Analysis skills, Operation Monitoring skills, and Equipment Selection skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge, Repairing skills, and Equipment Maintenance.

The top host industries for this occupation based on employment size and growth include Other wood product manufacturing (321900), Veneer, plywood, and engineered wood product manufacturing (321200), and Household and institutional furniture manufacturing (337120).

### **Helpers—Production Workers (51-9198.00)**

This occupation employs 1,964 workers and will require up to **283 new and replacement workers** by 2012. It also has an average wage of **\$14.38/hour**, which is lower than the declining occupation. Employment in this occupation is projected to outpace the state, growing 2% by 2012.

Key knowledge and skill similarities include:

- Intermediate levels of Public Safety & Security, and English Language knowledge.
- Intermediate and advanced levels of Equipment Selection skills, Learning Strategy skills, and Quality Control Analysis skills.

The top host industries for this occupation are Motor vehicle parts manufacturing (336300), Converted paper product manufacturing (322200), and Bakeries and tortilla manufacturing (311800).

## Helpers—Production Workers (SOC 51-9198.00)

**O\*Net definition:** Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.

**Alternative Job Titles:** Machine Operator, Press Helper, Service Person, Support Team Member, Utility Worker, Assistant Operator, Backup Operator, Clean Up Person, Factory Laborer, Factory Worker

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>55</b>
2007 Occupational Jobs	1,964
2012 Occupational Jobs	2,001
Total Change	37
Total % Change	2%
New and Replacement Jobs	283
Median Hourly Earnings	\$14.38
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **55 people** have been laid off who were employed as First-Line Supervisors/Managers of Production and Operating Workers (51-1011). Businesses affected by the loss include American Standard (Seneca), Hospira (Ashland), Kable Fulfillment (Marion), Mueller Plastics (Wyandot), and Baja Marine (Crawford). Prior to notification about the job loss in these industries, the *Helpers—Production Workers* occupation had been projected to require a total of 283 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$14.38**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Bakeries and tortilla manufacturing**, NAICS 311800 (105 positions in 2007, projected to gain 3 jobs by 2012)
- **Printing and related support activities**, NAICS 323100 (98 positions in 2007, projected to gain 10 jobs by 2012)
- **Converted Paper Product manufacturing**, NAICS 336200 (129 positions in 2007, projected to lose 2 jobs by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Helpers—Production Workers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Team assemblers (51-2092.00)

This occupation employs 6,939 workers and is projected to require **772 new and replacement workers** by 2012. It also has an average wage of **\$16.60/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase 1%** by 2012, which outpaces the state rate of -3%.

Key knowledge and skill similarities include:

- Intermediate skill levels in Equipment Selection, and Learning Strategies

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge
- Skills in Operations Monitoring and Technology Design

Top host industries for this occupation based on employment size and growth include Motor Vehicle Parts Manufacturing (336300) Converted Paper Product Manufacturing (322200), and Plastic Product Manufacturing (326100).

### **Welders, cutters, solderers, and brazers (51-4121.00)**

This occupation employs 1,328 workers and is projected to require **223 new and replacement workers** by 2012. It also has an average wage of **\$18.32/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase 6%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Advanced levels of skills in Equipment Selection, and Equipment Maintenance

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Building & Construction knowledge, and Mechanical knowledge

The top host industries for this occupation based on employment size and growth include Agriculture, construction, and Mining Machinery Manufacturing (333100), and Other General Purpose Machinery Manufacturing (333900).

### **Food batchmakers (51-3092.00)**

This occupation employs 231 workers and is projected to require **52 new and replacement workers** by 2012. It also has an average wage of **\$15.41/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase by 10%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Advanced levels of Learning Strategies skills, and Technical skills such Equipment Maintenance, and Troubleshooting

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mathematics knowledge
- Operations Monitoring skills

The top host industries for this occupation are Bakeries and Tortilla Manufacturing (311800), and Other food Manufacturing (311900)

## Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic (SOC 51-4072)

**O\*Net definition:** Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products.

**Alternative Job Titles:** Machine Operator, Production Technician, Process Technician, Injection Press Operator, Die Cast Technician, Press Operator, Core Machine Operator, Eight Arm Operator, Cup Fabricating Machine Operator, Cup Operator

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>48</b>
2007 Occupational Jobs	925
2012 Occupational Jobs	924
Total Change	-1
Total % Change	0%
New and Replacement Jobs	167
Median Hourly Earnings	\$15.48
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **48 people** have been laid off who were employed as Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic (51-4072). Businesses affected by the loss include Honeywell Autolite (Seneca), Hospira (Ashland), Mueller Plastics (Wyandot), TRW (Knox), and Blackhawk Automotive Plastics (Warren). Prior to notification about the job loss in these industries, the *Molding, coremaking, and casting machine setters* occupation had been projected to require a total of 167 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$15.48**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Metalworking machinery manufacturing**, NAICS 333500 (37 positions in 2007, projected to add 4 new positions by 2012)
- **Household appliance manufacturing**, NAICS 335200 (31 positions in 2007, projected to add 1 new positions by 2012)
- **Other general purpose machinery manufacturing**, NAICS 333900 (37 positions, projected to lose 4 positions by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Solderers and Brazers (51-4121.07)

