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Livingston County

LABOR MARKET ANALYSIS

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Livingston County Labor Market Analysis

TABLE 1. Regional Overview, Livingston County (2016)

LIVINGSTON COUNTY	
Population	36,300
Jobs	15,000
Available Workforce	17,300
Earnings	\$51,200
COL Adjusted Average Earnings	\$50,900
Unemployed (10/2016)	900
GRP	\$1.4B
Exports	\$2.4B
Imports	\$2.5B

WAGES BY INDUSTRY

TABLE 2. Average Annual Wage by Industry, Livingston County (2016)

NAICS	INDUSTRY	AVG. EARNINGS (2016)	
11	Crop and Animal Production	\$30,839	
21	Mining, Quarrying, and Oil and Gas Extraction	\$89,755	
22	Utilities	\$149,563	
23	Construction	\$58,240	
31	Manufacturing	\$71,595	
42	Wholesale Trade	\$73,610	
44	Retail Trade	\$30,432	
48	Transportation and Warehousing	\$56,166	
51	Information	\$60,449	
52	Finance and Insurance	\$51,702	
53	Real Estate and Rental and Leasing	\$26,970	
54	Professional, Scientific, and Technical Services	\$44,867	
55	Management of Companies and Enterprises	\$0	
56	Admin. & Support and Waste Mgmt. & Remediation Services	\$28,135	
61	Educational Services	\$25,942	
62	Health Care and Social Assistance	\$45,263	
71	Arts, Entertainment, and Recreation	\$13,240	
72	Accommodation and Food Services	\$14,180	
81	Other Services (except Public Administration)	\$23,955	
90	Government	\$62,544	

OCCUPATIONS

The highest-ranking occupations in Livingston County are highlighted below. Of the top 20 largest occupations, nine have a higher wage than \$15 per hour. Over the five-year period from 2011 to 2016, not much growth occurred in these large employing occupations accounting for a net gain of only 20 jobs. As shown in Figure 2 below, even the fastest growing occupations did not show much of a performance over the past five years.

FIGURE 1. Highest Ranked Occupations, Livingston County

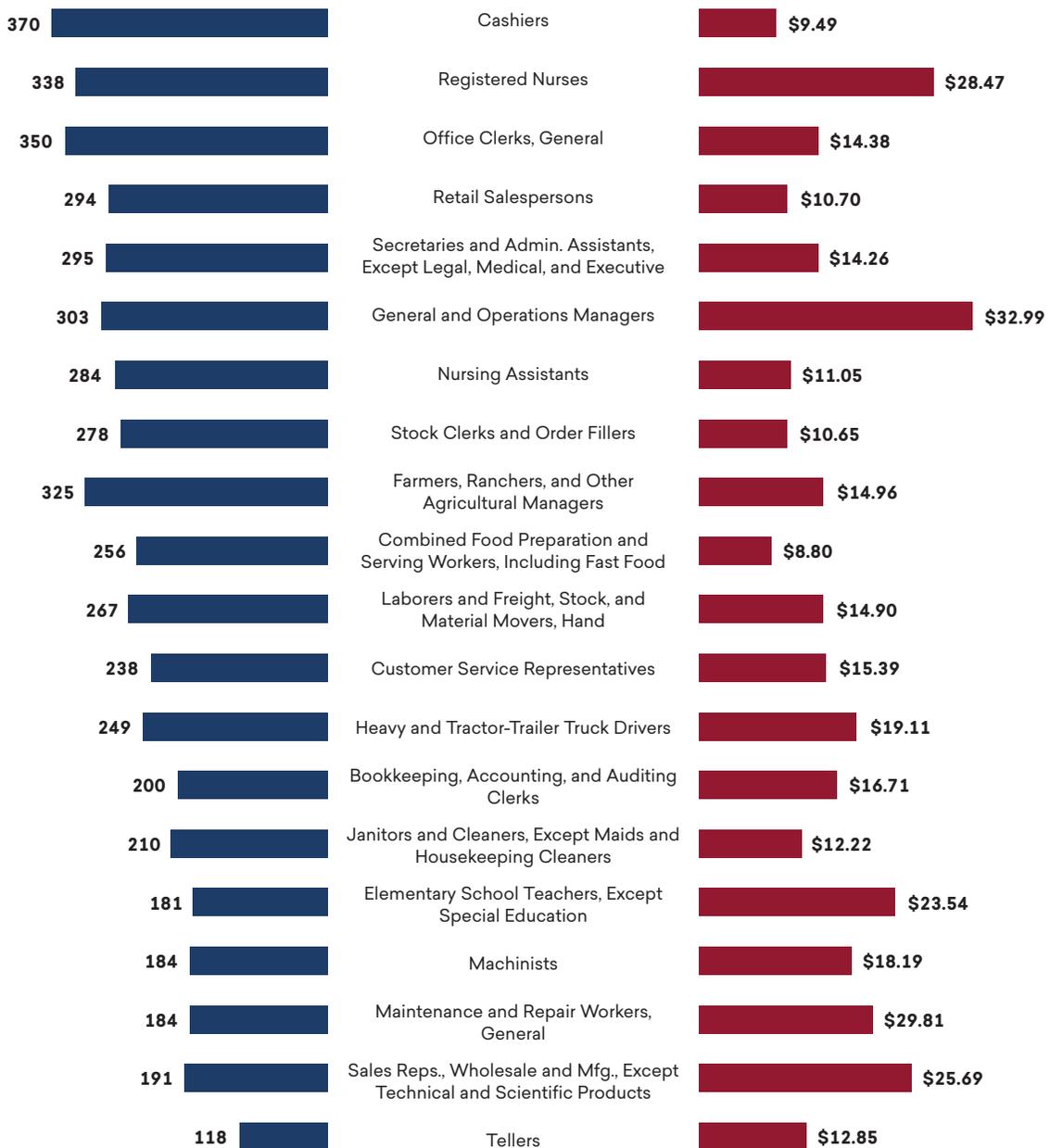


TABLE 3. Top 20 Occupations in Livingston County, Ranked by 2016 Employment

OCCUPATION	2011 JOBS	2016 JOBS	CHANGE IN JOBS (2011-2016)	% CHANGE	2015 MEDIAN HOURLY EARNINGS
Cashiers	366	370	4	1%	\$9.49
Registered Nurses	359	338	-21	-6%	\$28.47
Office Clerks, General	355	350	-5	-1%	\$14.38
Retail Salespersons	322	294	-28	-9%	\$10.70
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	301	295	-6	-2%	\$14.26
General and Operations Managers	295	303	8	3%	\$32.99
Nursing Assistants	293	284	-9	-3%	\$11.05
Stock Clerks and Order Fillers	281	278	-4	-1%	\$10.65
Farmers, Ranchers, and Other Agricultural Managers	274	325	51	19%	\$14.96
Combined Food Preparation and Serving Workers, Including Fast Food	251	256	5	2%	\$8.80
Laborers and Freight, Stock, and Material Movers, Hand	250	267	17	7%	\$14.90
Customer Service Representatives	243	238	-5	-2%	\$15.39
Heavy and Tractor-Trailer Truck Drivers	223	249	26	12%	\$19.11
Bookkeeping, Accounting, and Auditing Clerks	213	200	-14	-6%	\$16.71
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	213	210	-3	-1%	\$12.22
Elementary School Teachers, Except Special Education	187	181	-6	-3%	\$23.54
Machinists	186	184	-1	-1%	\$18.19
Maintenance and Repair Workers, General	180	184	5	3%	\$20.94
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	165	191	26	16%	\$25.69
Tellers	159	118	-41	-26%	\$12.85

FIGURE 2. Top 20 Fastest Growing Occupations, Livingston County (2011-2016)

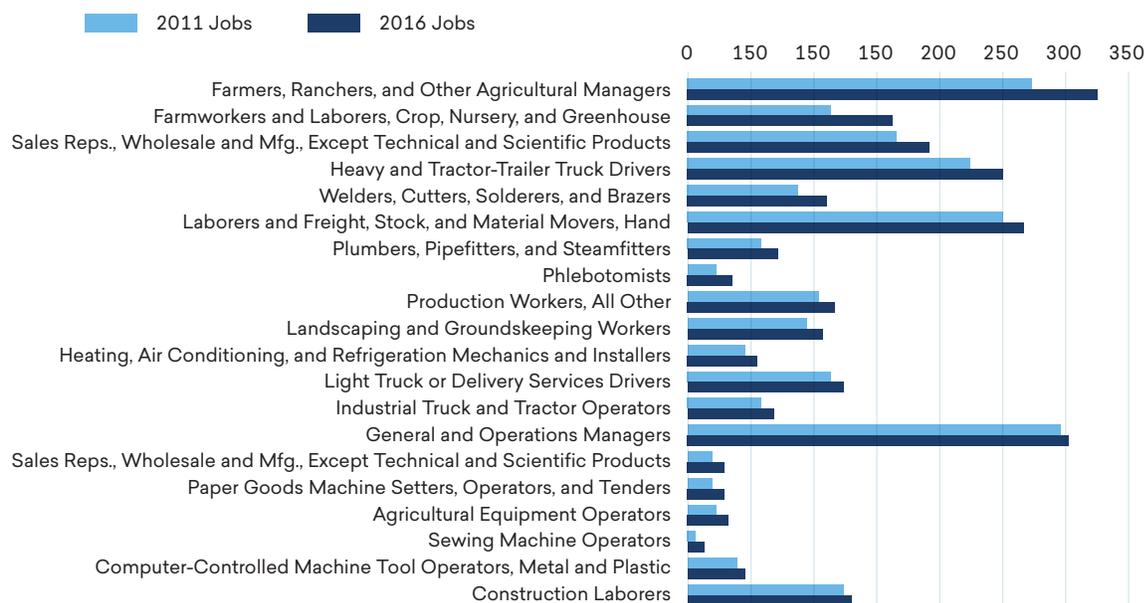


TABLE 4. Top 20 Fastest Growing Occupations in Livingston County, Ranked by Job Growth

OCCUPATION	2011 JOBS	2016 JOBS	CHANGE IN JOBS (2011-2016)	% CHANGE	2015 MEDIAN HOURLY EARNINGS
Farmers, Ranchers, and Other Agricultural Managers	274	325	51	19%	\$14.96
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	115	161	46	40%	\$11.95
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	165	191	26	16%	\$25.69
Heavy and Tractor-Trailer Truck Drivers	223	249	26	12%	\$19.11
Welders, Cutters, Solderers, and Brazers	87	109	22	26%	\$19.43
Laborers and Freight, Stock, and Material Movers, Hand	250	267	17	7%	\$14.90
Plumbers, Pipefitters, and Steamfitters	57	72	15	26%	\$24.82
Phlebotomists	22	35	13	60%	\$12.66
Production Workers, All Other	105	118	13	13%	\$19.26
Landscaping and Groundskeeping Workers	94	106	12	13%	\$10.41
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	45	56	11	26%	\$14.67
Light Truck or Delivery Services Drivers	115	125	10	9%	\$13.36
Industrial Truck and Tractor Operators	58	68	10	17%	\$18.55
General and Operations Managers	295	303	8	3%	\$32.99
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	20	29	8	41%	\$29.04
Paper Goods Machine Setters, Operators, and Tenders	20	28	8	43%	\$20.13
Agricultural Equipment Operators	23	31	7	31%	\$13.96
Sewing Machine Operators	5	12	7	130%	\$10.94
Computer-Controlled Machine Tool Operators, Metal and Plastic	40	47	7	16%	\$21.39
Construction Laborers	124	130	6	5%	\$15.67

The table below provides a breakdown of number of residents by educational attainment level within each zip code in Livingston County for the population age 25 years and over. The communities of Flanagan, Graymont, and Long Point all have the largest share of this population earning a bachelor's degree or higher at 19%.

