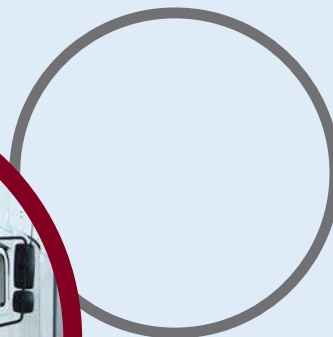
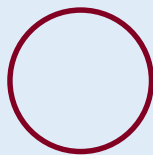




Department of
Job and Family Services

TO STRENGTHEN OHIO'S FAMILIES THROUGH THE DELIVERY OF INTEGRATED SOLUTIONS TO TEMPORARY CHALLENGES

Employment Trends in the Logistics Industry Cluster



Executive Summary

- The logistics cluster consists of 13 industries responsible for transporting materials, storing goods and supporting activities related to transportation.
- In 2012, the logistics industry cluster's employment of more than 150,000 accounted for 3.5 percent of total Ohio employment. During the 2007 to 2009 recession, employment in the logistics industry cluster declined 13.7 percent (-23,523), compared to a decline of 7.8 percent (-356,221) in total Ohio employment.
- Nonscheduled air transportation, other support activities for transportation and general freight trucking have higher employment concentrations in Ohio, compared to the U.S. as a whole.
- Within the logistics cluster, the general freight trucking industry has the largest number of establishments (2,939) and the largest workforce, with employment exceeding 50,000.
- Five industries in the logistics cluster are expected to have job growth greater than 2,000 from 2010 to 2020: general freight trucking (9,530), warehousing and storage (6,680), specialized freight trucking (3,310), couriers and express delivery services (2,430), and nonscheduled air transportation (2,030).
- About 49 percent of workers in the logistics cluster are age 45 or older, compared to 45 percent for all Ohio workers. The cluster may experience retirements earlier than other industries.
- Typical education at entry for 22 of the 25 largest occupations in the logistics cluster is a high school diploma or less, and most of these occupations require on-the-job training.

Introduction

Logistics is the transportation and warehousing of goods for business. The logistics industry cluster has 13 industries, as shown in Figure 1. In 2012, the logistics cluster employed more than 151,190 workers, about 3.5 percent of Ohio’s total employment.

Figure 1. Logistics Cluster Industries

NAICS Code	Industry Title	2012 Employment
4811	Scheduled Air Transportation	4,627
4812	Nonscheduled Air Transportation	6,063
4841	General Freight Trucking	50,775
4842	Specialized Freight Trucking	15,014
4881	Support Activities for Air Transportation	4,141
4882	Support Activities for Rail Transportation	993
4883	Support Activities for Water Transportation	818
4884	Support Activities for Road Transportation	2,792
4885	Freight Transportation Arrangement	6,933
4889	Other Support Activities for Transportation	2,095
4921	Couriers and Express Delivery Services	18,594
4922	Local Messengers and Local Delivery	1,370
4931	Warehousing and Storage	36,979

Source: Quarterly Census of Employment and Wages

Ohio is a good location for transportation because of its accessibility to intermodal terminals, air cargo freight and roadways.¹ Ohio is within 600 miles of half of the United States population and 61 percent of all manufacturing locations in the U.S. and Canada. Ohio has the following infrastructure to support the logistics cluster:

- 519 airports (fourth in the nation), including 189 public airports, six international airports and three cargo airports
- 123,000 miles of roadways (seventh in the nation), including eight interstate highways²
- Nine ports on Lake Erie, 16 terminals on the Ohio River, and more than 700 miles of waterways leading to the Gulf of Mexico or the St. Lawrence Seaway

¹ Jayne Gest, “The fascinating world of logistics — Columbus leaders are making the area’s strengths even stronger,” *Smart Business Online*, 31 March 2014, <http://www.sbnonline.com/component/k2/24-columnist/28085-jayne-gest-the-fascinating-world-of-logistics-columbus-leaders-are-making-the-area-s-strengths-even-stronger#.U0WhoKhdX95>

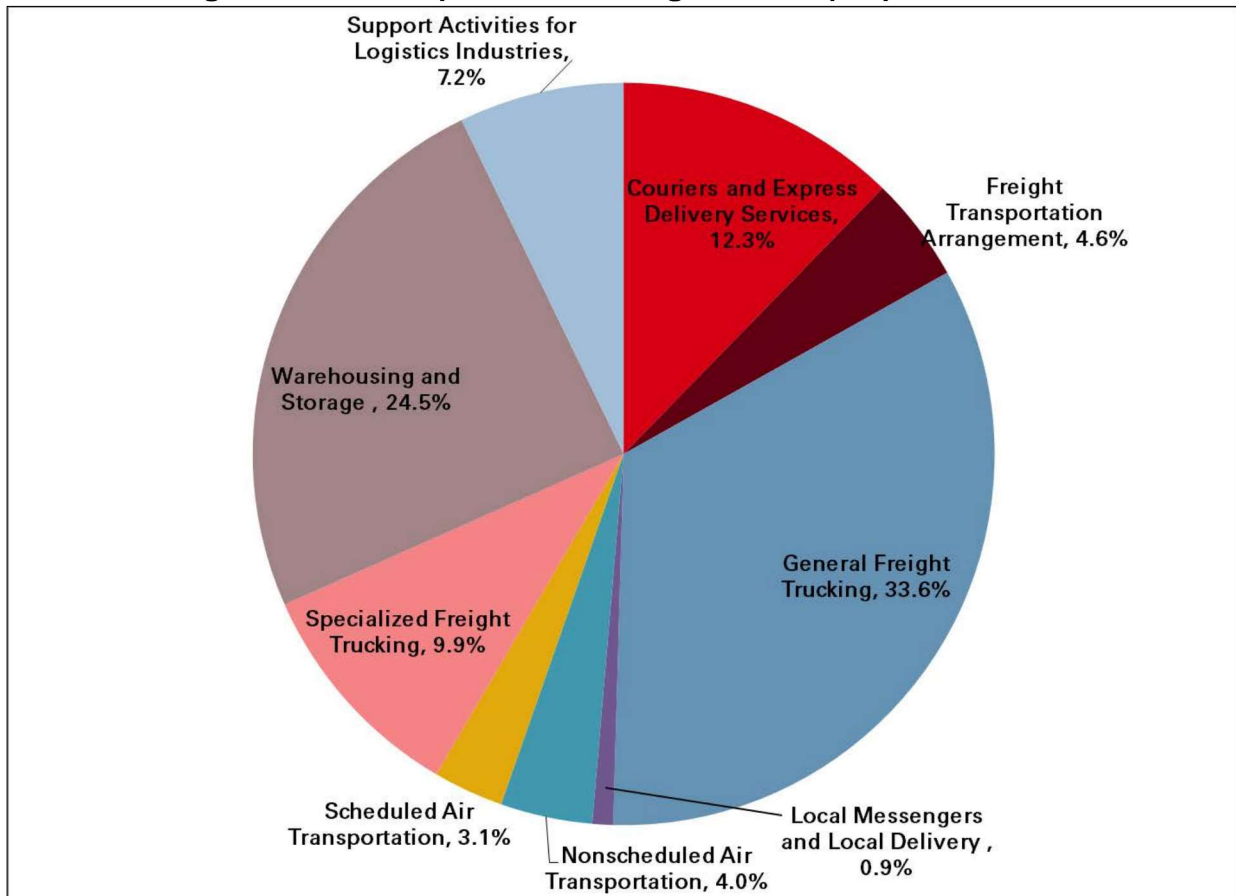
² Ohio Department of Development, *Ohio’s World-Class Transportation, Distribution, and Logistics Industry* (2011).