This occupation employs 1328 workers and is projected to require **223 new and replacement workers** by 2012. It also has an average wage of **\$18.32/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase 6%** by 2012, which is higher than the state. *Note: Employment numbers are for SOC 51-4121 which includes Welders, Cutters, and Welder Fitters (O\*NET SOC 51-4121.06) in addition to Solderers and Brazers (O\*NET SOC 51-4121.07).*

Key knowledge and skill similarities include:

- Intermediate levels of Mathematics knowledge, Mechanical knowledge and Production & Processing knowledge
- Advanced levels of Quality Control Analysis and Learning Strategies and Monitoring skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Computers & Electronics, Design, and Engineering & Technology
- Management of Financial Resources skills and Mathematics skills

Top host industries for this occupation based on employment size and growth include Agriculture, construction, and mining machinery manufacturing (NAICS 333100), Motor vehicle body and trailer manufacturing (NAICS 336200), and Motor vehicle parts manufacturing (336300).

### **Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders (51-4122.00)**

This occupation employs 234 workers and will require up to **46 new and replacement workers** by 2012. It also has an average wage of **\$22.66/hour** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 9%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mechanical knowledge and Production & Processing knowledge.
- Advanced levels of Active Listening skills, Learning Strategies skills and Social Coordination skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Business knowledge, particularly human resources, customer service & administration and management.

The top host industries for this occupation based on employment size and growth include Motor vehicle parts manufacturing (336300), Agriculture, construction, and mining machinery manufacturing (333100), and Other general purpose machinery manufacturing, (333900).

### **Printing Machine Operators (51-5023.00)**

This occupation employs 493 workers and will require up to **109 new and replacement workers** by 2012. It also has an average wage of **\$16.79/hour**, which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 8%** by 2012, compared to the state, which is projected to have no growth.

Key knowledge and skill similarities include:

- Intermediate level of Mechanical knowledge and Production & Processing knowledge.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Equipment maintenance skills and mathematics skills.

The top host industries for this occupation are Printing and related support activities (323100), Converted paper product manufacturing (322200), and Newspaper publishers (511110).

## Cutting, punching, and press machine setters, operators, and tenders, metal and plastic (SOC 51-4031.00)

**O\*Net definition:** Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

**Alternative Job Titles:** Machine Operator, Press Operator, Set-Up Operator, Saw Operator, Slitter Operator, Punch Press Operator, Die Setter, Adjuster, Die Cutter, Machine Setter

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>44</b>
2007 Occupational Jobs	2,390
2012 Occupational Jobs	2,279
Total Change	-111
Total % Change	-5%
New and Replacement Jobs	353
Median Hourly Earnings	\$18.50
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **44 people** have been laid off who were employed as Cutting, punching, and press machine setters, operators, and tenders, metal and plastic (51-4031). Businesses affected by the loss include Honeywell Autolite (Seneca), Hospira (Ashland), Neer EGS (Richland), TRW Automotive (Knox) and Baja Marine (Crawford). Prior to notification about the job loss in these industries, the *Cutting, punching, and press machine setters, operators, and tenders, metal and plastic* occupation had been projected to require a total of 353 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$18.50**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Household Appliance Manufacturing**, NAICS 335200 (190 positions in 2007, projected to gain 9 jobs by 2012);
- **Other general purpose machinery manufacturing**, NAICS 333900 (127 positions in 2007, projected to lose 25 jobs by 2012)
- **Forging and Stamping**, NAICS 332100 (263 positions in 2007, projected to lose 25 jobs by 2012).

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Cutting, punching, and press machine setters, operators, and tenders, metal and plastic*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

### Multiple machine tool setters, operators, and tenders, metal and plastic (51-4081.00)

This occupation employs 473 workers and is projected to require **64 new and replacement workers** by 2012. It also has an average wage of **\$23.21/hour**, which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 3%** by 2012, which is slightly higher than the state.

Key knowledge and skill similarities include:

- Intermediate levels of knowledge in Production & Processing
- Advanced skills levels in Technical skills, such as Quality Control Analysis, and Troubleshooting

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge, and Design knowledge

Top host industries for this occupation based on employment size and growth include Motor Vehicle Parts Manufacturing (336300), Other General Purpose Machinery Manufacturing (333900), and Engine, Turbine, and Power Transmission Equipment Manufacturing (333600).

### **Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders (51-4122.00)**

This occupation employs 234 workers and will require up to **46 new and replacement workers** by 2012. It also has an average wage of **\$22.66/hour** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 9%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate knowledge in Administration & Management

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Engineering & Technology knowledge, and Computers and Electronics knowledge
- Troubleshooting skills

The top host industries for this occupation based on employment size and growth include Motor Vehicle Parts Manufacturing (336300), Other General Purpose Machinery Manufacturing (333900), and Agriculture, construction, and Mining Machinery Manufacturing (333100).

### **Printing Machine Operators (51-5023.00)**

This occupation employs 493 workers and will require up to **109 new and replacement workers** by 2012. It also has an average wage of **\$16.79/hour**, which is slightly lower than the declining occupation. Employment in this occupation is projected to increase at **8%** by 2012, higher than the state.