TABLE 5. Educational Attainment Level by Zip Code for the Population age 25 years and over

	HIGH SCHOOL DIPLOMA, EQUIVALENT, OR LOWER	SOME COLLEGE OR ASSOCIATE'S DEGREE	BACHELOR'S DEGREE OR HIGHER	TOTAL
Livingston County	13,079	7,957	3,785	24,821
Ancona	122	63	32	218
Blackstone	87	44	21	152
Campus	0	0	0	0
Chatsworth	503	263	102	869
Cornell	397	250	132	779
Cullom	452	326	90	868
Dwight	1,707	1,234	616	3,557
Emington	150	108	30	288
Fairbury	1,767	1,067	627	3,461
Flanagan	513	386	209	1,108
Forrest	574	309	119	1,002
Graymont	76	57	31	164
Long Point	116	87	47	250
Odell	742	529	148	1,419
Pontiac	5,533	3,053	1,512	10,098
Saunemin	240	130	50	420
Strawn	98	51	20	168

As shown in Table 6 on the next page, the entry-level requirement for many positions is a high school diploma or equivalent. (Note that these educational requirements reflect national averages and may differ from specific requirements of Livingston County employers.) The top occupations requiring a bachelor's degree include managers, teachers, and educators.

The following table and subsequent graphs shows the average annual openings for the top occupations within Livingston County at each education level required for entry-level employment.



TABLE 6. Openings by Typical Level of Education, Livingston County (2016)

SOC	OCCUPATION DESCRIPTION	AVERAGE ANNUAL OPENINGS			EMPLOYMENT 2016		
		REPLACEMENT JOBS	NEW JOBS	TOTAL OPENINGS	TOTAL JOBS	% OF TOTAL JOBS	MEDIAN HOURLY WAGE
TOP 5 REQUIRING LESS THAN HIGH SCHOOL							
41-2011	Cashiers	16	3	19	370	2.5%	\$9.49
41-2031	Retail Salespersons	10	4	15	294	2.0%	\$10.70
53-7062	Laborers & Freight, Stock, & Material Movers, H&	8	5	13	267	1.8%	\$14.90
43-5081	Stock Clerks & Order Fillers	9	4	12	278	1.9%	\$10.65
45-2092	Farmworkers & Laborers, Crop, Nursery, & Greenhouse	4	4	9	161	1.1%	\$11.95
TOP 5 REQUIRING HIGH SCHOOL DIPLOMA OR EQUIVALENT							
11-9013	Farmers, Ranchers, & Other Agricultural Managers	6	6	11	325	2.2%	\$14.96
41-4012	Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	4	4	8	191	1.3%	\$25.69
43-9061	Office Clerks, General	8	0	8	350	2.4%	\$14.38
43-4051	Customer Service Representatives	6	0	6	238	1.6%	\$15.39
49-9071	Maintenance & Repair Workers, General	5	1	6	184	1.2%	\$20.94
TOP 5 REQUIRING SOME COLLEGE, NO DEGREE							
25-9041	Teacher Assistants	3	0	3	132	0.9%	\$12.32
15-1151	Computer User Support Specialists	0	0	0	22	0.1%	\$22.95
49-2011	Computer, Automated Teller, & Office Machine Repairers	0	0	0	5	0.0%	\$16.32
27-2011	Actors	0	0	0	1	0.0%	\$11.17
49-9081	Wind Turbine Service Technicians	0	0	0	0	0.0%	\$18.58
TOP 5 REQUIRING POSTSECONDARY NON-DEGREE AWARD							
31-1014	Nursing Assistants	6	8	14	284	1.9%	\$11.05
53-3032	Heavy & Tractor-Trailer Truck Drivers	4	4	8	249	1.7%	\$19.11
29-2061	Licensed Practical & Licensed Vocational Nurses	3	2	5	90	0.6%	\$20.21
49-9021	Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1	2	3	56	0.4%	\$14.67

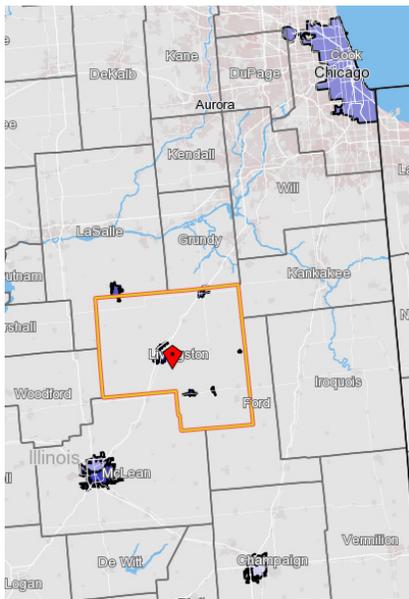
SOC	OCCUPATION DESCRIPTION	AVERAGE ANNUAL OPENINGS			EMPLOYMENT 2016		
		REPLACEMENT JOBS	NEW JOBS	TOTAL OPENINGS	TOTAL JOBS	% OF TOTAL JOBS	MEDIAN HOURLY WAGE
51-1011	First-Line Supervisors of Production & Operating Workers	1	0	2	94	0.6%	\$28.44
TOP 5 REQUIRING ASSOCIATE'S DEGREE							
29-1141	Registered Nurses	8	0	8	338	2.3%	\$28.47
31-2021	Physical Therapist Assistants	0	1	1	17	0.1%	\$22.89
25-2011	Preschool Teachers, Except Special Education	1	0	1	30	0.2%	\$14.38
27-4012	Broadcast Technicians	0	0	1	12	0.1%	\$15.32
31-2011	Occupational Therapy Assistants	0	0	1	8	0.1%	\$21.28
TOP 5 REQUIRING BACHELOR'S DEGREE							
11-1021	General & Operations Managers	8	2	9	303	2.0%	\$32.99
25-2021	Elementary School Teachers, Except Special Education	4	0	4	181	1.2%	\$23.54
27-3011	Radio & Television Announcers	2	1	3	67	0.5%	\$11.69
25-2031	Secondary School Teachers, Except Special & Career/Technical Education	3	0	3	116	0.8%	\$25.27
13-2011	Accountants & Auditors	2	0	2	68	0.5%	\$27.97
TOP 5 REQUIRING MASTER'S DEGREE							
21-1015	Rehabilitation Counselors	0	1	1	24	0.2%	\$15.37
21-1012	Educational, Guidance, School, & Vocational Counselors	1	0	1	30	0.2%	\$25.20
11-9032	Education Administrators, Elementary & Secondary School	1	0	1	33	0.2%	\$42.59
11-9033	Education Administrators, Postsecondary	0	0	1	15	0.1%	\$37.67
29-1127	Speech-Language Pathologists	0	0	1	14	0.1%	\$35.02
TOP 5 REQUIRING DOCTORAL OR PROFESSIONAL DEGREE							
25-1099	Postsecondary Teachers	1	2	2	49	0.3%	\$32.75
29-1123	Physical Therapists	1	1	1	21	0.1%	\$36.72
29-1051	Pharmacists	1	0	1	36	0.2%	\$60.10
23-1011	Lawyers	1	0	1	37	0.3%	\$33.74
29-1069	Physicians & Surgeons, All Other	0	0	0	20	0.1%	\$110.65



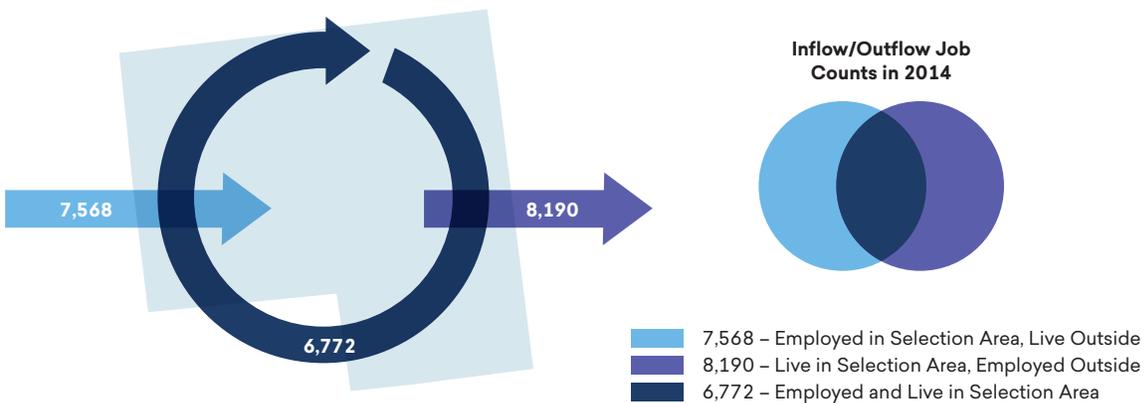
Commuting Patterns

Commuting data show a powerful view of the workforce and where labor supply is located. Almost one-half of Livingston County residents commute outside the county for work. The map below shows the cities where Livingston County residents work and are listed in the table.

TABLE 7. Where Livingston County Residents Work (2014)



	2014	
	COUNT	SHARE
Pontiac city, IL	2,794	18.70%
Fairbury city, IL	1,040	7.00%
Bloomington city, IL	947	6.30%
Streator city, IL	462	3.10%
Dwight village, IL	403	2.70%
Chicago city, IL	401	2.70%
Normal town, IL	313	2.10%
Forrest village, IL	310	2.10%
Champaign city, IL	197	1.30%
Cullom village, IL	186	1.20%
All Other Locations	7,909	52.90%



Labor Availability

TABLE 8. Top 25 Occupations held by Residents of Livingston County, 2016

SOC	DESCRIPTION	JOBS	AVAILABLE WORKFORCE	NET COMMUTERS	ANNUAL OPENINGS	MEDIAN HOURLY EARNINGS
41-2011	Cashiers	370	469	(99)	21	\$9.49
41-2031	Retail Salespersons	294	468	(174)	16	\$10.70
43-9061	Office Clerks, General	350	437	(87)	12	\$14.38
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	256	368	(112)	15	\$8.80
29-1141	Registered Nurses	338	354	(16)	14	\$28.47
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	295	345	(50)	7	\$14.26
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	267	337	(70)	19	\$14.90
11-1021	General and Operations Managers	303	330	(27)	13	\$32.99
11-9013	Farmers, Ranchers, and Other Agricultural Managers	325	329	(4)	14	\$14.96
53-3032	Heavy and Tractor-Trailer Truck Drivers	249	311	(62)	18	\$19.11
31-1014	Nursing Assistants	284	308	(24)	17	\$11.05
43-4051	Customer Service Representatives	238	301	(63)	7	\$15.39
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	210	292	(82)	9	\$12.22
43-5081	Stock Clerks and Order Fillers	278	284	(6)	15	\$10.65
35-3031	Waiters and Waitresses	149	229	(80)	12	\$8.69
25-2021	Elementary School Teachers, Except Special Education	181	213	(32)	5	\$23.54
43-3031	Bookkeeping, Accounting, and Auditing Clerks	200	213	(13)	4	\$16.71
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	161	212	(51)	10	\$11.95
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	191	209	(18)	11	\$25.69
49-9071	Maintenance and Repair Workers, General	184	199	(15)	9	\$20.94
47-2061	Construction Laborers	130	167	(37)	6	\$15.67
25-9041	Teacher Assistants	132	166	(34)	5	\$12.32
41-1011	First-Line Supervisors of Retail Sales Workers	138	164	(26)	6	\$16.63
53-3033	Light Truck or Delivery Services Drivers	125	140	(15)	6	\$13.36
39-9021	Personal Care Aides	80	133	(53)	6	\$10.69

To analyze the current skills and occupations of the people residing within an area, we used data from the Census LEHD program coupled with Census' new Longitudinal Origin-Destination Employment Statistics (LODES) program and is then matched with occupational data using staffing patterns.