- 36 freight railroads, with more than 5,000 miles of track—the third most active in the nation.

Cluster Composition

Figure 2 shows each industry’s share of the logistics cluster’s total private employment in 2012. General freight trucking had the largest share of logistics employment, at 33.6 percent. It was followed by warehousing and storage with 24.5 percent, couriers and express delivery services with 12.3 percent, and specialized freight trucking with 9.9 percent. As a group, the four support activities industries accounted for 7.2 percent of cluster employment. The remaining industries each had less than five percent of total logistics employment.

Figure 2. Industry Shares of Logistics Employment, 2012



Source: Quarterly Census of Employment and Wages

Industry Employment Concentration

An industry's location quotient is a measure of how significant that industry is to a particular region's economy. Figure 3 lists the logistics industries and their location quotients for Ohio. Values greater than 1.2 mean the industry's concentration of employment in Ohio is significantly greater than the U.S. average. This suggests these establishments serve logistics needs beyond their local areas. Four logistics industries had 2012 location quotients (LQs) greater than 1.2: nonscheduled air transportation (LQ 3.88), other support activities for transportation (LQ 1.89), general freight trucking (LQ 1.40), and warehousing and storage (LQ 1.39).

Figure 3. Industry Location Quotients, 2012

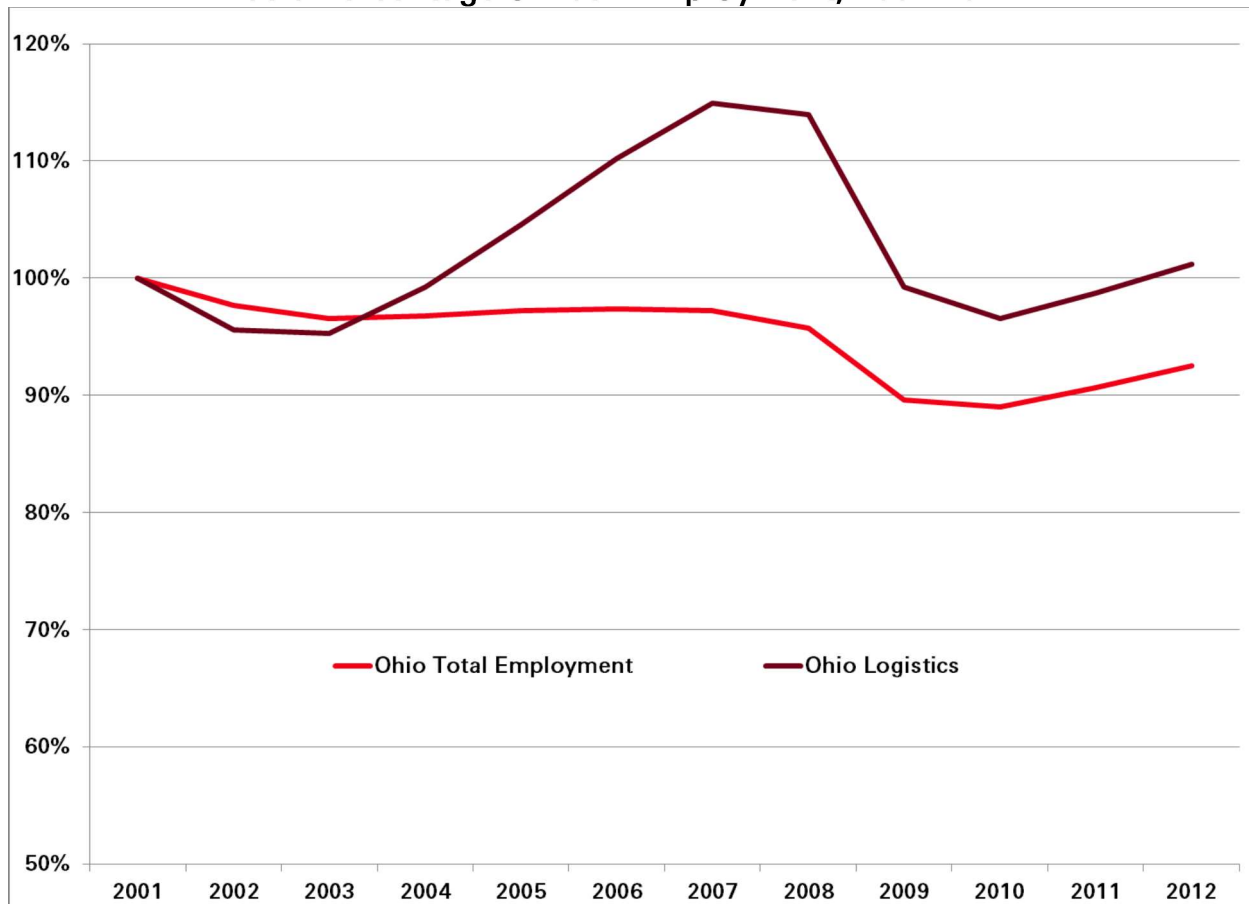
NAICS Title	Location Quotient
Nonscheduled Air Transportation (NAICS 4812)	3.88
Other Support Activities for Transportation (NAICS 4889)	1.89
General Freight Trucking (NAICS 4841)	1.40
Warehousing and Storage (NAICS 4931)	1.39
Couriers and Express Delivery Services (NAICS 4921)	0.99
Support Activities for Rail Transportation (NAICS 4882)	0.96
Freight Transportation (NAICS 4885)	0.96
Specialized Freight Trucking (NAICS 4842)	0.92
Support Activities for Road Transportation (NAICS 4884)	0.83
Local Messengers and Local Delivery (NAICS 4922)	0.72
Support Activities for Air Transportation (NAICS 4881)	0.65
Scheduled Air Transportation (NAICS 4811)	0.28
Support Activities for Water Transportation (NAICS 4883)	0.23

Source: U.S. Bureau of Labor Statistics

Cluster Employment Trends

Figure 4 shows the percent change in annual employment for the logistics cluster and Ohio total employment from 2001 to 2012. Both had similar declines following the 2001 recession. From 2004 to 2007, however, the logistics industry recovered and grew while Ohio's total employment was flat. The 2007 to 2009 recession had a greater impact on the logistics cluster than on total employment. Ohio total employment declined 7.8 percent from 2007 to 2009, but logistics cluster employment declined 13.7 percent. From 2010 to 2012, both Ohio total employment and the logistics cluster began recovering from the recession. In 2012, Ohio total employment was 92.6 percent of its 2001 employment level; the logistics cluster was 101.2 percent of its 2001 employment.