Key knowledge and skill similarities include:

- Intermediate knowledge in Mechanical
- Intermediate and advanced Basic skills, such as Critical Thinking, and Reading Comprehension

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge
- Equipment Maintenance skills and Technology Design skills

The top host industries for this occupation based on employment size and growth include Printing and Related Support Activities (323100), and Converted Paper Product Manufacturing (322200).

## Packers and packagers, hand (SOC 53-7064)

**O\*Net definition:** Pack or package by hand a wide variety of products and materials.

**Alternative Job Titles:** Packer, Bagger, Mini Shifter, Pack Out Operator, Packager, Shipping Clerk, Consolidator, Kit Assembler, Package Maker, Utility Bagger

Basic Information	
Total 2006-2007 layoffs (from WARN notices)	39
2007 Occupational Jobs	2,660
2012 Occupational Jobs	2,435
Total Change	-225
Total % Change	-8%
New and Replacement Jobs	102
Median Hourly Earnings	\$9.92
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **39 people** have been laid off who were employed as Packers and packagers, hand (53-7064). Businesses affected by the loss include American Standard (Seneca), Hospira (Ashland), and Mueller Plastics (Wyandot). Prior to notification about the job loss in these industries, the *Packers and packagers, hand* occupation had been projected to require a total of 102 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$9.92**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Crop and animal production**, NAICS 11A000 (460 positions in 2007, projected to lose 73 jobs by 2012)
- **Grocery stores**, NAICS 445100 (368 positions in 2007, projected to lose 42 jobs by 2012)
- **Bakeries and tortilla manufacturing**, NAICS 311800 (130 positions in 2007, projected to lose 9 jobs by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Packers and packagers, hand*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Counter Attendants, Cafeteria, Food Concession, and Coffee Shop (35.3022.00)

This occupation employs 420 workers and is projected to require **175 new and replacement workers** by 2012. It also has an average wage of **\$8.85/hour**, which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is slightly slower than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematical knowledge and Administration & Management knowledge
- Intermediate levels of Learning Strategies skills and Critical Thinking skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Customer & Personal Service and Sales & Marketing
- Skills in Equipment Maintenance

Top host industries for this occupation based on employment size and growth include Crop and animal production (NAICS 11A000), Grocery stores (NAICS 445100), and Plastics product manufacturing (326100).

### **Janitors and cleaners, except maids and housekeeping cleaners (37-2011.00)**

This occupation employs 5,400 workers and will require up to **926 new and replacement workers** by 2012. It also has an average wage of **\$8.37** which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase 8%** by 2012, which is slightly slower than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Administration & Management knowledge.
- Intermediate levels of Learning Strategies skills and Active Listening skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Customer & Personal Service skills and Equipment Maintenance.

The top host industries for this occupation based on employment size and growth include Janitorial and all other services to buildings and dwellings (5617XX), Local government (930000), and Crop and animal production (11A000).

### **Laborers and freight, stock, and material movers, hand (53-7062.00)**

This occupation employs 5,368 workers and will require up to **905 new and replacement workers** by 2012. It also has an average wage of **\$11.24/hour**, which is higher than the declining occupation. Employment in this occupation is projected to **increase by about 1%** by 2012, about the same growth rate as the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematics, and Public Safety & Security knowledge.
- Intermediate levels of Instructing skills, Monitoring skills, and Learning Strategies skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Quality Control Analysis.

The top host industries for this occupation are General freight trucking (484100), Employment services (561300), and Motor vehicle parts manufacturing (336300).

## Laborers and freight, stock, and material movers, hand (SOC 53-7062)

**O\*Net definition:** Manually move freight, stock, or other materials or perform other unskilled general labor. Includes all unskilled manual laborers not elsewhere classified.

**Alternative Job Titles:** Material Handler, Warehouse Worker, Laborer, Loader, Receiving Associate, Receiver, Shipping and Receiving Materials Handler, Merchandise Pickup / Receiving Associate, Line Tender, Stock Replenisher

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>39</b>
2007 Occupational Jobs	5,368
2012 Occupational Jobs	5,414
Total Change	46
Total % Change	1%
New and Replacement Jobs	905
Median Hourly Earnings	\$11.24
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **39 people** have been laid off who were employed as Laborers and freight, stock, and material movers, hand (53-7062). Businesses affected by the loss include Honeywell Autolite (Seneca), American Standard (Seneca), Hospira (Ashland), Neer EGS (Richland), and TRW (Knox). Prior to notification about the job loss in these industries, the *Laborers and freight, stock, and material movers, hand* occupation had been projected to require a total of 905 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$11.24**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **General freight trucking**, NAICS 484100 (406 positions in 2007, projected to add 48 new positions by 2012)
- **Employment services**, NAICS 561300 (335 positions in 2007, projected to lose 14 positions by 2012)
- **Local government**, NAICS 930000 (248 positions, projected to lose 6 jobs by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Laborers and freight, stock, and material movers, hand*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### **Maids and Housekeeping Cleaners (37-2012.00)**

This occupation employs 2,507 workers and will require up to **733 new and replacement workers** by 2012. It also has an average wage of **\$7.00** which is significantly lower than the declining occupation. Employment in this occupation is projected to **increase 20%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Education & Training and Customer & Personal Service
- Intermediate and advanced levels of Reading Comprehension and Service Orientation skills

The top host industries for this occupation based on employment size and growth include Private households; primary and secondary jobs (814100), Hotels (except casino), motels, and all other traveler accommodation (7211XX), and Nursing care facilities (623100).