Available workforce data is based on where workers live in comparison to where they work. Table 8 provides a breakdown of occupations filled by residents of Livingston County. Using O*Net's standardized scale, Table 9 provides a list of the top skills of Livingston County residents based on the top 25 occupations.

TABLE 9. Top Skills & Certifications of Profiles of Residents and Top Skills advertised in Job Postings, Livingston County

SKILL	SCALED VALUE AVERAGE*
Clerical	75
Biology	65
Personnel and Human Resources	63
Therapy and Counseling	63
Psychology	61
Customer and Personal Service	61
Education and Training	59
Computers and Electronics	58
Building and Construction	57
Geography	57
Production and Processing	55
Administration and Management	55
Sales and Marketing	54
Economics and Accounting	54
Mechanical	52
Transportation	47
Public Safety and Security	45
Mathematics	44
English Language	43
Food Production	38

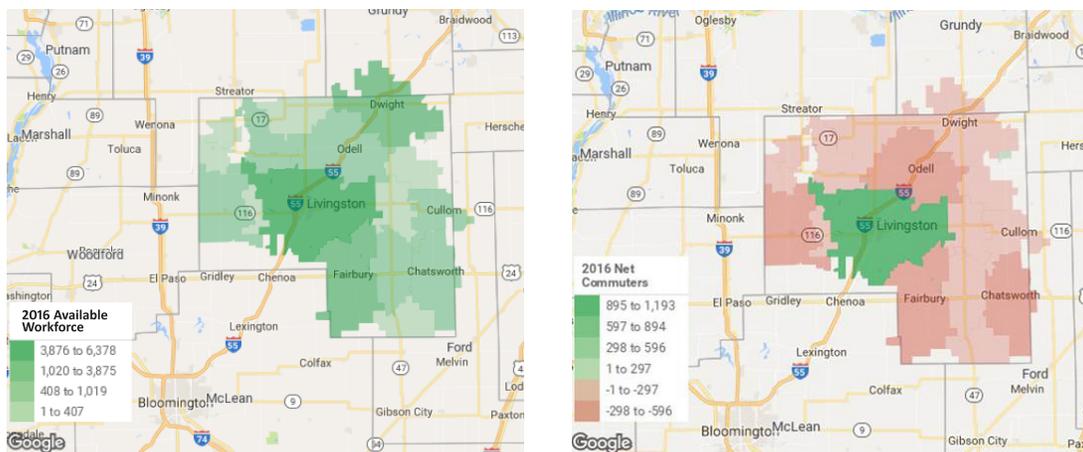


Labor Shed Analysis

Available workforce data is based on where workers live in comparison to where they work, whereas, net commuters are the minimum number of workers who commute in or out of the region to satisfy the regional numbers of jobs held. A positive number (shown in GREEN in the figure below) describes commuters entering a region, while a negative number (shown in RED) describes commuters leaving a region.

	JOBS	AVAILABLE WORKFORCE	NET COMMUTERS
Kankakee	45,972	51,971	-5,999
Grundy	20,076	29,587	-9,511
Livingston	14,950	17,346	-2,396

FIGURE 3. Net Commuters for all Occupations Residing in Livingston County, by Zip Code (2016)



Net commuter data allow economic development professionals to understand which occupations and skills are leaving the area or vice versa. The top 25 largest occupations in Livingston County are still losing about 1,140 residents to businesses outside the area.

The top occupations leaving the area for work elsewhere are cashiers, office clerks, retail salespersons, food preparation workers, janitors and cleaners, and postsecondary teachers. The jobs most people are commuting in the area for are machinists, printing press operators, psychiatric technicians, farm equipment mechanics and service technicians, and welders.

FIGURE 4. Top 25 Largest Occupations in Livingston County, Net Commuters (2016)

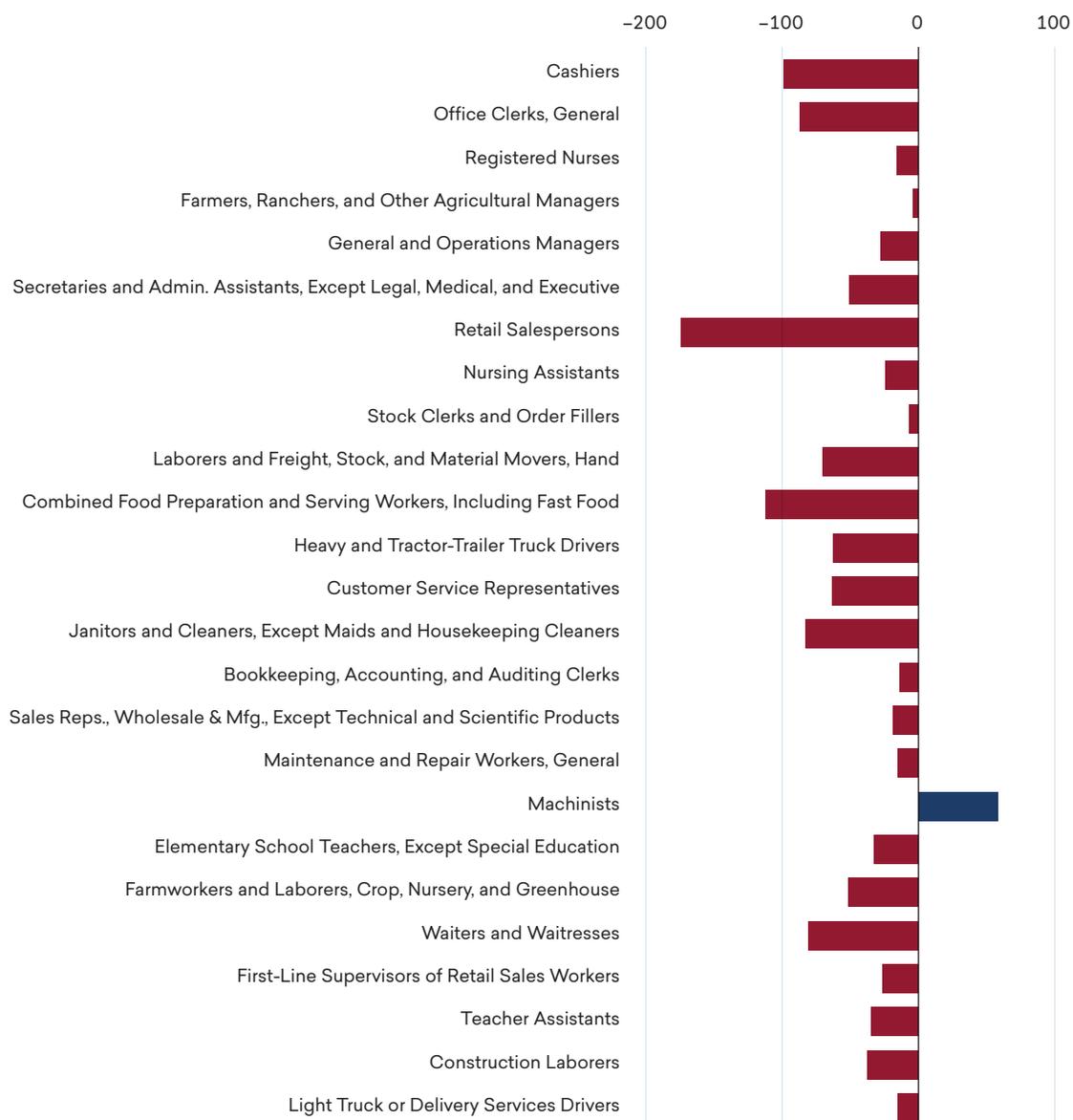


TABLE 10. Net commuters by Occupation, Livingston County (2016)

SOC	DESCRIPTION	2016 JOBS	2016 AVAILABLE WORKFORCE	2016 NET COMMUTERS	ANNUAL OPENINGS	MEDIAN HOURLY EARNINGS	2016 - 2026 CHANGE
	All Occupations	14,950	17,346	(2,403)	1,042	\$21.69	4,470
41-2031	Retail Salespersons	294	468	(174)	19	\$13.47	95
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	256	368	(112)	39	\$10.61	192
41-2011	Cashiers	370	469	(99)	71	\$12.00	379
43-9061	Office Clerks, General	350	437	(87)	18	\$15.04	101
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	210	292	(82)	20	\$43.96	103
25-1099	Postsecondary Teachers	49	130	(81)	7	\$15.43	46
35-3031	Waiters and Waitresses	149	229	(80)	13	\$8.74	16
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	267	337	(70)	n/a	n/a	n/a
43-4051	Customer Service Representatives	238	301	(63)	8	\$11.82	30
53-3032	Heavy and Tractor-Trailer Truck Drivers	249	311	(62)	13	\$27.55	85
39-9021	Personal Care Aides	80	133	(53)	22	\$21.90	137
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	161	212	(51)	15	\$31.68	55
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	295	345	(50)	4	\$10.31	33
35-2014	Cooks, Restaurant	52	98	(46)	1	\$33.62	(1)
33-9032	Security Guards	37	81	(44)	34	\$8.79	134
13-1111	Management Analysts	29	72	(43)	8	\$11.04	37
33-3051	Police and Sheriff's Patrol Officers	61	103	(42)	9	\$18.35	42
11-9199	Managers, All Other	67	105	(38)	5	\$17.46	30
47-2061	Construction Laborers	130	167	(37)	4	\$26.83	28
35-2021	Food Preparation Workers	74	109	(35)	2	\$12.79	9
25-9041	Teacher Assistants	132	166	(34)	3	\$11.28	14
43-5071	Shipping, Receiving, and Traffic Clerks	106	95	11	4	\$12.16	17
51-5111	Prepress Technicians and Workers	21	10	11	3	\$10.32	3
51-5113	Print Binding and Finishing Workers	23	11	12	5	\$9.78	34

SOC	DESCRIPTION	2016 JOBS	2016 AVAILABLE WORKFORCE	2016 NET COMMUTERS	ANNUAL OPENINGS	MEDIAN HOURLY EARNINGS	2016 - 2026 CHANGE
31-1013	Psychiatric Aides	22	10	12	7	\$14.10	46
27-3011	Radio and Television Announcers	67	54	13	9	\$28.40	44
51-2031	Engine and Other Machine Assemblers	25	<10	15	1	\$21.92	(2)
41-3011	Advertising Sales Agents	96	79	17	3	\$24.67	27
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	47	30	17	2	\$13.60	8
43-3071	Tellers	118	97	21	9	\$29.81	33
51-4121	Welders, Cutters, Solderers, and Brazers	109	83	26	6	\$33.98	8
49-3041	Farm Equipment Mechanics and Service Technicians	70	39	31	13	\$41.69	30
29-2053	Psychiatric Technicians	110	66	44	67	\$10.55	229
51-5112	Printing Press Operators	99	50	49	9	\$56.29	12
51-4041	Machinists	184	125	59	5	\$11.39	(146)



Industry Cluster Analysis

The LWA 11 region can achieve economic success and growth by capitalizing on economic strengths, here categorized into similar industries called clusters. Industry cluster analysis highlights the strengths and weaknesses of each of those industries and shows where focus needs to be placed to encourage growth.

Each industry cluster is comprised of key industries that have a high level of economic integration and interdependency. When analyzing these clusters, it is important to compare their regional concentration with the national average. This comparison reveals the industry cluster's [relative] concentration in the region, measured by location quotient (LQ; shows the industry's share of an area's employment relative to the national average—see more in the following section). Industries with high concentration (or LQ) are said to be specialized in a region.