Figure 4. Ohio Logistics Cluster and Ohio Total Employment as a Percentage of 2001 Employment, 2001-2012



Source: Quarterly Census of Employment and Wages

Figure 5 shows the percent change in annual Ohio logistics cluster employment and U.S. total employment from 2001 to 2012. The Ohio logistics cluster grew much more quickly than U.S. total employment from 2006 through 2008. In other years, however, the Ohio logistics cluster grew a little more slowly than U.S. total employment. From 2010 to 2012, both the Ohio logistics cluster and U.S. total employment were in similar slow recoveries from the 2007-2009 recession.

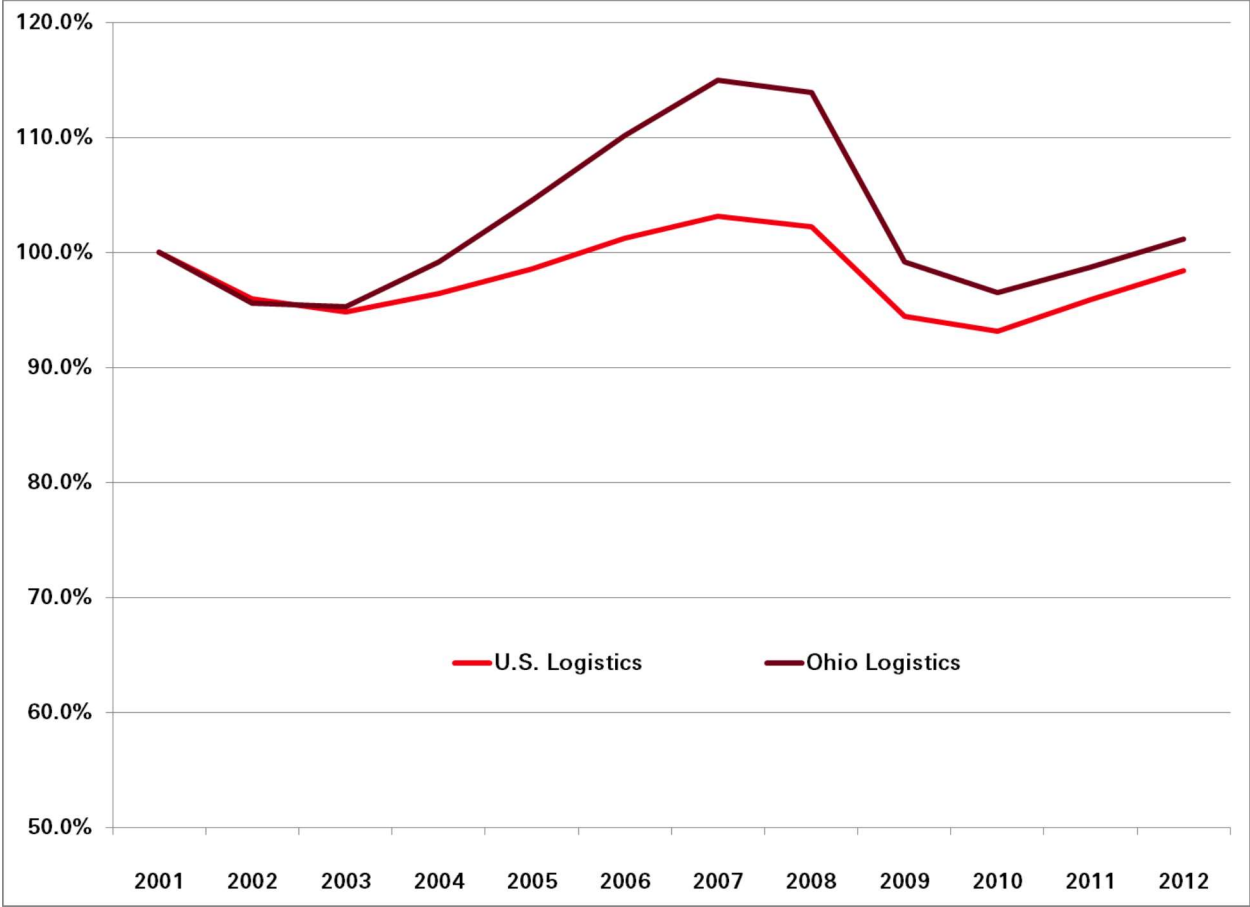
Figure 5. U.S. Total Employment and Ohio Logistics Employment as a Percentage of 2001 Employment, 2001-2012



Source: U.S. Bureau of Labor Statistics

Figure 6 shows the percent change in annual employment from 2001 to 2012 for the Ohio logistics cluster and the U.S. logistics cluster. The Ohio logistics cluster grew much more quickly than the comparable U.S. logistics industries from 2003 through 2008, but the 2007 to 2009 recession struck the Ohio logistics cluster harder than the U.S. logistics cluster. From 2008 to 2009, the Ohio logistics cluster declined by 12.9 percent, compared to a 7.6 decline for the U.S. logistics industries. From 2010 to 2012, both the Ohio logistics cluster and the U.S. logistics industries were in similar recoveries from the 2007-to-2009 recession.

Figure 6. U.S. Logistics and Ohio Logistics Employment as a Percentage of 2001 Employment, 2001-2012



Source: U.S. Bureau of Labor Statistics

Industry Employment Trends

This section presents annual employment data from 2000 through 2012 for each of the industries in the logistics cluster. The nation experienced two recessions during this period, in 2001 and from late 2007 to mid-2009, and each cluster industry responded to the recessions differently.

Scheduled Air Transportation, NAICS 4811

This industry transports passengers and/or cargo over regular routes and on regular schedules.³ Scheduled air transportation employment declined since 2002. Between 2000 and 2012, the industry lost 3,785 jobs (-45.0 percent) and 32 establishments (-43.8 percent). From 2007 to 2012, it lost 3,033 jobs (-39.6 percent).