### **Stock clerks and order fillers (43.5081.04)**

This occupation employs 2,754 workers and will require up to **381 new and replacement workers** by 2012. It also has an average wage of **\$10.59/hour** which is lower than the declining occupation. Employment in this occupation is projected to **decrease 2%** by 2012, which is slightly better than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Education & Training and Production & Processing knowledge.
- Intermediate levels of Active Listening skills and Learning Strategies skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Sales & Marketing knowledge, and skills in Management of Personnel Resources.

The top host industries for this occupation based on employment size and growth include Department stores (452100), Other general merchandise stores (452900), and Crop and animal production (11A000).

### **Laundry and dry-cleaning workers (51-6011.00)**

This occupation employs 313 workers and will require up to **58 new and replacement workers** by 2012. It also has an average wage of **\$8.57/hour**, which is significantly lower than the declining occupation. Employment in this occupation is projected to **increase by 7%** by 2012, compared to a 5% growth rate in the state.

Key knowledge and skill similarities include:

- Intermediate level of Customer & Personal Service knowledge and Production & Processing knowledge
- Intermediate level of Learning Strategies and Time Management skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Equipment Selection skills and System Evaluation skills

The top host industries for this occupation are Nursing care facilities (623100), Drycleaning and laundry services (812300), and Hotels (except casino), motels, and all other traveler accommodation (7211XX).

# Inspectors, testers, sorters, samplers, and weighers (SOC 51-9061)

**O\*Net definition:** Pack, inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment

**Alternative Job Titles:** Inspector, Quality Inspector, Quality Technician, Quality Assurance Inspector, Quality Control Inspector, Quality Auditor, Picker / Packer, Quality Assurance Auditor, Quality Control Supervisor, Quality Control Technician

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>34</b>
2007 Occupational Jobs	1,612
2012 Occupational Jobs	1,584
Total Change	-28
Total % Change	2 %
New and Replacement Jobs	148
Median Hourly Earnings	\$18.15
Education Level	Moderate-term on-the-job training

## OVERVIEW

According to WARN notices, **34 people** have been laid off who were employed as Inspectors, testers, sorters, samplers, and weighers (51-9061). Businesses affected by the loss include Honeywell Autolite (Seneca), American Standard (Seneca), Hospira (Ashland), and TRW (Knox). Prior to notification about the job loss in these industries, the *Inspectors, testers, sorters, samplers, and weighers* occupation had been projected to require a total of 148 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$18.15**.

## INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Other general purpose machinery manufacturing**, NAICS 333900 (72 positions in 2007, projected to lose 6 jobs by 2012)
- **Navigational, measuring, electromedical, and control instruments manufacturing**, NAICS 334500 (53 positions in 2007, projected to lose 24 jobs by 2012)
- **Household appliance manufacturing**, NAICS 335200 (87 positions in 2007, projected to gain 6 jobs by 2012)

## CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Inspectors, testers, sorters, samplers, and weighers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

### Solderers and Brazers (51-4121.07)

This occupation employs 1328 workers and is projected to require **223 new and replacement workers** by 2012. It also has an average wage of **\$18.32/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase 6%** by 2012, better than the state. *Note: Employment numbers are for SOC 51-4121 which includes Welders, Cutters, and Welder Fitters (O\*NET SOC 51-4121.06) in addition to Solderers and Brazers (O\*NET SOC 51-4121.07).*

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Production & Processing knowledge and Computers and Electronics knowledge

- Intermediate levels of Quality Control Analysis and Learning Strategies and Learning Strategies

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical, and Engineering & Technology knowledge
- Skills in Reading comprehension and Time management

Top host industries for this occupation based on employment size and growth include Agriculture, construction, and mining machinery manufacturing (NAICS 333100), Motor vehicle body and trailer manufacturing (NAICS 336200), and Motor vehicle parts manufacturing (336300).

### **Janitors and cleaners, except maids and housekeeping cleaners (37-2011.00)**

This occupation employs 231 workers and will require up to **926 new and replacement workers** by 2012. It also has an average wage of **\$15.41** which is lower than the declining occupation. Employment in this occupation is projected to **increase 8%** by 2012, which is slightly lower than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematical knowledge and Education & Training
- Intermediate and advanced levels of Quality Control Analysis skills and Learning Strategies skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Public Safety & Security skills and Equipment Maintenance knowledge

The top host industries for this occupation based on employment size and growth include Bakeries and tortilla manufacturing (311800), Other food manufacturing (311900), and Grocery stores (445100).

### **Paper goods machine setters, operators, and tenders (51-9196.00)**

This occupation employs 500 workers and will require up to **100 new and replacement workers** by 2012. It also has an average wage of **\$15.58/hour**, which is lower than the declining occupation. Employment in this occupation is projected to **decline by 1%** by 2012, still better than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mathematics, and Production & Processing knowledge.
- Intermediate and advanced levels of Quality Control Analysis skills, and Active Learning skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Mechanical knowledge and Equipment Maintenance skills

The top host industries for this occupation are Converted paper product manufacturing (322200), Printing and related support activities (323100), and Pulp, paper, and paperboard mills (322100).