In the LWA 11 region particularly, unique factors within the local economy allow each of the following private-sector clusters to have a strong concentration:

- Manufacturing
- Transportation, Warehousing, Distribution and Logistics

These clusters were chosen by partners in the LWA 11 region. Each cluster represents areas for growth and diversification for the LWA 11 economy as well as opportunities for regional businesses to diversify their market base. Table 11 summarizes projected employment growth for each cluster specific to Livingston County and corresponding concentration (measured by location quotient, LQ).

TABLE 11. Livingston County Industry Cluster Performance Trends

INDUSTRY CLUSTER	EMPLOYMENT		GROWTH		LOCATION QUOTIENT		CURRENT AVERAGE EARNINGS
	2011	2016	2011-2016 CHANGE	2011-2016 % CHANGE	2011	2016	
Manufacturing	2,195	2,272	77	3.5%	1.74	1.94	\$71,595
Transportation, Warehousing, Distribution, and Logistics	1,366	1,490	124	9.1%	1.24	1.37	\$64,888

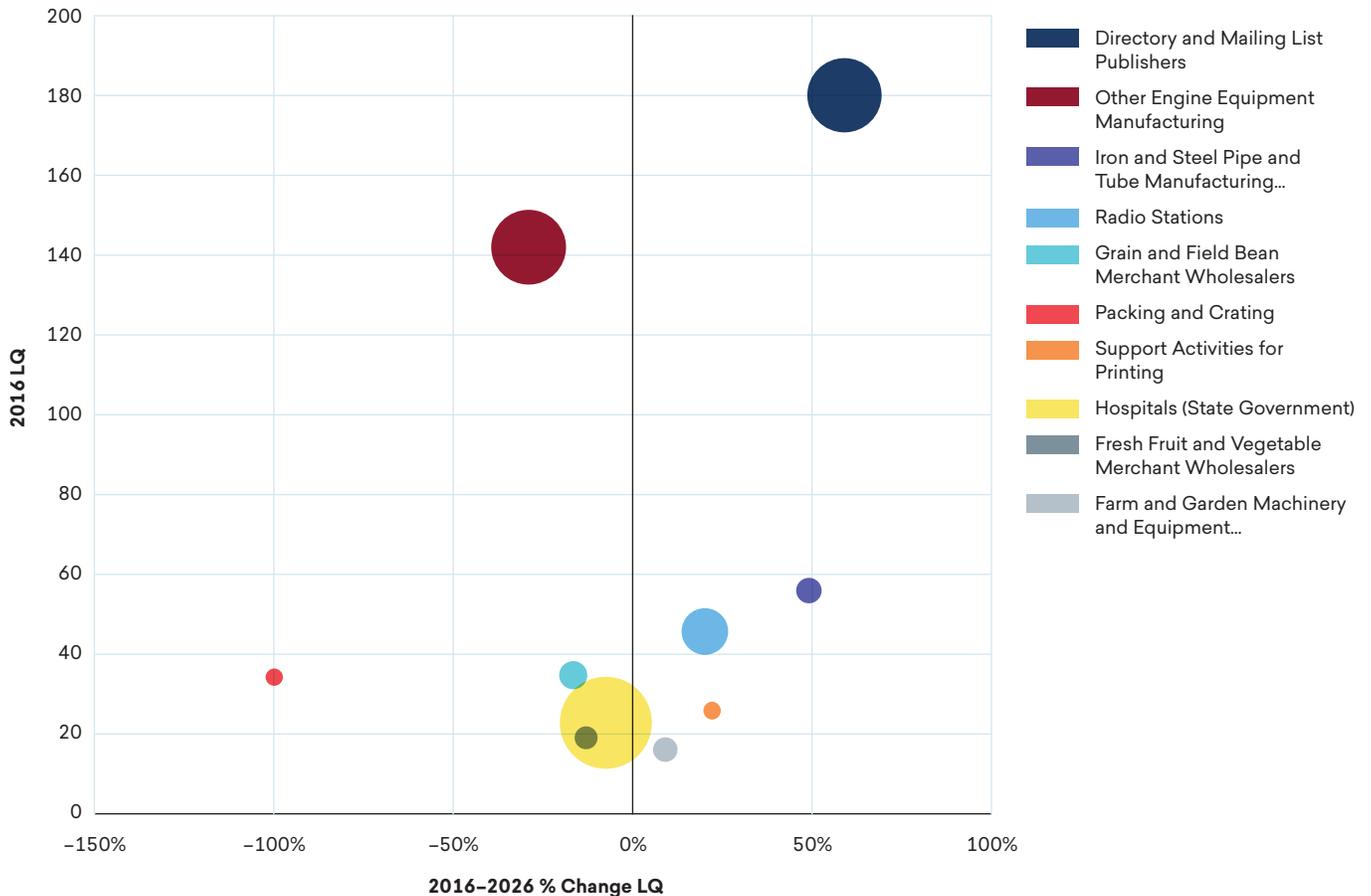


LOCATION QUOTIENTS

Location Quotients are useful for studying the composition of jobs in an area relative to the national concentration. In other words, a location quotient shows the industry's share of an area's employment relative to the national average. For example, a location quotient of 2.0 indicates that an industry accounts for twice the share of employment in the area than it does nationally, and a location quotient of 0.5 indicates that the area's share of employment in the industry is only half the national share. As illustrated in Figure X.X, directory and mailing list publishers have an extremely high concentration—287.0 LQ. This means that for the size of the economy of Livingston County, nuclear electric power generation is more than 287 times more concentrated than would be expected in another economy of similar size.

Figure 5 shows the location quotient for the top 10 highest ranked industries in Livingston County, graphed by 2016 LQ and projected LQ growth. The industries located in the upper right quadrant are emerging and can be seen as an economic development opportunity for this area.

FIGURE 5. Top 10 Highest Industry Location Quotient*



* Bubble size represents 2016 jobs in each region

INDUSTRY CLUSTER DESCRIPTION

The following sections profile the Manufacturing and Transportation, Warehousing, Distribution, and Logistics clusters in Livingston County. Each profile has a description of the industry cluster, including revenues and employment. The profiles each also have a labor and a supply chain analysis. The labor gap analysis examines the supply (the availability of qualified applicants) and the demand (jobs needed to be filled by employers) for labor by using labor market information to analyze recent employment trends, the occupational composition by industry, and the education pipeline of the available workforce. The supply chain analysis shows the demand for an industry cluster's goods and services coupled with information on the cluster supply chain (the purchases made by companies in the cluster).

The first figure shown in each cluster description is a map of the county's region that shows cluster jobs by zip code. The next graphic is a table that highlights employment trends for the cluster, illustrating which cluster sectors have been hiring, which sectors have been shedding jobs, and generally where cluster employment is located in the area. The last figure in each cluster description is a chart showing year-over-year cluster employment changes compared with state and national trends.

Data is used to provide a descriptive component of what has happened, what is currently happening, and what is projected to happen within any given industry cluster, industry sector, or occupation. This data can also be evaluated from varying perspectives to provide a larger context of economic understanding. For example, geographically specific data can better displace regional effects when compared with a larger geography (e.g., state or nation) and indicate whether a region may have a comparative advantage in any particular sector.

Each of the following metrics provided for the labor market gap analysis or supply chain analysis offers a different perspective of industry performance, the regional fit, or the economic ripple effects of cluster activity.

The tables for each industry cluster contain the following data:

- Historical job growth and current size
- Future job growth projection
- Industry concentration (location quotient)
- Job multiplier effects
- Industry average wage
- Establishments

Historical Job Growth and Current Size measures the current employment and past employment by industry sector. It also measures whether an industry has been growing or declining.

Future Job Growth Projection incorporates the historical growth and performance of an industry and as well as factoring in the growth expectations of an industry at a larger geographic scale (i.e., state, nation, or even global expectations). Industry projection rates are based on past trends carried forward and published projections from state and federal sources.

Industry Concentration (Location Quotient) compares the concentration of employment in an industry in a region with employment in the same industry for similar regions across the nation. The national average is set to 1.0. As explained in the Location Quotient section above, any industry with a concentration greater than 1.0 is considered to have high concentration.

Job Multiplier Effects indicates the importance of a job to the regional economy. For example, if a single job has a multiplier of 3, then this one job supports two other jobs in the regional economy due to an indirect or induced effect.

Industry Average Wage is based on industry staffing patterns and the average occupational wage associated with that staffing pattern. The average wage indicates the quality of jobs in a region.

Establishments provides the current and historic number of establishments in the region. A change in establishments can be a factor in determining the stage of an industry. For example, if the number of establishments declined while job numbers themselves remained strong, the industry might be consolidating.

LABOR MARKET ANALYSIS

One table is provided for each labor market gap analysis section for each cluster. It lists the top 25 occupations for the sector, the wages, the number of people employed in each occupation within the cluster, and the total number employed in each occupation in all industries within the county. This provides an understanding of the share of employment the cluster has within the county and LWA 11 region, and an assessment of the competition the cluster faces from other companies within the region for finding qualified employees.

SUPPLY CHAIN ANALYSIS

Three distinct topics (quantified in three tables) are discussed for each supply chain analysis. These analyses evaluate each cluster's economic performance in the county to provide insights into regional strengths, weaknesses, and opportunities for growth.

The first table shows the total demand for each industry sector within a given cluster. This is the demand by Livingston County residents and businesses for the products and/or services produced by that industry sector—regardless of whether the products or services are actually produced within the county. Furthermore, the table shows how much of local demand is met by companies within the region and how much of local demand is met by importing from other regions. This comparison helps determine opportunities to expand local businesses' shares of local demand. For example, if only 10% of regional demand for a product is being met by regional companies, this table will quantify the value of the remaining 90% of demand that could be met by regional companies. (Note that the data for goods or services imported into the region does not include foreign imports.)

The second table shows the supply chain for each industry cluster. This table shows the purchases made by Livingston County companies in the industry cluster according to product or service. These purchases are used to run a company and include everything from services to consumable supplies to capital investment in manufacturing equipment. The table also shows how much of the cluster's supply chain need is met by the companies inside the county and how much is imported.

The final table shows total cluster sales, both inside and outside the county. This is useful for understanding how much revenue a cluster is bringing into the area through its sales of goods or services outside of the region. Industries that predominately export their products bring new money into the economy, which in turn drives other regional businesses.



Manufacturing

Manufacturing industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills, including many middle-skill jobs.

Figure 6 shows the 2016 job distribution for the manufacturing cluster throughout Livingston County with the minimum number of manufacturing workers who commute in or out of the region to satisfy manufacturing jobs held. A positive number (shown in GREEN in the figure below) describes commuters entering a region, while a negative number (shown in RED) describes commuters leaving a region.

The City of Pontiac had the largest number of manufacturing jobs in 2016 (7,260), followed by the cities of Fairbury and Dwight, 2,500 and 2,040, respectively. Most of residents working in production occupations also live in Pontiac and Fairbury. There are approximately 1,470 classified production jobs in Livingston County and 1,225 Livingston County residents who are classified under a production occupation. This means that roughly 250 residents from elsewhere have to commute in Livingston County in order to fill the demand of those jobs.