Figure 7. Scheduled Air Transportation

Year	Establishments	Employment
2000	73	8,412
2001	67	8,546
2002	68	8,794
2003	63	8,480
2004	66	8,539
2005	66	8,415
2006	64	7,793
2007	62	7,660
2008	60	7,117
2009	58	5,848
2010	48	5,443
2011	46	5,362
2012	41	4,627
Net Change	(32)	(3,785)
Percent Change	-43.8%	-45.0%

Source: Quarterly Census of Employment and Wages

³ All industry descriptions taken from Office of Management and Budget, North American Industry Classification System, United States, 2012 (Lanham, MD: Bernan Press, 2012).

Nonscheduled Air Transportation, NAICS 4812

This industry transports passengers and/or cargo with no regular routes or regular schedules. Except for a brief employment decline from 2009 to 2010, nonscheduled air transportation has grown since 2000. From 2000 to 2012, the industry gained 3,700 jobs (156.6 percent) and 16 establishments (20.5 percent).

Figure 8. Nonscheduled Air Transportation

Year	Establishments	Employment
2000	78	2,363
2001	77	2,912
2002	78	3,669
2003	82	3,810
2004	89	3,861
2005	86	4,297
2006	88	4,757
2007	95	5,101
2008	90	5,391
2009	87	5,417
2010	95	5,012
2011	96	5,516
2012	94	6,063
Net Change	16	3,700
Percent Change	20.5%	156.6%

Source: Quarterly Census of Employment and Wages

Freight Trucking, NAICS 4841

In 2012, freight trucking had the highest employment in the logistics cluster, at 50,775. This accounted for 33.6 percent of cluster employment. Employment peaked in 2007, with 55,711 workers. The industry had 4,936 fewer workers and 183 fewer establishments in 2012 than in 2007.

Figure 9. Freight Trucking

Year	Establishments	Employment
2000	3,099	50,382
2001	3,152	49,639
2002	3,124	49,469
2003	3,113	48,579
2004	2,987	49,594
2005	3,033	51,784
2006	3,042	52,530
2007	3,122	55,711
2008	3,091	54,520
2009	2,944	47,692
2010	2,839	47,837
2011	2,921	49,528
2012	2,939	50,775
Net Change	(160)	393
Percent Change	-5.2%	0.8%

Source: Quarterly Census of Employment and Wages

Specialized Freight Trucking, NAICS 4842

Specialized freight trucking involves special equipment such as flatbeds, tankers or refrigerated trailers. Industry employment peaked in 2005 at 15,551 jobs, then declined to 13,541 in 2009. By 2012, specialized freight trucking employment was at 15,014, more than 96 percent of the 2005 employment level. The number of establishments declined by 10.6 percent from 2000 to 2012.

Figure 10. Specialized Freight Trucking

Year	Establishments	Employment
2000	1,716	14,833
2001	1,681	14,501
2002	1,674	13,996
2003	1,678	14,090
2004	1,654	14,912
2005	1,674	15,551
2006	1,664	15,390
2007	1,609	14,943
2008	1,613	14,728
2009	1,563	13,541
2010	1,526	13,568
2011	1,526	14,196
2012	1,534	15,014
Net Change	(182)	181
Percent Change	-10.6%	1.2%

Source: Quarterly Census of Employment and Wages

Support Activities for Air Transportation, NAICS 4881

This industry provides such services as aircraft storage and airport operation, repair and maintenance. Employment peaked in 2001 at 4,607. The industry partially recovered after the 2001 recession, then declined with the 2007-to-2009 recession. Industry employment increased from 2009 to 2012. The number of establishments has been increasing since 2004.

Figure 11. Support Activities for Air Transportation

Year	Establishments	Employment
2000	159	4,462
2001	157	4,607
2002	150	3,425
2003	152	3,038
2004	143	2,865
2005	151	3,044
2006	154	3,239
2007	160	3,563
2008	169	3,583
2009	168	3,322
2010	176	3,844
2011	180	4,040
2012	184	4,141
Net Change	25	(321)
Percent Change	15.7%	-7.2%

Source: Quarterly Census of Employment and Wages

Support Activities for Rail Transportation, NAICS 4882

This industry provides such services as servicing, repairing and maintaining rail cars; loading and unloading rail cars; and operating independent rail terminals. Employment peaked in 2007 at 1,369. Although it has fluctuated somewhat over time, it has declined only slightly (-30) from 2000 to 2012. Over the same period, the number of establishments increased by 26.

Figure 12. Support Activities for Rail Transportation

Year	Establishments	Employment
2000	34	1,023
2001	34	911
2002	34	919
2003	39	1,054
2004	44	1,029
2005	44	1,096
2006	51	1,171
2007	56	1,369
2008	54	1,359
2009	57	1,005
2010	55	1,106
2011	56	914
2012	60	993
Net Change	26	(30)
Percent Change	76.5%	-2.9%

Source: Quarterly Census of Employment and Wages

Support Activities for Water Transportation, NAICS 4883

This industry operates ports and harbors, including docking and pier facilities. Although employment has fluctuated somewhat, it declined only slightly (-14) from 2000 to 2012. The number of establishments decreased by 22 over the same period.

Figure 13. Support Activities for Water Transportation

Year	Establishments	Employment
2000	56	832
2001	53	784
2002	45	700
2003	49	727
2004	45	746
2005	45	811
2006	42	937
2007	38	901
2008	39	905
2009	39	830
2010	38	846
2011	35	839
2012	34	818
Net Change	(22)	(14)
Percent Change	-39.3%	-1.7%

Source: Quarterly Census of Employment and Wages

Support Activities for Road Transportation, NAICS 4884

This industry provides services related to the towing of both light and heavy vehicles over short and long distances. This includes pilot car services (cars that accompany oversized loads), driving services, and bridge, tunnel and highway operation. Employment fluctuated somewhat from 2000 to 2012, with an increase of 467. The number of establishments fluctuated but did not change significantly from 2000 to 2012.

Figure 14. Support Activities for Road Transportation

Year	Establishments	Employment
2000	368	2,325
2001	379	2,447
2002	377	2,451
2003	379	2,483
2004	372	2,481
2005	369	2,530
2006	366	2,611
2007	371	2,765
2008	374	2,626
2009	378	2,638
2010	362	2,672
2011	369	2,840
2012	368	2,792
Net Change	0	467
Percent Change	0.0%	20.1%

Source: Quarterly Census of Employment and Wages

Freight Transportation Arrangement, NAICS 4885

This industry coordinates the transportation of freight between shippers and carriers. Employment declined by 3,515 jobs from 2000 to 2012, and the industry lost 50 establishments.