## Maintenance and Repair Workers, General (SOC 49-9042.00)

**O\*Net definition:** Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.

**Alternative Job Titles:** Maintenance Technician, Maintenance Mechanic, Maintenance Supervisor, Maintenance Electrician, Maintenance Engineer, Process Technician, Equipment Engineering Technician, Building Maintenance Mechanic, Building Mechanic, I&C Technician (Instrument and Controls Technician)

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>31</b>
2007 Occupational Jobs	2,800
2012 Occupational Jobs	2,914
Total Change	114
Total % Change	4%
New and Replacement Jobs	149
Median Hourly Earnings	\$16.72
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **31 people** have been laid off who were employed as Maintenance and Repair Workers, General (49-9042.00). Businesses affected by the loss include American Standard (Seneca), Hospira (Ashland), Neer EGS (Richland), and TRW Automotive (Knox). Prior to notification about the job loss in these industries, the *Maintenance and Repair Workers, General* occupation had been projected to require a total of 149 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$15.75**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Local Government**, NAICS 930000 (562 positions in 2007, projected to gain 20 jobs by 2012)
- **Activities related to real estate**, NAICS 531300 (57 positions in 2007, projected to gain 8 jobs by 2012)
- **Lessors of Real Estate** (85 positions in 2007, projected to gain 1 job by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Maintenance and Repair Workers, General*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### **Bus and truck mechanics and diesel engine specialists (49-3031.00)**

This occupation employs 661 workers and is projected to require **118 new and replacement workers** by 2012. It also has an average wage of **\$15.52/hour**, which is lower than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is higher than the state growth rate of 5%.

Key knowledge and skill similarities include:

- Expert levels of knowledge in Mechanical, and advanced knowledge levels in Public Safety and Security
- Advanced skills levels in Technical skills, such as Equipment Maintenance, and Repairing

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Transportation knowledge, and Law and Government knowledge

- Advanced skills levels in Technical skills, such as Equipment Maintenance, and Repairing

Top host industries for this occupation based on employment size and growth include Local Government (930000), Rail Transportation (482100), and Automotive Mechanical and Electrical Repair Maintenance (811110).

### **Industrial machinery mechanics (49-9041.00)**

This occupation employs 648 workers and will require up to **107 new and replacement workers** by 2012. It also has an average wage of **\$23.40/hour** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 8%** by 2012, which is higher than the state growth rate of 4%.

Key knowledge and skill similarities include:

- Expert levels of knowledge in Mechanical, and advanced knowledge levels in Design
- Advanced skills levels in Technical skills, such as Equipment Maintenance, and Troubleshooting

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Engineering and Technology knowledge
- Skills in Technology design, and skills Social Coordination

The top host industries for this occupation based on employment size and growth include Motor Vehicle Parts Manufacturing (336300), and Other General Purpose Machinery Manufacturing (333900).

### **Maintenance Workers, Machinery (49-9043.00)**

This occupation employs 308 workers and will require up to **38 new and replacement workers** by 2012. It also has an average wage of **\$15.40/hour**, which is lower than the declining occupation. Employment in this occupation is projected to increase at **4%**, which is much higher than the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels in Mechanical knowledge and Building & Construction
- Intermediate and advanced skills levels in Technical skills, such as Equipment Maintenance and Equipment Selection

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Repairing and Installation skills

The top host industries for this occupation based on employment size and growth include Crop and animal production (11A000), and Motor vehicle parts manufacturing (336300).

## Extruding and drawing machine setters, operators, and tenders, metal and plastic (SOC 51-4021)

**O\*Net definition:** Set up, operate, or tend machines to extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes

**Alternative Job Titles:** Extruder Operator, Machine Operator, Extrusion Press Operator, Operator, Wire Mill Operator, Setup Operator, Wire Mill Rover, Extrusion Mechanic, Insulation Operator, Jacket Line Operator

Basic Information	
Total 2006-2007 layoffs (from WARN notices)	30
2007 Occupational Jobs	521
2012 Occupational Jobs	547
Total Change	26
Total % Change	5%
New and Replacement Jobs	116
Median Hourly Earnings	\$16.40
Education Level	Moderate-term on-the-job training

### OVERVIEW

According to WARN notices, **30 people** have been laid off who were employed as Extruding and drawing machine setters, operators, and tenders, metal and plastic (51-9061). Businesses affected by the loss include Hospira (Ashland), Mueller Plastics (Wyandot), and Neer EGS (Richland). Prior to notification about the job loss in these industries, the *Extruding and drawing machine setters, operators, and tenders, metal and plastic* occupation had been projected to require a total of 116 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$16.40**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Iron and steel mills and ferroalloy manufacturing**, NAICS 331100 (16 positions in 2007, projected to lose 3 jobs by 2012)
- **Other electrical equipment and component manufacturing**, NAICS 335900 (24 positions in 2007, projected to lose 4 jobs by 2012)
- **Forging and stamping**, NAICS 332100 (12 positions in 2007, projected to lose 2 job by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Extruding and drawing machine setters, operators, and tenders, metal and plastic*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Mixing and Blending Machine Setters, Operators, and Tenders (51-9023.00)

This occupation employs 397 workers and is projected to require **46 new and replacement workers** by 2012. It also has an average wage of **\$15.79/hour**, which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase 1%** by 2012, which outpaces the state growth rate of -3%.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Mechanical knowledge and Education & Training knowledge
- Intermediate levels of Quality Control Analysis and Learning Strategies and Learning Strategies

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing knowledge
- Skills in Technology Design and Equipment Management

Top host industries for this occupation based on employment size and growth include Clay product and refractory manufacturing (NAICS 327100), Crop and animal production (NAICS 11A000), and Other chemical product and preparation manufacturing (325900).