FIGURE 6. Manufacturing Cluster Job Distribution and Net Commuters for Livingston County Residents working in Manufacturing Occupations (2016)

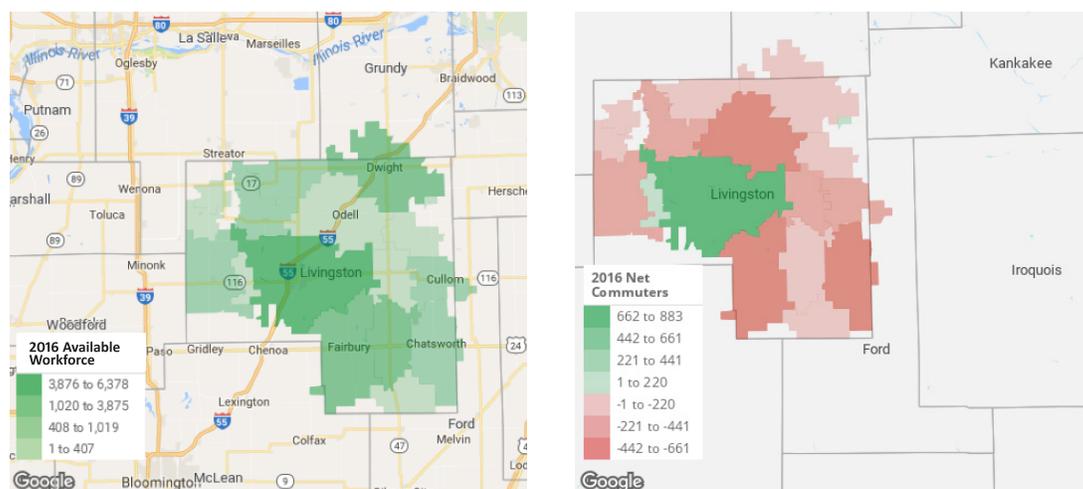


Table 12 below provides an overview for each of the individual industry sectors that comprise the manufacturing cluster in Livingston County. Included are historic, current, and projected employment; historic and projected compound annual growth rate; historic and current employment concentration (LQ); average earnings; total sales; gross regional product (GRP); historic and current payroll establishments (businesses); and jobs multipliers (multiplier effect). The table is sorted largest to smallest by 2016 employment.

TABLE 12. Manufacturing Sector, Livingston County

NAICS	INDUSTRY SECTOR	EMPLOYMENT			COMPOUND ANNUAL GROWTH RATE		CONCENTRATION (LQ)		AVERAGE EARNINGS	TOTAL SALES	GROSS REGIONAL PRODUCT (GRP)	PAYROLLED ESTABLISHMENTS		JOBS MULTIPLIER
		2011	2016	2021	2011-2016	2016-2021	2011	2016	2016	2016	2016	2011	2016	2016
333618	Other Engine Equipment Manufacturing	640	442	274	-7.1%	-9.1%	141.85	101.20	\$80,429	\$234,772,471	\$51,638,395	1	1	1.28
323111	Commercial Printing (except Screen and Books)	460	377	322	-3.9%	-3.1%	11.77	11.51	\$58,142	\$70,962,609	\$29,274,205	2	2	1.16
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	158	203	234	5.1%	2.9%	56.23	84.06	\$66,123	\$66,874,111	\$16,093,046	3	2	1.16
322220	Paper Bag and Coated and Treated Paper Manufacturing	104	184	254	12.1%	6.6%	15.90	32.70	\$122,447	\$117,883,615	\$33,958,972	1	1	1.28
332313	Plate Work Manufacturing	0	129	213	---	10.5%	0.00	29.28	\$51,710	\$27,809,134	\$8,224,832	0	2	1.14
332710	Machine Shops	69	105	147	8.9%	6.8%	2.35	3.87	\$55,240	\$14,689,141	\$6,796,798	2	2	1.10
323120	Support Activities for Printing	92	83	85	-2.2%	0.5%	26.33	32.25	\$87,853	\$16,002,153	\$9,118,518	1	1	1.16
336211	Motor Vehicle Body Manufacturing	46	71	35	9.3%	-13.1%	9.34	13.06	\$132,506	\$46,781,334	\$10,876,187	1	1	1.33
311119	Other Animal Food Manufacturing	32	70	70	17.1%	0.1%	9.48	21.78	\$64,530	\$65,613,474	\$8,100,151	2	2	1.42
332322	Sheet Metal Work Manufacturing	104	68	48	-8.3%	-6.8%	10.35	6.72	\$38,698	\$9,815,334	\$3,076,851	1	1	1.10
321920	Wood Container and Pallet Manufacturing	63	66	74	1.0%	2.2%	10.56	10.90	\$34,998	\$9,371,980	\$3,200,119	3	3	1.10
333111	Farm Machinery and Equipment Manufacturing	101	56	39	-11.3%	-6.7%	16.07	9.67	\$92,407	\$28,468,280	\$9,341,575	2	2	1.27
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	47	55	66	3.4%	3.4%	11.65	14.71	\$65,479	\$14,921,441	\$5,247,634	1	1	1.14
332216	Saw Blade and Handtool Manufacturing	26	50	53	13.9%	1.5%	7.87	18.23	\$27,323	\$4,864,197	\$2,059,341	1	1	1.06
326122	Plastics Pipe and Pipe Fitting Manufacturing	37	46	53	4.8%	2.9%	13.77	17.77	\$57,202	\$11,078,743	\$3,435,459	1	1	1.10
334519	Other Measuring and Controlling Device Manufacturing	<10	34	54	---	9.6%	0.43	9.75	\$115,643	\$12,446,561	\$7,924,252	1	1	1.24
326291	Rubber Product Manufacturing for Mechanical Use	28	34	39	3.7%	3.0%	10.21	11.86	\$49,108	\$7,839,961	\$2,432,858	1	1	1.20
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	32	27	23	-2.8%	-3.2%	4.82	4.49	\$45,133	\$2,430,173	\$1,330,974	4	3	1.07
337110	Wood Kitchen Cabinet and Countertop Manufacturing	26	27	30	0.5%	2.6%	2.28	2.27	\$47,208	\$3,729,326	\$1,393,010	6	6	1.10
332992	Small Arms Ammunition Manufacturing	<10	20	24	---	3.8%	0.27	19.70	\$66,289	\$5,418,944	\$2,244,141	1	1	1.19
315990	Apparel Accessories and Other Apparel Manufacturing	<10	18	24	---	5.3%	0.20	15.56	\$95,283	\$6,357,339	\$2,150,170	1	1	1.21
327320	Ready-Mix Concrete Manufacturing	16	13	<10	-4.2%	---	1.83	1.44	\$73,444	\$4,339,195	\$1,172,028	3	3	1.19
337910	Mattress Manufacturing	0	13	19	---	8.1%	0.00	5.46	\$40,076	\$2,311,213	\$673,647	0	1	1.13
332439	Other Metal Container Manufacturing	<10	10	14	---	6.2%	3.18	7.14	\$51,208	\$3,433,069	\$718,609	1	1	1.13
311511	Fluid Milk Manufacturing	47	10	12	-26.2%	3.1%	8.46	2.00	\$54,541	\$5,721,024	\$925,311	1	1	1.40
	Totals for Manufacturing in Livingston County	2,195	2,272	2,271	0.7%	0.0%	1.74	1.94	\$71,595	\$821,965,075	\$229,694,227	61	58	N/A
	Totals for Manufacturing in LWA 11 Region	8,414	9,352	10,215	2.1%	1.8%	1.34	1.45	\$81,069	\$5,883,073,964	\$1,745,760,440	238	236	N/A
	Totals for All Livingston County Industries	76,912	80,998	85,683	1.0%	1.1%	1.24	1.37	\$52,614	\$16,810,565,058	\$7,580,017,700	4,719	4,637	N/A



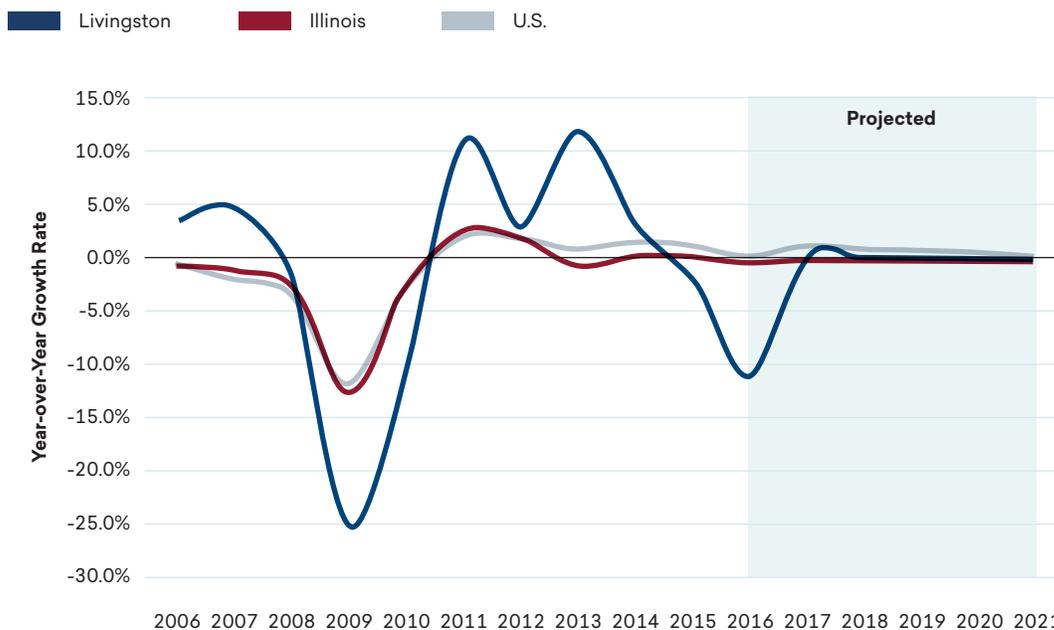
The manufacturing cluster accounted for 2,270 jobs and 58 establishments in 2016, barely 3% of total employment and 1% of total payroll establishments in Livingston County. Employment in Livingston County's manufacturing cluster accounts for one-quarter of the total cluster in the LWIA 11 region. Overall employment for this cluster is 1.9 times more concentrated in Livingston County than would be expected based on national employment averages. As a whole, the cluster experienced little to no job growth over the last five years and is not projected to gain much traction over the next five years, unless economic development efforts to expand upon current supply chain needs.

Total sales for all companies in this cluster reached near \$822 million (only 5% of total county industry sales) and contributed more than \$229 million to the region's gross regional product (about 3% of total GRP) in 2016.

A significant contributor to the value of this cluster is other engine equipment manufacturing, generating 22% of the industry's gross regional product for the manufacturing sector in the county. However, it has been an industry in decline whereas a variety of other manufacturing have been growing but are not the economic driver to the region as engine equipment manufacturing.

Over the past decade, the manufacturing cluster in Livingston County has seen some peaks and valleys and deeper than the state and nation. However, the employment trend is projected to smooth out over the next five years. See Figure 7 below for manufacturing employment trends.

FIGURE 7. Manufacturing Employment Trends and Projections, Year-over-Year Employment Growth



LABOR MARKET ANALYSIS

Table 13 lists the top 25 occupations in Livingston County’s manufacturing cluster. These occupations account for 61% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations.

The occupation with the most jobs in the manufacturing cluster are machinists at 178 jobs. This occupation comprises roughly 13% of the cluster’s total jobs given that there are approximately 184 total machinists employed in the county—meaning the cluster employs nearly all of these workers, at a median wage of \$18.19 per hour.