Figure 15. Freight Transportation Arrangement

Year	Establishments	Employment
2000	545	10,448
2001	525	9,625
2002	485	7,855
2003	506	7,783
2004	490	7,941
2005	513	8,298
2006	521	8,496
2007	535	7,980
2008	528	8,050
2009	517	7,267
2010	499	6,901
2011	501	6,715
2012	495	6,933
Net Change	(50)	(3,515)
Percent Change	-9.2%	-33.6%

Source: Quarterly Census of Employment and Wages

Other Support Activities for Transportation, NAICS 4889

This category includes services not provided by the other transportation support industries (NAICS 4881, 4882, 4883, 4884 and 4885). Employment peaked in 2005 at 2,205. Its decline was relative small during the recession, and there has been some recovery. There was a net gain of 233 jobs from 2000 to 2012; the number of establishments increased by four over the same period.

Figure 16. Other Support Activities for Transportation

Year	Establishments	Employment
2000	123	1,862
2001	129	1,968
2002	123	1,812
2003	123	1,948
2004	119	2,178
2005	112	2,205
2006	108	2,041
2007	113	1,961
2008	127	2,192
2009	133	1,877
2010	131	1,938
2011	128	1,978
2012	127	2,095
Net Change	4	233
Percent Change	3.3%	12.5%

Source: Quarterly Census of Employment and Wages

Couriers and Express Delivery Service, NAICS 4921

This industry provides air or surface courier and express delivery services of parcels. It does not include the U.S. Postal Service. Employment peaked in 2007 at 29,585; it declined to 18,594 by 2012. Establishments increased 32.2 percent from 2000 to 2012.

Figure 17. Couriers and Express Delivery Service

Year	Establishments	Employment
2000	289	27,761
2001	320	27,307
2002	342	25,790
2003	339	27,243
2004	319	26,978
2005	319	27,133
2006	319	29,368
2007	318	29,585
2008	316	28,374
2009	302	22,762
2010	290	19,210
2011	342	18,509
2012	382	18,594
Net Change	93	(9,167)
Percent Change	32.2%	-33.0%

Source: Quarterly Census of Employment and Wages

Local Messengers and Local Delivery, NAICS 4922

This industry provides local messenger and delivery services of small items within metropolitan areas or urban centers. Employment dropped significantly from 2002 to 2003, due to a reclassification of some establishments into different industries. In 2012, industry employment was at 1,370, its highest since 2002. The number of establishments peaked in 2012.

Figure 18. Local Messengers and Local Delivery

Year	Establishments	Employment
2000	123	2,958
2001	124	2,800
2002	142	2,692
2003	145	987
2004	167	1,103
2005	180	1,120
2006	181	1,036
2007	200	1,122
2008	218	1,258
2009	202	1,035
2010	183	1,076
2011	218	1,267
2012	231	1,370
Net Change	108	(1,588)
Percent Change	87.8%	-53.7%

Source: Quarterly Census of Employment and Wages

Warehousing and Storage, NAICS 4931

Warehousing and storage industry employment peaked in 2008 at 40,167. The industry lost jobs during the recession of 2007 to 2009 but gained most of them back, employing 36,979 in 2012. The number of establishments has nearly recovered following the recession.

Figure 19. Warehousing and Storage

Year	Establishments	Employment
2000	523	24,177
2001	522	23,377
2002	526	21,263
2003	536	22,138
2004	554	26,025
2005	566	29,902
2006	605	35,317
2007	640	39,113
2008	706	40,167
2009	701	35,017
2010	680	34,782
2011	681	35,829
2012	690	36,979
Net Change	167	12,802
Percent Change	31.9%	53.0%

Source: Quarterly Census of Employment and Wages

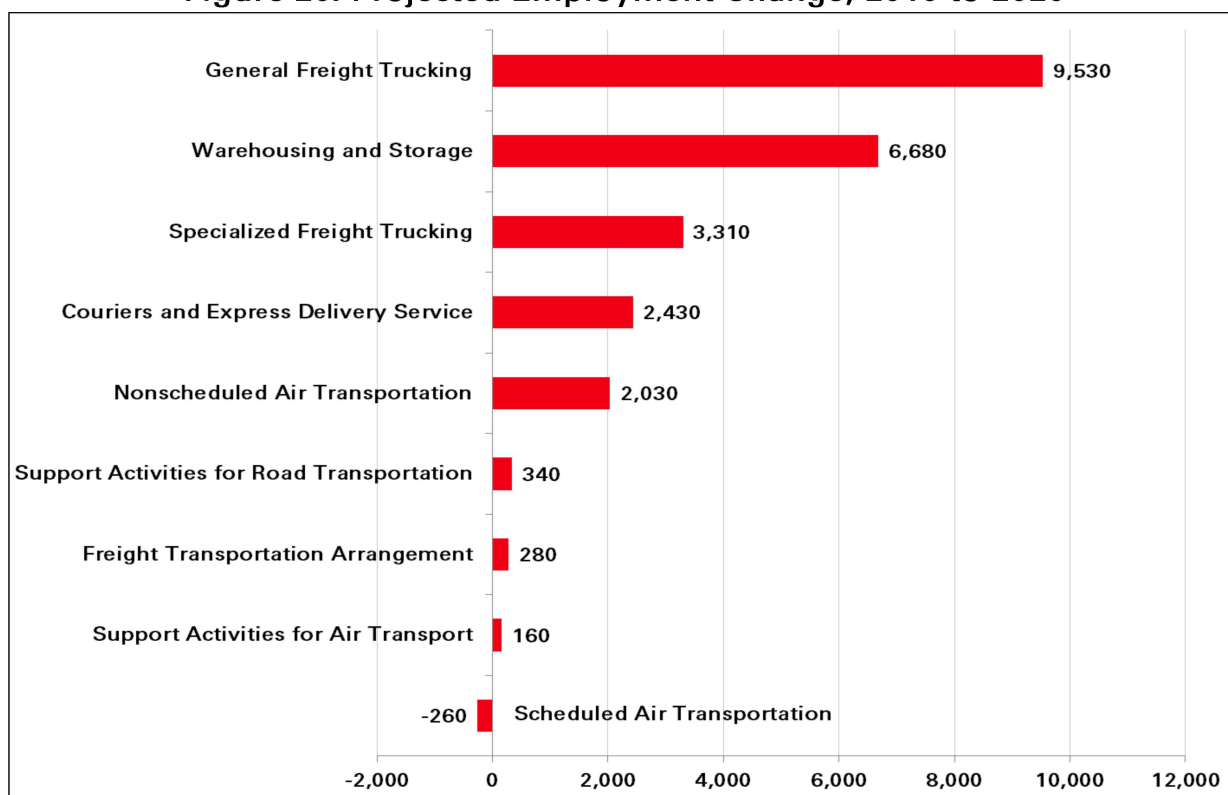
The Logistics Workforce

Three factors affect an industry's workforce needs. The first is industry growth or decline. Growing industries need more workers; shrinking industries need fewer. The second is the need to replace workers who leave to work in other industries, for retirement or for other reasons. Even shrinking industries can have significant replacement needs. The last factor is the availability of trained workers or workers who can be trained. The following section examines projected industry employment, recent worker age and education distributions, and the projected occupational needs for the logistics cluster.