### **Computer-controlled machine tool operators, metal and plastic (51-4011.00)**

This occupation employs 716 workers and will require up to **105 new and replacement workers** by 2012. It also has an average wage of **\$21.04** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Education & Training knowledge and Engineering & Technology
- Intermediate and advanced levels of Quality Control Analysis skills and Operation & Control skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Computer & Electronics knowledge and Equipment Maintenance skills

The top host industries for this occupation based on employment size and growth include Machine shops (332710), Agriculture, construction, and mining machinery manufacturing (333100), and Metalworking machinery manufacturing (333500).

### **Job Printers (51-5021.00)**

This occupation employs 184 workers and will require up to **28 new and replacement workers** by 2012. It also has an average wage of **\$17.47/hour**, which is higher than the declining occupation. Employment in this occupation is projected to **increase by 6%** by 2012, which is higher the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Education & Training and Mechanical knowledge.
- Intermediate and advanced levels of Quality Control Analysis skills, and Operation and Control skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing knowledge
- Time Management and Equipment Maintenance skills

The top host industries for this occupation are Printing and related support activities (323100), Newspaper publishers (511110), and Periodical publishers and all other book and directory publishers (5111XX).

## Stock clerks and order fillers (SOC 43-5081)

**O\*Net definition:** Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays.

**Alternative Job Titles:** Stock Clerks, Sales Floor, Marking Clerks, Stock Clerks- Stockroom, Warehouse, or Storage Yard, Order Fillers, Wholesale and Retail Sales

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>28</b>
2007 Occupational Jobs	2,754
2012 Occupational Jobs	2,703
Total Change	-51
Total % Change	-2%
New and Replacement Jobs	381
Median Hourly Earnings	\$10.59
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **28 people** have been laid off who were employed as Stock clerks and order fillers (43-5081). Businesses affected by the loss include Giant Eagle Grocery Store (Seneca). Prior to notification about the job loss in these industries, the *Stock clerks and order fillers* occupation had been projected to require a total of 381 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$10.59**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Department stores**, NAICS 452100 (665 positions in 2007, projected to gain 24 jobs by 2012);
- **Other general merchandise stores**, NAICS 452900 (252 positions in 2007, projected to lose 3 jobs by 2012)
- **Crop and animal production**, NAICS 11A000 (108 positions in 2007, projected to lose 14 jobs by 2012).

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Stock clerks and order fillers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### **Counter Attendants, Cafeteria, Food Concession, and Coffee Shop (35.3022.00)**

This occupation employs 420 workers and is projected to require **175 new and replacement workers** by 2012. It also has an average wage of **\$8.85/hour**, which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, slightly lower than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Sales and Marketing knowledge and Clerical knowledge
- Intermediate levels of Learning Strategies skills and Reading Comprehension skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Customer & Personal Service
- Skills in Service Orientation

Top host industries for this occupation based on employment size and growth include Limited-service eating places (NAICS 722200), Special food services (NAICS 722300), and Motion picture and video exhibition (512130).

### **Maid and Housekeeping Cleaners (37-2012.00)**

This occupation employs 2,507 workers and will require up to **733 new and replacement workers** by 2012. It also has an average wage of **\$7.00** which is significantly lower than the declining occupation. Employment in this occupation is projected to **increase 20%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Education & Training and knowledge of English
- Intermediate and advanced levels of Reading Comprehension skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Service Orientation skills

The top host industries for this occupation based on employment size and growth include Private households; primary and secondary jobs (814100), Hotels (except casino), motels, and all other traveler accommodation (7211XX), and Nursing care facilities (623100).

### **Combined Food Preparation and Serving Workers, Including Fast Food (35-3021.00)**

This occupation employs 4,638 workers and will require up to **839 new and replacement workers** by 2012. It also has an average wage of **\$7.66/hour**, which is significantly lower than the declining occupation. Employment in this occupation is projected to **increase by 9%** by 2012, the same rate as the state.

Key knowledge and skill similarities include:

- Intermediate levels of Education & Training and Production & Processing knowledge
- Intermediate and advanced levels of Reading Comprehension skills, and Monitoring skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Customer and Personal Service knowledge
- Service Orientation skills

The top host industries for this occupation are Limited-service eating places (722200), Full-service restaurants (722100), and Special food services (722300).