TABLE 13. Largest Occupations in Manufacturing, Livingston County

SOC	DESCRIPTION	EMPLOYED IN INDUSTRY		CHANGE	% OF INDUSTRY CLUSTER TOTAL JOBS	EMPLOYED IN ALL INDUSTRIES IN COUNTY	INDUSTRY CLUSTERS % OF ALL INDUSTRY JOBS	MEDIAN HOURLY EARNINGS
		2011	2016	2011-2016	2016	2016	2016	
51-4041	Machinists	180	178	(2)	7.8%	184	96.6%	\$18.19
51-2092	Team Assemblers	100	104	4	4.6%	117	88.4%	\$18.56
51-4121	Welders, Cutters, Solderers, and Brazers	71	94	23	4.1%	109	86.4%	\$19.43
51-5112	Printing Press Operators	102	87	(15)	3.8%	99	87.3%	\$18.96
51-9199	Production Workers, All Other	68	80	12	3.5%	118	67.9%	\$19.26
51-1011	First-Line Supervisors of Production and Operating Workers	74	77	3	3.4%	94	82.4%	\$28.44
11-1021	General and Operations Managers	61	67	6	2.9%	303	22.1%	\$32.99
51-9198	Helpers--Production Workers	52	57	5	2.5%	64	88.4%	\$14.84
43-4051	Customer Service Representatives	54	55	1	2.4%	238	22.9%	\$15.39
49-9071	Maintenance and Repair Workers, General	48	54	6	2.4%	184	29.0%	\$20.94
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	49	52	3	2.3%	191	27.2%	\$25.69
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	46	51	5	2.2%	267	18.9%	\$14.90
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	50	50	0	2.2%	67	75.5%	\$18.92
43-9061	Office Clerks, General	44	47	3	2.1%	350	13.5%	\$14.38
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	40	47	7	2.1%	47	100.0%	\$21.39
43-5071	Shipping, Receiving, and Traffic Clerks	45	46	1	2.0%	106	43.3%	\$14.42
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	31	35	4	1.6%	36	98.7%	\$15.67
43-3031	Bookkeeping, Accounting, and Auditing Clerks	32	33	1	1.4%	200	16.3%	\$16.71
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	26	28	2	1.2%	295	9.5%	\$14.26
17-2112	Industrial Engineers	30	28	(2)	1.2%	32	86.2%	\$38.91
51-9196	Paper Goods Machine Setters, Operators, and Tenders	18	26	8	1.2%	28	94.2%	\$20.13
51-2031	Engine and Other Machine Assemblers	37	25	(12)	1.1%	25	99.8%	\$17.83
49-9041	Industrial Machinery Mechanics	23	24	1	1.1%	32	74.8%	\$29.71
53-7051	Industrial Truck and Tractor Operators	19	22	3	0.9%	68	31.8%	\$18.55
51-2099	Assemblers and Fabricators, All Other	17	21	4	0.9%	31	70.4%	\$14.64

SUPPLY CHAIN ANALYSIS

Table 14 provides a picture about the total demand in Livingston County by all Livingston County residents and businesses for products made by companies in the manufacturing cluster—worth a total of \$602 million in the area. In Table 14, we see that the companies in these sectors meet 11% of regional demand for their products, while the region imports 89% of regional needs for these products. This would seem to indicate potential markets for local suppliers. Particularly, those industries generating large demand and importing most of their product, including (but not limited to):

- Petrochemical and Chemical Manufacturing
- Light Truck and Utility Vehicle Manufacturing
- Pharmaceutical Preparation Manufacturing

TABLE 14. Manufacturing Regional Demand Met by Livingston County Companies (2016)

NAICS	INDUSTRY SECTOR	2016 DEMAND				TOTAL DEMAND	% OF TOTAL DEMAND
		SATISFIED IN-REGION	% SATISFIED IN-REGION	SATISFIED OUT-OF-REGION (IMPORTS)	% SATISFIED OUT-OF-REGION (IMPORTS)		
324110	Petroleum Refineries	\$0	0%	\$32,513,063	100%	\$32,513,063	5.4%
331110	Iron and Steel Mills and Ferroalloy Manufacturing	\$323,715	1%	\$22,553,570	99%	\$22,877,285	3.8%
311119	Other Animal Food Manufacturing	\$16,212,743	82%	\$3,674,687	18%	\$19,887,430	3.3%
336112	Light Truck and Utility Vehicle Manufacturing	\$0	0%	\$17,454,621	100%	\$17,454,621	2.9%
323111	Commercial Printing (except Screen and Books)	\$6,654,054	47%	\$7,508,699	53%	\$14,162,753	2.4%
333618	Other Engine Equipment Manufacturing	\$12,430,478	92%	\$1,090,657	8%	\$13,521,135	2.2%
325412	Pharmaceutical Preparation Manufacturing	\$0	0%	\$13,403,701	100%	\$13,403,701	2.2%
322121	Paper (except Newsprint) Mills	\$0	0%	\$13,166,551	100%	\$13,166,551	2.2%
325211	Plastics Material and Resin Manufacturing	\$0	0%	\$9,303,955	100%	\$9,303,955	1.5%
326199	All Other Plastics Product Manufacturing	\$211,008	2%	\$8,690,129	98%	\$8,901,137	1.5%
336111	Automobile Manufacturing	\$0	0%	\$8,843,345	100%	\$8,843,345	1.5%
322130	Paperboard Mills	\$0	0%	\$7,898,677	100%	\$7,898,677	1.3%
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	\$970,397	14%	\$6,119,289	86%	\$7,089,686	1.2%
325520	Adhesive Manufacturing	\$0	0%	\$6,671,799	100%	\$6,671,799	1.1%
332710	Machine Shops	\$1,541,913	24%	\$4,831,217	76%	\$6,373,130	1.1%
336390	Other Motor Vehicle Parts Manufacturing	\$0	0%	\$5,808,343	100%	\$5,808,343	1.0%
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing	\$255,287	5%	\$5,223,086	95%	\$5,478,373	0.9%
311611	Animal (except Poultry) Slaughtering	\$142,245	3%	\$5,067,383	97%	\$5,209,628	0.9%
311612	Meat Processed from Carcasses	\$71,513	1%	\$5,091,258	99%	\$5,162,771	0.9%
325199	All Other Basic Organic Chemical Manufacturing	\$0	0%	\$4,834,094	100%	\$4,834,094	0.8%
322211	Corrugated and Solid Fiber Box Manufacturing	\$0	0%	\$4,683,452	100%	\$4,683,452	0.8%
336411	Aircraft Manufacturing	\$0	0%	\$4,544,864	100%	\$4,544,864	0.8%
311224	Soybean and Other Oilseed Processing	\$0	0%	\$4,277,555	100%	\$4,277,555	0.7%
337110	Wood Kitchen Cabinet and Countertop Manufacturing	\$1,070,522	25%	\$3,143,058	75%	\$4,213,580	0.7%
311615	Poultry Processing	\$0	0%	\$4,113,034	100%	\$4,113,034	0.7%
	Totals for Manufacturing in Livingston County	\$65,101,675	10.8%	\$536,549,634	89.2%	\$601,651,309	100.0%
	Totals for Manufacturing in LWA 11 Region	\$528,049,791	15.5%	\$2,885,872,355	84.5%	\$3,413,922,146	100.0%
	Totals for All Livingston Industries	\$484,095,792	16.2%	\$2,498,477,950	83.8%	\$2,982,573,742	100.0%

Table 15 shows the economic development opportunity to build up the region's supply chain supporting manufacturing companies. This table shows the goods and services that companies within the manufacturing cluster buy to use in making their products.

Approximately 10% of manufacturing supply needs are met within the area, while the remaining 90% are purchased from outside. In total, the value of the manufacturing supply chain for Livingston County manufacturers is \$445 million. Most imported supplies are a combination of manufactured goods and services. Like other areas around the region, wholesale trade and transportation and warehousing services have significant levels of demand supplied from outside the region.

TABLE 15. Manufacturing Supply Chain, Livingston County (2016)

NAICS	PURCHASES FROM	2016 PURCHASES				TOTAL PURCHASES	% OF TOTAL PURCHASES
		IN-REGION PURCHASES	% IN-REGION PURCHASES	IMPORTED PURCHASES	% IMPORTED PURCHASES		
31	Manufacturing	\$29,608,638	10.9%	\$241,422,763	89.1%	\$271,031,401	60.9%
42	Wholesale Trade	\$4,157,919	8.9%	\$42,503,720	91.1%	\$46,661,639	10.5%
55	Management of Companies and Enterprises	\$0	0.0%	\$24,390,941	100.0%	\$24,390,941	5.5%
48	Transportation and Warehousing	\$2,849,494	12.8%	\$19,396,364	87.2%	\$22,245,858	5.0%
11	Crop and Animal Production	\$1,271,416	7.9%	\$14,874,482	92.1%	\$16,145,898	3.6%
54	Professional, Scientific, and Technical Services	\$1,057,011	7.1%	\$13,911,176	92.9%	\$14,968,187	3.4%
56	Administrative and Support and Waste Management and Remediation Services	\$994,592	9.9%	\$9,088,508	90.1%	\$10,083,100	2.3%
52	Finance and Insurance	\$1,193,490	14.8%	\$6,870,470	85.2%	\$8,063,960	1.8%
53	Real Estate and Rental and Leasing	\$408,227	6.0%	\$6,365,772	94.0%	\$6,773,999	1.5%
51	Information	\$636,492	10.0%	\$5,748,346	90.0%	\$6,384,838	1.4%
22	Utilities	\$888,458	21.3%	\$3,292,393	78.7%	\$4,180,851	0.9%
72	Accommodation and Food Services	\$960,373	25.2%	\$2,854,292	74.8%	\$3,814,665	0.9%
44	Retail Trade	\$947,982	27.4%	\$2,513,070	72.6%	\$3,461,052	0.8%
21	Mining, Quarrying, and Oil and Gas Extraction	\$77,349	3.4%	\$2,171,538	96.6%	\$2,248,886	0.5%
81	Other Services (except Public Administration)	\$527,724	29.4%	\$1,269,234	70.6%	\$1,796,958	0.4%
23	Construction	\$284,515	26.8%	\$776,368	73.2%	\$1,060,884	0.2%
71	Arts, Entertainment, and Recreation	\$64,738	10.8%	\$531,990	89.2%	\$596,728	0.1%
90	Government	\$157,784	32.0%	\$335,670	68.0%	\$493,454	0.1%
61	Educational Services	\$9,374	2.3%	\$404,496	97.7%	\$413,870	0.1%
62	Health Care and Social Assistance	\$52,607	18.0%	\$239,021	82.0%	\$291,628	0.1%
	Totals for Manufacturing in Livingston County	\$46,148,183	10.4%	\$398,960,615	89.6%	\$445,108,798	100.0%
	Totals for Manufacturing in LWA 11 Region	\$569,168,444	17.8%	\$2,635,957,909	82.2%	\$3,205,126,354	100.0%
	Totals for All Livingston County Industries	\$237,827,476	17.8%	\$1,101,088,168	82.2%	\$1,338,915,645	100.0%

Table 16 shows the types of manufactured products purchased by Livingston County manufacturing companies.