Projected Employment Change, Ohio 2010 to 2020

Figure 20 shows the long-term employment projections for nine industries in the logistics cluster.⁴ The logistics cluster is expected to grow by more than 25,000 jobs from 2010 to 2020. The largest growth is expected to occur in the general freight trucking industry, with as many as 9,530 jobs added (20.0 percent). Scheduled air transportation is expected to continue shrinking, with a decline of 260 jobs (-4.8 percent). Nonscheduled air transportation is expected to have the fastest growth, at 40.5 percent (2,030 jobs).

Figure 20. Projected Employment Change, 2010 to 2020



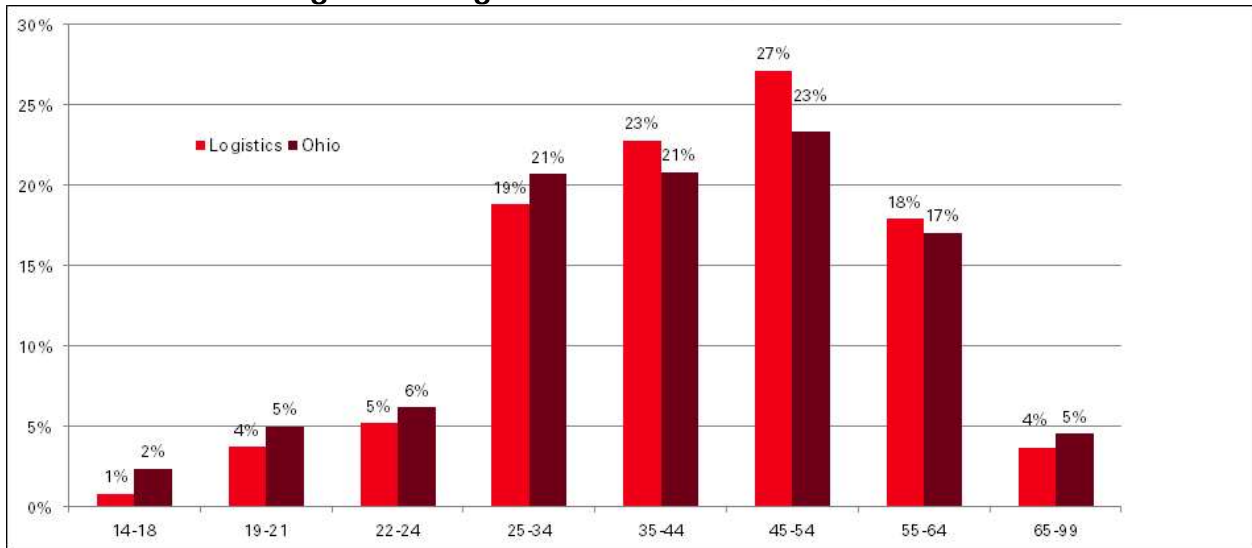
Source: Ohio Bureau of Labor Market Information

Age Distribution of Ohio Workers

Figure 21 shows the age distribution of workers in the logistics cluster compared to all Ohio workers for the fourth quarter of 2012. On average, workers in the logistics cluster tend to be a little older than workers in other Ohio industries. About 49 percent of cluster workers are age 45 or older, compared to 45 percent for all Ohio workers. Businesses in the logistics cluster may need to replace retiring workers sooner than businesses in other industries.

⁴ The employment projections for the other industries are very small.

Figure 21. Age Distribution of Ohio Workers



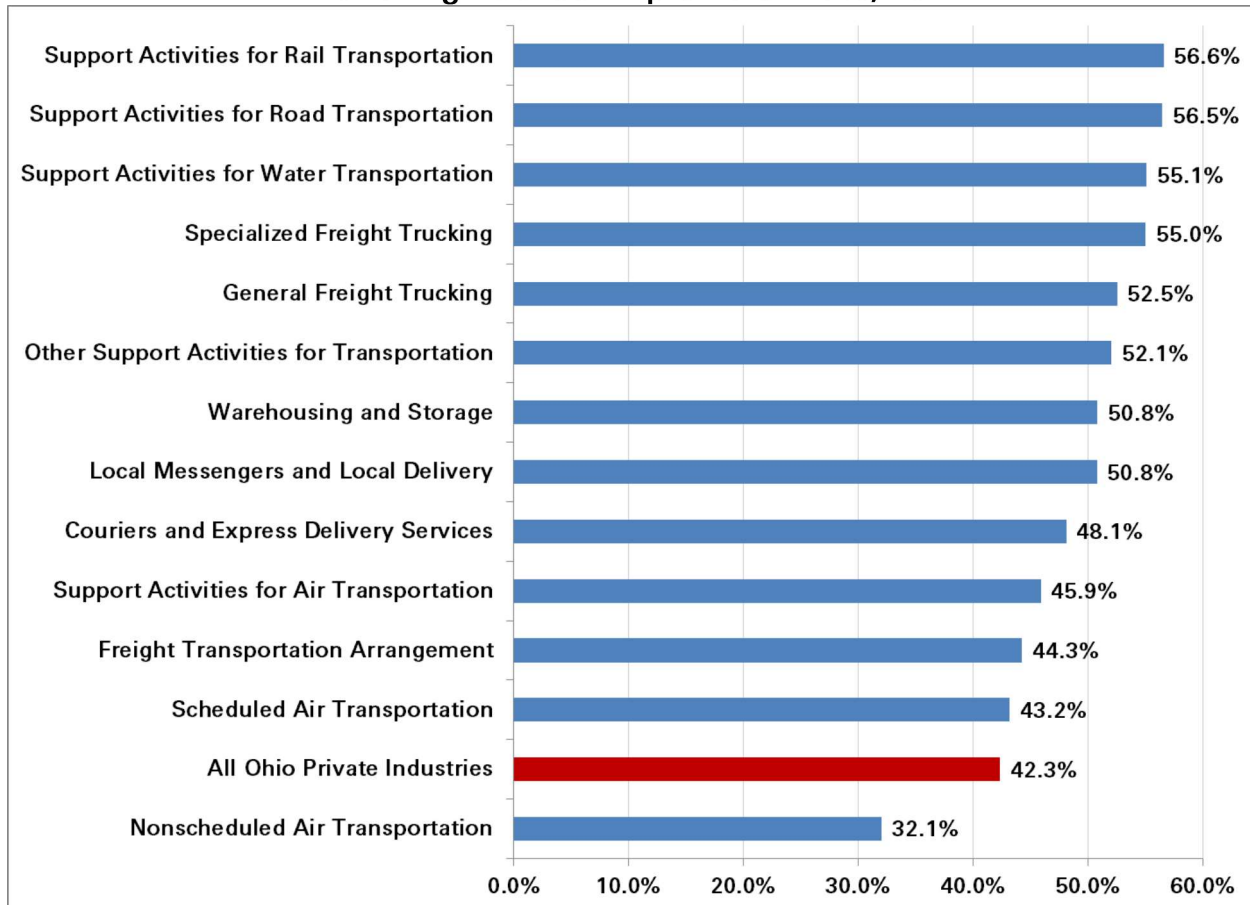
Source: U.S. Census Quarterly Workforce Indicators, 2012 Q4