## Cashiers, except gaming (SOC 41-2011.00)

**O\*Net definition:** Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks.

**Alternative Job Titles:** Cashier, Sales Associate, Checker, Admissions Gate Attendant, Central Aisle Cashier, Toll Collector, Center Aisle Cashier, All Purpose Clerk (APC), Front End Assistant, Mutuel Cashier

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>28</b>
2007 Occupational Jobs	7,017
2012 Occupational Jobs	7,179
Total Change	162
Total % Change	2%
New and Replacement Jobs	1,949
Median Hourly Earnings	\$8.26
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **28 people** have been laid off who were employed as Cashiers, except gaming (41-2011). Businesses affected by the loss include the Giant Eagle Grocery Store (Seneca). Prior to notification about the job loss in these industries, the *Cashiers, except gaming* occupation had been projected to require a total of 1,949 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$8.26**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Gasoline Stores**, NAICS 447100 (1,180 positions in 2007, projected to lose 35 jobs by 2012)
- **Department Stores**, 445100 (718 positions in 2007, projected to gain 55 jobs by 2012)
- **Other General Merchandise Stores** (712 positions in 2007, projected to gain 20 jobs by 2012).

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Cashiers, except gaming*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Retail salespersons (41-2031.00)

This occupation employs 6,679 workers and is projected to require **1,842 new and replacement workers** by 2012. It also has an average wage of **\$9.37/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to **increase 12%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate levels of knowledge in Mathematics
- Intermediate skills levels in Active Listening skills, and Social Perceptiveness skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Sales and Marketing knowledge, and Clerical knowledge
- Writing skills

Top host industries for this occupation based on employment size and growth include Department Stores (447100), Building Material and Supplies Dealers (44100).

### **Cooks, institution and cafeteria (35-2012.00)**

This occupation employs 1,455 workers and will require up to **296 new and replacement workers** by 2012. It also has an average wage of **\$10.76/hour** which is significantly higher than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, which is roughly the same rate as the state.

Key knowledge and skill similarities include:

- Intermediate levels of knowledge in Mathematics
- Intermediate skills levels in Speaking, and Social Perceptiveness

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Food Production knowledge
- Time Management skills and Social Coordination skills

The top host industries for this occupation based on employment size and growth include Nursing Care Facilities (623100), and Local Government (930000).

### **Home health aides (31-1011.00)**

This occupation employs 2,034 workers and will require up to **464 new and replacement workers** by 2012. It also has an average wage of **\$8.78/hour**, which is slightly higher than the declining occupation. Employment in this occupation is projected to increase at **18%**, which is slightly lower than the state.

Key knowledge and skill similarities include:

- Advanced skills levels in Social Perceptiveness, and Active Listening

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Knowledge of Psychology
- Production Monitoring skills, and Reading Comprehension skills

The top host industries for this occupation based on employment size and growth include Home Health Care Services (631600), and Residential Mental Retardation Facilities (623210).

# Welders, cutters, solderers, and brazers (SOC 51-4121)

**O\*Net definition:** Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

**Alternative Job Titles:** Welders, Cutters, Welder Fitters, Solderers, and Brazers

Basic Information	
Total 2006-2007 layoffs (from WARN notices)	20
2007 Occupational Jobs	1,328
2012 Occupational Jobs	1,410
Total Change	82
Total % Change	6%
New and Replacement Jobs	223
Median Hourly Earnings	\$18.32
Education Level	Long-term on-the-job training

## OVERVIEW

According to WARN notices, **20 people** have been laid off who were employed as Welders, cutters, solderers, and brazers (51-4121). Businesses affected by the loss include Baja Marine (Crawford). Prior to notification about the job loss in these industries, the *Welders, cutters, solderers, and brazers* occupation had been projected to require a total of 223 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$18.32**.

## INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Agriculture, construction, and mining machinery manufacturing**, NAICS 333100 (198 positions in 2007, projected to add 40 jobs by 2012);
- **Other general purpose machinery manufacturing**, NAICS 333900 (167 positions in 2007, projected to lose 1 job by 2012)
- **Motor vehicle body and trailer manufacturing**, NAICS 336200 (141 positions in 2007, projected to lose 3 jobs by 2012).

## CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Welders, cutters, solderers, and brazers*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

### Helpers—Production Workers (51-9198.00)

This occupation employs 1,964 workers and will require up to **283 new and replacement workers** by 2012. It also has an average wage of **\$14.38/hour**, which is lower than the declining occupation. Employment in this occupation is projected to outpace the state, **growing 2%** by 2012.

Key knowledge and skill similarities include:

- Intermediate levels of Production & Processing knowledge.
- Intermediate and advanced levels of Equipment Selection skills, Learning Strategy skills, and Quality Control Analysis skills.

The top host industries for this occupation are Motor vehicle parts manufacturing (336300), Converted paper product manufacturing (322200), and Bakeries and tortilla manufacturing (311800).

### **Team Assemblers (51-2092.00)**

This occupation employs 6,939 workers and will require up to **772 new and replacement workers** by 2012. It also has an average wage of **\$16.60/hour** which is less than the declining occupation. Employment in this occupation is projected to **increase 1%** by 2012, which is higher than the state, which is expected to decline at -3%.

Key knowledge and skill similarities include:

- Intermediate levels of Mechanical knowledge and Education & Training knowledge.
- Intermediate and advanced levels of Equipment Maintenance skills, and Equipment Selection skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing knowledge, Operation Monitoring, and Quality Control Analysis.