TABLE 16. Manufacturing Manufactured Products Supply Chain, Livingston County (2016)

NAICS	PURCHASES FROM	2016 PURCHASES				TOTAL PURCHASES	% OF TOTAL PURCHASES
		IN-REGION PURCHASES	% IN-REGION PURCHASES	IMPORTED PURCHASES	% IMPORTED PURCHASES		
331	Primary Metal Manufacturing	\$2,561,223	5.5%	\$44,400,975	94.5%	\$46,962,199	17.3%
332	Fabricated Metal Product Manufacturing	\$3,632,195	11.0%	\$29,394,152	89.0%	\$33,026,346	12.2%
325	Chemical Manufacturing	\$90,685	0.3%	\$30,890,443	99.7%	\$30,981,128	11.4%
322	Paper Manufacturing	\$2,767,355	9.1%	\$27,547,880	90.9%	\$30,315,235	11.2%
333	Machinery Manufacturing	\$12,993,739	48.6%	\$13,720,311	51.4%	\$26,714,050	9.9%
336	Transportation Equipment Manufacturing	\$2,601,736	10.9%	\$21,325,487	89.1%	\$23,927,224	8.8%
311	Food Manufacturing	\$528,063	3.3%	\$15,511,409	96.7%	\$16,039,471	5.9%
326	Plastics and Rubber Products Manufacturing	\$1,854,824	11.7%	\$13,987,063	88.3%	\$15,841,887	5.8%
335	Electrical Equipment, Appliance, and Component Manufacturing	\$0	0.0%	\$10,177,594	100.0%	\$10,177,594	3.8%
321	Wood Product Manufacturing	\$477,618	6.4%	\$6,985,117	93.6%	\$7,462,735	2.8%
327	Nonmetallic Mineral Product Manufacturing	\$219,236	3.2%	\$6,600,516	96.8%	\$6,819,752	2.5%
334	Computer and Electronic Product Manufacturing	\$55,585	0.9%	\$5,900,103	99.1%	\$5,955,688	2.2%
313	Textile Mills	\$44,832	1.1%	\$3,888,704	98.9%	\$3,933,536	1.5%
324	Petroleum and Coal Products Manufacturing	\$30,289	0.9%	\$3,529,857	99.1%	\$3,560,146	1.3%
337	Furniture and Related Product Manufacturing	\$830,141	24.7%	\$2,536,927	75.3%	\$3,367,068	1.2%
339	Miscellaneous Manufacturing	\$19,234	1.0%	\$1,832,865	99.0%	\$1,852,100	0.7%
312	Beverage and Tobacco Product Manufacturing	\$589	0.0%	\$1,765,536	100.0%	\$1,766,125	0.7%
323	Printing and Related Support Activities	\$810,877	50.5%	\$795,737	49.5%	\$1,606,614	0.6%
315	Apparel Manufacturing	\$51,174	16.8%	\$253,301	83.2%	\$304,475	0.1%
316	Leather and Allied Product Manufacturing	\$25,808	10.3%	\$225,909	89.7%	\$251,716	0.1%
314	Textile Product Mills	\$13,437	8.1%	\$152,877	91.9%	\$166,313	0.1%
	Totals for Manufacturing Purchases in Livingston County	\$29,608,638	10.9%	\$241,422,763	89.1%	\$271,031,401	100.0%
	Totals for Manufacturing Purchases in LWA 11 Region	\$454,455,262	19.9%	\$1,832,709,214	80.1%	\$2,287,164,476	100.0%
	Totals for All Livingston County Industries	\$237,827,476	17.8%	\$1,101,088,168	82.2%	\$1,338,915,645	100.0%

Table 17 shows the amount of goods sold by Livingston County companies both inside and outside the region. These companies sell over \$822 million of products, of which 92% is sold outside Livingston County, thus bringing substantial revenues into the region.

TABLE 17. Livingston County Manufacturing Companies' Sales in Region and Exported Out of Region

NAICS	PURCHASES FROM	2016 PURCHASES				TOTAL PURCHASES	% OF TOTAL PURCHASES
		IN-REGION PURCHASES	% IN-REGION PURCHASES	IMPORTED PURCHASES	% IMPORTED PURCHASES		
322220	Paper Bag and Coated and Treated Paper Manufacturing	\$3,657,724	3%	\$114,225,891	97%	\$117,883,615	14.3%
323111	Commercial Printing (except Screen and Books)	\$6,654,054	9%	\$64,308,555	91%	\$70,962,609	8.6%
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	\$2,374,875	4%	\$64,499,236	96%	\$66,874,111	8.1%
311119	Other Animal Food Manufacturing	\$16,212,744	25%	\$49,400,730	75%	\$65,613,474	8.0%
336211	Motor Vehicle Body Manufacturing	\$2,389,454	5%	\$44,391,880	95%	\$46,781,334	5.7%
333111	Farm Machinery and Equipment Manufacturing	\$1,580,611	6%	\$26,887,669	94%	\$28,468,280	3.5%
332313	Plate Work Manufacturing	\$1,548,344	6%	\$26,260,790	94%	\$27,809,134	3.4%
323120	Support Activities for Printing	\$846,739	5%	\$15,155,414	95%	\$16,002,153	1.9%
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	\$927,740	6%	\$13,993,701	94%	\$14,921,441	1.8%
332710	Machine Shops	\$1,541,914	10%	\$13,147,227	90%	\$14,689,141	1.8%
334519	Other Measuring and Controlling Device Manufacturing	\$479,218	4%	\$11,967,343	96%	\$12,446,561	1.5%
326122	Plastics Pipe and Pipe Fitting Manufacturing	\$1,171,735	11%	\$9,907,008	89%	\$11,078,743	1.3%
332322	Sheet Metal Work Manufacturing	\$1,327,290	14%	\$8,488,044	86%	\$9,815,334	1.2%
321920	Wood Container and Pallet Manufacturing	\$962,605	10%	\$8,409,375	90%	\$9,371,980	1.1%
326291	Rubber Product Manufacturing for Mechanical Use	\$1,107,100	14%	\$6,732,861	86%	\$7,839,961	1.0%
315990	Apparel Accessories and Other Apparel Manufacturing	\$207,206	3%	\$6,150,133	97%	\$6,357,339	0.8%
311511	Fluid Milk Manufacturing	\$1,145,645	20%	\$4,575,379	80%	\$5,721,024	0.7%
332992	Small Arms Ammunition Manufacturing	\$189,427	3%	\$5,229,517	97%	\$5,418,944	0.7%
332216	Saw Blade and Handtool Manufacturing	\$465,935	10%	\$4,398,262	90%	\$4,864,197	0.6%
327320	Ready-Mix Concrete Manufacturing	\$184,683	4%	\$4,154,512	96%	\$4,339,195	0.5%
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	\$970,397	23%	\$3,295,871	77%	\$4,266,268	0.5%
337110	Wood Kitchen Cabinet and Countertop Manufacturing	\$1,070,522	29%	\$2,658,804	71%	\$3,729,326	0.5%
332439	Other Metal Container Manufacturing	\$324,615	9%	\$3,108,454	91%	\$3,433,069	0.4%
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	\$466,529	14%	\$2,910,170	86%	\$3,376,699	0.4%
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	\$308,669	13%	\$2,121,504	87%	\$2,430,173	0.3%
336999	All Other Transportation Equipment Manufacturing	\$193,094	8%	\$2,123,178	92%	\$2,316,272	0.3%
337910	Mattress Manufacturing	\$481,859	21%	\$1,829,354	79%	\$2,311,213	0.3%
311611	Animal (except Poultry) Slaughtering	\$142,245	7%	\$1,832,463	93%	\$1,974,708	0.2%
	Totals for Manufacturing in Livingston County	\$65,101,679	7.9%	\$756,863,399	92.1%	\$821,965,075	100.0%
	Totals for Manufacturing in LWA 11 Region	\$528,049,793	9.0%	\$5,355,024,174	91.0%	\$5,883,073,964	100.0%
	Totals for All Livingston County Industries	\$476,831,182	16.5%	\$2,417,490,741	83.5%	\$2,894,321,923	100.0%

Transportation, Warehousing, Distribution, and Logistics

The transportation, warehousing, distribution, and logistics (TWDL) cluster is a combination of two industry classes: transportation and warehousing and wholesale trade. It is a large industry in Illinois contributing \$81 billion to the state's gross state product (13%) and generating over \$140 billion in total sales in 2016.

Figure 8 compares the 2016 job distribution for the TWDL cluster throughout Livingston County with the minimum number of TWDL workers who commute in or out of the region to satisfy TWDL jobs held. A positive number (shown in GREEN in the figure below) describes commuters entering a region, while a negative number (shown in RED) describes commuters leaving a region.

The City of Pontiac has the largest number of TWDL jobs at 7,260 in 2016, followed by Fairbury at 2,500. Most of the residents working in transportation and material moving occupations also live in Pontiac as well as Dwight. There are approximately 1,010 classified transportation and material moving occupations jobs in Livingston County (although there are 1,490 TWDL jobs) and roughly 1,280 Livingston County residents who are classified under transportation and material moving occupation. This means that roughly 270 Livingston County residents commute elsewhere to find work because there are not enough jobs in their field within the county.

FIGURE 8. TWDL Cluster Job Distribution and Net Commuters for Livingston County Residents working in TWDL Occupations (2016)

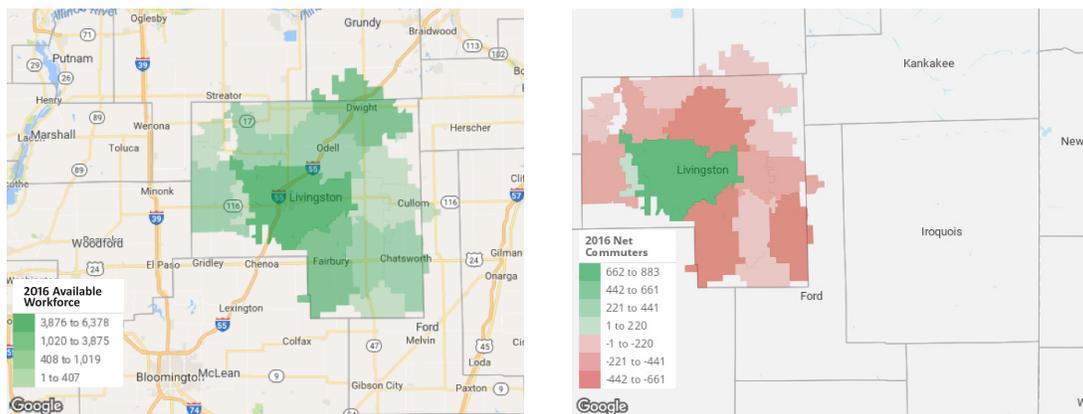


Table 18 below provides an overview for each of the individual industry sectors that comprise the TWDL cluster in Livingston County. Included are historic, current, and projected employment; historic and projected compound annual growth rate; historic and current employment concentration (LQ); average earnings; total sales; gross regional product (GRP); historic and current payroll establishments (businesses); and jobs multipliers (multiplier effect). The table is sorted largest to smallest by 2016 employment.