Logistics Cluster Education and Training Needs

Because of projected growth and an aging workforce, the logistics cluster industries need to recruit workers. As Figure 22 shows, many occupations in this cluster have minimal training and education requirements.

Across all Ohio private industries, an average of 42.3 percent of workers had a high school diploma or less in 2012. Among the logistics cluster industries, only nonscheduled air transportation had a lower percentage of workers with a high school diploma or less, at 32.1 percent. Eight industries had more than 50 percent of workers 25 and older with a high school diploma or less.

Figure 22. Percent of Logistics Workers 25 and Older with a High School Diploma or Less, 2012



Source: U.S. Census Quarterly Workforce Indicators, 2012

Although every business has a unique set of jobs, businesses in the same industry and related industries tend to employ similar occupations. Figure 23 shows the typical education levels, on-the-job training and related work experience associated with the 25 largest occupations in the logistics cluster. Entrants to 22 of the top 25 occupations typically have a high school diploma or less. Sixteen of those occupations require only short-, moderate- or long-term on-the-job training. Short-term on-the-job training lasts less than one month, and long-term on-the-job training lasts less than one year.

Many jobs in the logistics cluster have basic education and training needs. This should make it relatively easy to fill vacant positions. One occupation, however – heavy and tractor-trailer truck drivers (Standard Occupation Code, or SOC, 53-3032) – is hard to keep filled.⁵ It is one of the occupations most frequently advertised online in Ohio.⁶

⁵ Logistics Management 4.1.14 John Schultz.

⁶ See <http://ohiolmi.com/asp/omj/hw.htm>.

Figure 23. Typical Entry Education, On-the-Job Training and Related Work Experience Needs for the 25 Largest Logistics Occupations

SOC Code	Occupational Title	Typical Education Level at Entry	On-the-Job Training/Related Experience
53-3032	Heavy and Tractor-Trailer Truck Drivers	High school diploma or equivalent	Short-term OJT; 1-5 yrs exp.
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	Less than high school	Short-term OJT
53-3033	Light Truck or Delivery Services Drivers	High school diploma or equivalent	Short-term OJT
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	High school diploma or equivalent	Short-term OJT
43-9061	Office Clerks, General	High school diploma or equivalent	Short-term OJT
43-5032	Dispatchers, Except Police, Fire, and Ambulance	High school diploma or equivalent	Moderate-term OJT
53-1031	Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	High school diploma or equivalent	1-5 yrs exp.
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	Long-term OJT
43-5011	Cargo and Freight Agents	High school diploma or equivalent	Short-term OJT
53-7051	Industrial Truck and Tractor Operators	Less than high school	Short-term OJT; less than 1 yr exp.
43-4051	Customer Service Representatives	High school diploma or equivalent	Short-term OJT
41-3099	Sales Representatives, Services, All Other	High school diploma or equivalent	Short-term OJT
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	Short-term OJT
53-1021	Supervisors of Helpers, Laborers, and Material Movers, Hand	High school diploma or equivalent	1-5 yrs exp.
43-5081	Stock Clerks and Order Fillers	Less than high school	Short-term OJT
53-7064	Packers and Packagers, Hand	Less than high school	Short-term OJT
43-1011	Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	1-5 yrs exp.
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	More than 5 yrs exp.
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	None
43-3031	Bookkeeping, Accounting, and Auditing Clerks	High school diploma or equivalent	Moderate-term OJT
41-4012	Sales Representatives, Wholesale and Manufacturing	High school diploma or equivalent	Moderate-term OJT
53-2011	Airline Pilots, Copilots, and Flight Engineers	Bachelor's degree	Moderate-term OJT; 1-5 yrs exp.
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	Moderate-term OJT
11-1021	General & Operations Managers	Associate's degree	1-5 yrs exp.
53-3041	Taxi Drivers and Chauffeurs	Less than high school	Short-term OJT

Source: U.S. Bureau of Labor Statistics

Logistics Cluster Industry Staffing Patterns

A staffing pattern refers to the number and types of occupations typically needed by an industry. These tables show the most common occupations in each industry's staffing pattern and each occupation's projected employment. Some industries are not presented here due to limited data.

General Freight Trucking, NAICS 4841

Heavy and tractor-trailer truck drivers (SOC 53-3032) is the largest occupation in this industry. All general freight trucking occupations listed below are expected to grow by more than 20 percent through 2020.

Figure 24. Ohio Staffing Pattern for General Freight Trucking

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
53-3032	Heavy and Tractor-Trailer Truck Drivers	27,892	33,663	5,771	20.7%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	3,602	4,346	744	20.7%
53-7051	Industrial Truck and Tractor Operators	1,728	2,086	358	20.7%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	1,552	1,873	321	20.7%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,364	1,647	283	20.7%
11-3071	Transportation, Storage, and Distribution Managers	501	605	104	20.8%
43-4051	Customer Service Representatives	490	592	102	20.8%

Source: Ohio Bureau of Labor Market Information

Specialized Freight Trucking, NAICS 4842

The staffing pattern for specialized freight trucking is very similar to the pattern for general freight trucking; the largest occupation in this industry is heavy and tractor-trailer truck drivers (SOC 53-3032). Specialized freight trucking is expected to grow faster than general freight trucking.