The top host industries for this occupation based on employment size and growth include Other general purpose machinery manufacturing (333900), Household appliance manufacturing (335200), and Motor vehicle body and trailer manufacturing (336200).

### **Sawing Machine Setters, Operators, and Tenders, Wood (51-7041.00)**

This occupation employs 142 workers and will require up to **24 new and replacement workers** by 2012. It also has an average wage of **\$15.41/hour** which is slightly less than the declining occupation. Employment in this occupation is projected to **increase 7%** by 2012, slightly lower than the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Mechanical knowledge and Design knowledge.
- Intermediate and advanced levels of Quality Control Analysis skills, and Equipment Selection skills.

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing knowledge, and Operation Monitoring.

The top host industries for this occupation based on employment size and growth include Other wood product manufacturing (321900), Veneer, plywood, and engineered wood product manufacturing (321200), and Household and institutional furniture manufacturing (337120).

## Industrial truck and tractor operators (SOC 53-7051)

**O\*Net definition:** Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location

**Alternative Job Titles:** Material Handler, Forklift Operator, Truck Driver, Forklift Driver, Spotter Driver, Lift Truck Operator, Shag Truck Driver, Jitney Driver (Logistics), Warehouse Worker, Checker Loader

Basic Information	
<b>Total 2006-2007 layoffs (from WARN notices)</b>	<b>18</b>
2007 Occupational Jobs	1,767
2012 Occupational Jobs	1,738
Total Change	-29
Total % Change	-2%
New and Replacement Jobs	212
Median Hourly Earnings	\$15.37
Education Level	Short-term on-the-job training

### OVERVIEW

According to WARN notices, **18 people** have been laid off who were employed as Industrial truck and tractor operators (53-7051). Businesses affected by the loss include Honeywell Autolite (Seneca), Hospira (Ashland), Neer EGS (Richland), and TRW (Knox). Prior to notification about the job loss in these industries, the *Industrial truck and tractor operators* occupation had been projected to require a total of 212 new and replacement positions between 2007 and 2012, which indicates there may be other potential employment opportunities within this occupation. The median hourly wage is **\$15.37**.

### INDUSTRY TRANSITIONS

The first option to consider is whether these workers can find re-employment within the same occupation but in a different industry. Regional staffing patterns and industry projections show that other regional industries not only employ workers in this occupation, but they are also projected to add new positions. The following industries should be explored for potential employment opportunities:

- **Crop and animal production**, NAICS 11A000 (165 positions in 2007, projected to lose 25 jobs by 2012)
- **Household appliance manufacturing**, NAICS 335200 (115 positions in 2007, projected to add 5 new positions by 2012)
- **General freight trucking**, NAICS 484100 (109 positions, projected to add 13 jobs by 2012)

### CAREER TRANSITIONS

The following occupations should be explored as potential target transition careers for *Industrial truck and tractor operators*. Occupations were selected based on demand, earnings, and EMSI's Compatibility Index, which measures similarity of knowledge, skills, and abilities.

#### Truck drivers, heavy and tractor-trailer (53-3032.00)

This occupation employs 4,993 workers and will require up to **1,034 new and replacement workers** by 2012. It also has an average wage of **\$14.78** which is slightly lower than the declining occupation. Employment in this occupation is projected to **increase 12%** by 2012, which is higher than the state.

Key knowledge and skill similarities include:

- Intermediate and advanced levels of Transportation and Education & Training knowledge
- Intermediate levels of Repairing and Equipment Selection skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Public Safety & Security and Law & Government knowledge

The top host industries for this occupation based on employment size and growth include General freight trucking (484100), Direct selling establishments (454300), and Crop and animal production (11A000).

### **Coating, painting, and spraying machine setters, operators, and tenders (51-9121.00)**

This occupation employs 389 workers and will require up to **56 new and replacement workers** by 2012. It also has an average wage of **\$19.13/hour** which is significantly higher than the declining occupation. Employment in this occupation is projected to **decrease 2%** by 2012, which is still better than the state.

Key knowledge and skill similarities include:

- Intermediate levels of Mechanical knowledge and Education & Training
- Intermediate and advanced levels of Active Learning skills and Operation Monitoring skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing knowledge, and Monitoring and Quality Control Analysis skills

The top host industries for this occupation based on employment size and growth include Agriculture, construction, and mining machinery manufacturing (333100), Other general purpose machinery manufacturing (333900), and Household appliance manufacturing (335200).

### **Extruding, forming, pressing, and compacting machine setters, operators, and tenders (51-9041.00)**

This occupation employs 539 workers and will require up to **54 new and replacement workers** by 2012. It also has an average wage of **\$15.17/hour**, which is very slightly lower than the declining occupation. Employment in this occupation is projected to **decline by 3%** by 2012, compared to a 6% decline in the state.

Key knowledge and skill similarities include:

- Intermediate level of Mechanical knowledge and Education & Training knowledge
- Intermediate level of Operation Monitoring and Operation & Control skills

The focus occupation may require additional training in these key knowledge and skill areas in order to make the transition:

- Production & Processing skills

The top host industries for this occupation are Cement and concrete product manufacturing (327300), Glass and glass product manufacturing (327200), and Converted paper product manufacturing (322200).