Figure 25. Ohio Staffing Pattern for Specialized Freight Trucking

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
53-3032	Heavy and Tractor-Trailer Truck Drivers	7,772	9,715	1,943	25.0%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	886	1,107	221	24.9%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	639	799	160	25.0%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	324	405	81	25.0%
11-3071	Transportation, Storage, and Distribution Managers	269	336	67	24.9%
43-4051	Customer Service Representatives	230	288	58	25.2%
53-7051	Industrial Truck and Tractor Operators	156	195	39	25.0%

Source: Ohio Bureau of Labor Market Information

Support Activities for Air Transportation, NAICS 4881

The largest occupation in the support activities for air transportation industry is aircraft mechanics and service technicians (SOC 49-3011). This industry has low expected growth.

Figure 26. Ohio Staffing Pattern for Support Activities for Air Transportation

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
49-3011	Aircraft Mechanics and Service Technicians	824	862	38	4.6%
39-6011	Baggage Porters and Bellhops	143	162	19	13.3%
43-5061	Production, Planning, and Expediting Clerks	139	142	3	2.2%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	134	140	6	4.5%
43-9061	Office Clerks, General	117	120	3	2.6%
49-9071	Maintenance and Repair Workers, General	92	95	3	3.3%
43-4051	Customer Service Representatives	84	86	2	2.4%
49-1011	First Line Supervisors of Mechanics, Installers, and Repairers	66	67	1	1.5%
43-1011	First Line Supervisors of Office and Administrative Support Workers	63	64	1	1.6%
53-2022	Airfield Operations Specialists	58	60	2	3.4%
13-1111	Management Analysts	58	60	2	3.4%

Source: Ohio Bureau of Labor Market Information

Support Activities for Water Transportation, NAICS 4883

This is a small industry. Its two largest occupations –laborers and freight, stock and material movers (SOC 53-7062) and sailors and marine oilers (SOC 53-5011) – each employ less than 200, and 20 or fewer openings are projected through 2020.

Figure 27. Ohio Staffing Pattern for Support Activities for Water Transportation

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	167	187	20	12.0%
53-5011	Sailors and Marine Oilers	155	174	19	12.3%
53-5021	Captains, Mates, and Pilots of Water Vessels	100	112	12	12.0%
51-1011	First-Line Supervisors of Production and Operating Workers	22	24	2	9.1%
53-7021	Crane and Tower Operators	19	24	5	26.3%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	18	20	2	11.1%
11-1021	General and Operations Managers	11	11	-	-
11-3071	Transportation, Storage, and Distribution Managers	11	13	2	18.2%

Source: Ohio Bureau of Labor Market Information

Support Activities for Road Transportation, NAICS 4884

As with the trucking industries, the largest occupation in this industry is heavy and tractor-trailer truck drivers (SOC 53-3032). Growth is expected to be slower than in the trucking industries, with fewer growth openings.

Figure 28. Ohio Staffing Pattern for Support Activities for Road Transport

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,191	1,345	154	12.9%
43-9061	Office Clerks, General	176	199	23	13.1%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	150	170	20	13.3%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	124	140	16	12.9%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	90	101	11	12.2%
49-3023	Automotive Service Technicians and Mechanics	88	100	12	13.6%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	71	81	10	14.1%
53-3033	Light Truck or Delivery Services Drivers	58	66	8	13.8%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	47	59	12	25.5%

Source: Ohio Bureau of Labor Market Information

Freight Transportation Arrangement, NAICS 4885

The largest occupation in freight transportation arrangement is cargo and freight agents (SOC 43-5011). This industry is expected to add almost 200 jobs from 2010 to 2020, but most other occupations will have few growth openings.

Figure 29. Ohio Staffing Pattern for Freight Transportation Arrangement

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
43-5011	Cargo and Freight Agents	1,241	1,437	196	15.8%
41-3099	Sales Representatives, Services, All Other	1,111	1,126	15	1.4%
53-3032	Heavy and Tractor-Trailer Truck Drivers	433	439	6	1.4%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	368	373	5	1.4%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	302	305	3	1.0%
43-9061	Office Clerks, General	279	282	3	1.1%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	254	257	3	1.2%
11-3071	Transportation, Storage, and Distribution Managers	225	228	3	1%
43-1011	First Line Supervisors of Office and Administrative Support Workers	201	204	3	1.5%
53-7051	Industrial Truck and Tractor Operators	102	104	2	2.0%
43-5071	Shipping, Receiving, and Traffic Clerks	99	94	(5)	-5.1%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	89	90	1	1.1%
43-3021	Billing and Posting Clerks	74	75	1	1.4%

Source: Ohio Bureau of Labor Market Information

Warehousing and Storage, NAICS 4931

The largest occupation in this industry is laborers and freight, stock and material movers (SOC 53-7062). Warehousing and storage employment is expected to grow between 9.6 and 30.9 percent from 2010 to 2020, with significant growth openings.

Figure 30. Ohio Staffing Pattern for Warehousing and Storage

SOC Code	Occupational Title	2010	2020	Numeric Change	Percent Change
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	9,415	11,465	2,050	21.8%
53-7064	Packers and Packagers, Hand	4,121	5,019	898	21.8%
53-7051	Industrial Truck and Tractor Operators	3,348	3,671	323	9.6%
43-5081	Stock Clerks and Order Fillers	2,289	2,510	221	9.7%
43-5071	Shipping, Receiving, and Traffic Clerks	1,735	1,902	167	9.6%
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,373	1,673	300	21.8%
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	1,081	1,415	334	30.9%
43-4051	Customer Service Representatives	979	1,193	214	21.9%
51-2092	Team Assemblers	830	1,011	181	21.8%
43-9061	Office Clerks, General	705	859	154	21.8%
11-3071	Transportation, Storage, and Distribution Managers	575	701	126	21.9%
49-9071	Maintenance and Repair Workers, General	483	588	105	21.7%
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	429	522	93	21.7%
43-1011	First Line Supervisors of Office and Administrative Support Workers	427	520	93	21.8%

Source: Ohio Bureau of Labor Market Information

Summary

Ohio is located within 600 miles of half the U.S. population and more than half of the manufacturing facilities in the U.S. and Canada. The state's logistics cluster industries grew faster than Ohio's total employment before the recession of 2007 to 2009 but experienced a larger employment decline during the recession. Future employment growth is expected to be above average. The cluster's workforce tends to be somewhat older than the statewide workforce, which could mean its workers will start retiring sooner than workers in other industries. In general, the educational requirements for the largest occupations in the cluster are basic: a high school diploma or less and some on-the-job training. However, industries in the cluster appear to have difficulty recruiting or retaining heavy and tractor-trailer truck drivers. This is one of the most heavily posted occupations in Ohio.

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