TABLE 18. TWDL Sector, Livingston County

NAICS	INDUSTRY SECTOR	EMPLOYMENT			COMPOUND ANNUAL GROWTH RATE		CONCENTRATION (LQ)		AVERAGE EARNINGS	TOTAL SALES	GROSS REGIONAL PRODUCT (GRP)	PAYROLLED ESTABLISHMENTS		JOBS MULTIPLIER
		2011	2016	2021	2011-2016	2016-2021	2011	2016	2016	2016	2016	2011	2016	2016
493110	General Warehousing and Storage	188	293	380	9.3%	5.4%	3.25	4.02	\$62,332	\$39,422,562	\$23,033,771	1	2	1.15
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	173	182	190	1.0%	0.9%	16.83	18.42	\$70,488	\$37,098,649	\$24,853,399	6	6	1.28
424480	Fresh Fruit and Vegetable Merchant Wholesalers	181	159	138	-2.6%	-2.7%	19.86	17.21	\$100,494	\$45,824,269	\$30,667,392	2	1	1.40
424910	Farm Supplies Merchant Wholesalers	114	152	171	6.0%	2.4%	9.76	13.78	\$60,758	\$26,742,012	\$17,922,452	19	20	1.24
424510	Grain and Field Bean Merchant Wholesalers	179	137	103	-5.2%	-5.6%	35.01	29.30	\$57,472	\$23,252,458	\$15,506,564	22	21	1.23
425120	Wholesale Trade Agents and Brokers	27	123	203	35.5%	10.6%	0.31	1.46	\$62,155	\$40,480,787	\$27,230,096	2	4	1.29
484121	General Freight Trucking, Long-Distance, Truckload	67	97	114	7.6%	3.3%	1.09	1.67	\$46,438	\$15,939,256	\$6,314,540	11	12	1.11
484220	Specialized Freight (except Used Goods) Trucking, Local	60	68	77	2.6%	2.3%	2.66	3.14	\$45,121	\$9,221,769	\$3,644,485	17	18	1.11
484110	General Freight Trucking, Local	51	54	52	1.3%	-0.7%	1.67	1.81	\$47,522	\$9,534,369	\$3,773,435	16	14	1.10
485410	School and Employee Bus Transportation	75	48	44	-8.5%	-1.6%	3.85	2.57	\$24,461	\$2,385,251	\$1,386,000	3	3	1.05
423830	Industrial Machinery and Equipment Merchant Wholesalers	20	35	46	11.9%	5.6%	0.65	1.18	\$92,643	\$10,285,881	\$6,914,599	3	1	1.39
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	49	26	23	-11.9%	-2.8%	9.84	4.91	\$114,702	\$8,949,700	\$5,985,412	1	1	1.46
423710	Hardware Merchant Wholesalers	<10	18	22	---	4.6%	0.97	2.29	\$92,952	\$5,378,048	\$3,601,788	2	2	1.38
423840	Industrial Supplies Merchant Wholesalers	0	15	21	---	6.6%	0.00	1.76	\$46,427	\$2,020,164	\$1,353,266	0	1	1.19
488510	Freight Transportation Arrangement	<10	13	<10	---	---	0.47	0.59	\$61,611	\$2,203,685	\$1,014,650	5	4	1.15
482110	Rail transportation	<10	12	12	---	-0.2%	0.40	0.51	\$87,052	\$3,973,733	\$1,886,073	0	0	1.31
484122	General Freight Trucking, Long-Distance, Less Than Truckload	<10	<10	<10	---	---	0.10	0.03	Insf. Data	\$379,854	\$150,249	0	0	1.09
424710	Petroleum Bulk Stations and Terminals	<10	<10	10	---	---	0.74	2.70	Insf. Data	\$3,541,002	\$2,359,846	2	1	1.56
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	<10	<10	<10	---	---	1.56	0.94	Insf. Data	\$450,486	\$301,065	1	1	1.13
424690	Other Chemical and Allied Products Merchant Wholesalers	0	<10	<10	---	---	0.00	0.07	Insf. Data	\$84,278	\$56,573	0	0	1.07
485320	Limousine Service	<10	<10	<10	---	---	0.10	0.20	Insf. Data	\$326,332	\$189,521	0	1	1.05
485310	Taxi Service	<10	<10	<10	---	---	0.29	0.21	Insf. Data	\$302,101	\$175,283	2	1	1.07
486110	Pipeline Transportation of Crude Oil	14	<10	<10	---	---	15.05	7.26	Insf. Data	\$4,501,186	\$2,700,629	1	1	1.81
424520	Livestock Merchant Wholesalers	<10	<10	<10	---	---	1.40	2.09	Insf. Data	\$213,146	\$135,940	1	1	1.08
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	0	<10	<10	---	---	0.00	0.05	Insf. Data	\$482,560	\$190,235	0	1	1.24
	Totals for TWDL in Livingston County	1,366	1,490	1,673	1.8%	2.3%	1.24	1.37	\$66,565	\$306,142,744	\$190,037,984	127	122	N/A
	Totals for TWDL in LWA 11 Region	6,928	8,087	9,076	3.1%	2.3%	1.29	1.40	\$60,453	\$1,533,126,670	\$871,158,315	505	505	N/A
	Totals for All Livingston County Industries	76,912	80,998	85,683	1.0%	1.1%	1.24	1.37	\$52,614	\$16,810,565,058	\$7,580,017,700	4,719	4,637	N/A



The TWDL cluster accounted for 1,490 jobs and 122 establishments in 2016, roughly 2% of the total employment and total payroll establishments in Livingston County. Employment in Livingston County's TWDL cluster accounts for 18% of the total LWA 11 region. Overall employment for this cluster is about 1.3 times more concentrated in Livingston County than would be expected based on national employment averages.

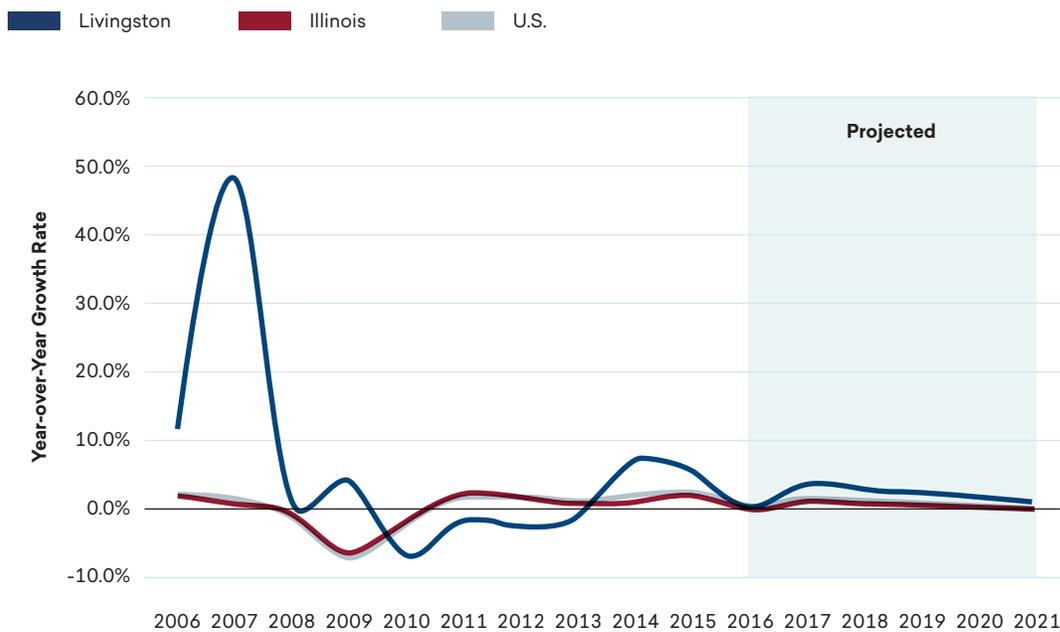
As a whole, the cluster experienced moderate job growth over the last five years (1.8% annual growth) compared to all industries and is expected to grow slightly by an average of 2.3% each year for the next five years.

Total sales for all companies in this cluster were over \$306 million (barely 2% of total industry sales in the county) and contributed nearly \$190 million to the region's gross regional product, or 2.5% of total GRP in 2016.

A significant contributor to the growth, size, and value of this cluster is general warehousing and storage. The industry added 105 jobs over the last five years—nearly all TWDL jobs added during that time. However, fresh fruit and vegetable merchant wholesalers contribute the most, 16%, to the region's gross product for this industry.

Prior to the recession, an anomaly occurred. The TWDL cluster in Livingston County saw a sizeable jump in employment growth. Through the recession, its recovery, and in recent time; employment trends in this industry has kept pace with the state and nation over the past five years and is projected to mimic this pace over the next five years. See Figure 9 below for TWDL employment trends.

FIGURE 9. TWDL Employment Trends and Projections, Year-over-Year Employment Growth



LABOR MARKET ANALYSIS

Table 19 lists the top 25 occupations in Livingston County's TWDL cluster. These occupations account for three-quarter of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations.

The occupation with the most jobs in the TWDL cluster are heavy and tractor-trailer truck drivers at 200 jobs. This occupation comprises over 13% of the cluster's total jobs. However, there are approximately 249 heavy and tractor-trailer truck drivers employed in the county, meaning the cluster employs majority of these workers, at a median wage of \$19.11 per hour.

TABLE 19. Largest Occupations in TWDL, Livingston County

SOC	DESCRIPTION	EMPLOYED IN INDUSTRY		CHANGE	% OF INDUSTRY CLUSTER TOTAL JOBS	EMPLOYED IN ALL INDUSTRIES IN COUNTY	INDUSTRY CLUSTERS % OF ALL INDUSTRY JOBS	MEDIAN HOURLY EARNINGS
		2011	2016	2011-2016	2016	2016	2016	
53-3032	Heavy and Tractor-Trailer Truck Drivers	175	200	25	13.4%	249	80.3%	\$19.11
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	144	160	16	10.7%	267	59.9%	\$14.90
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	85	109	24	7.3%	191	56.9%	\$25.69
49-3041	Farm Equipment Mechanics and Service Technicians	63	68	5	4.5%	70	97.0%	\$21.21
43-5081	Stock Clerks and Order Fillers	52	65	13	4.4%	278	23.4%	\$10.65
53-3033	Light Truck or Delivery Services Drivers	49	56	7	3.7%	125	44.7%	\$13.36
43-9061	Office Clerks, General	48	52	4	3.5%	350	14.9%	\$14.38
11-1021	General and Operations Managers	44	49	5	3.3%	303	16.1%	\$32.99
53-3022	Bus Drivers, School or Special Client	65	42	(23)	2.8%	72	57.7%	\$14.33
53-7051	Industrial Truck and Tractor Operators	33	40	7	2.7%	68	59.3%	\$18.55
43-5071	Shipping, Receiving, and Traffic Clerks	32	37	5	2.5%	106	35.1%	\$14.42
43-4051	Customer Service Representatives	26	32	6	2.1%	238	13.4%	\$15.39
43-3031	Bookkeeping, Accounting, and Auditing Clerks	29	30	1	2.0%	200	15.0%	\$16.71
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	25	30	5	2.0%	295	10.0%	\$14.26
49-9071	Maintenance and Repair Workers, General	20	25	5	1.6%	184	13.3%	\$20.94
53-7064	Packers and Packagers, Hand	29	19	(10)	1.3%	56	34.5%	\$11.89
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	<10	18	8	1.2%	29	62.7%	\$29.04
53-3031	Driver/Sales Workers	18	18	0	1.2%	41	43.8%	\$14.01
41-2022	Parts Salespersons	15	17	2	1.1%	44	38.5%	\$14.95
41-1012	First-Line Supervisors of Non-Retail Sales Workers	13	13	0	0.9%	46	29.4%	\$20.68
43-1011	First-Line Supervisors of Office and Administrative Support Workers	12	13	1	0.9%	113	11.6%	\$22.79
45-2091	Agricultural Equipment Operators	11	13	2	0.8%	31	41.0%	\$13.96
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	12	13	1	0.8%	28	44.9%	\$15.71
11-2022	Sales Managers	<10	12	3	0.8%	57	20.8%	\$51.24
53-7011	Conveyor Operators and Tenders	13	11	(2)	0.8%	17	66.4%	\$20.20

SUPPLY CHAIN ANALYSIS

Table 20 provides a picture about the total demand in Livingston County by all Livingston County residents and businesses for products made by companies in the TWDL cluster—worth a total of near \$261 million in the county. In Table 20, we see that the companies in these sectors meets only 19% of regional demand for their products, while the region imports 81% of regional needs for these products. This would seem to indicate potential markets for local suppliers. Particularly, those industries generating large demand and importing most of their product, including (but not limited to):

- Wholesale Trade Agents and Brokers
- General Freight Trucking, Long-Distance, Truckload
- General Warehousing and Storage
- Computer and Computer Peripheral Equipment and Software Merchant Wholesalers

TABLE 20. TWDL Regional Demand Met by Livingston County Companies (2016)

NAICS	INDUSTRY SECTOR	2016 DEMAND				TOTAL DEMAND	% OF TOTAL DEMAND
		SATISFIED IN-REGION	% SATISFIED IN-REGION	SATISFIED OUT-OF REGION (IMPORTS)	% SATISFIED OUT-OF-REGION (IMPORTS)		
425120	Wholesale Trade Agents and Brokers	\$419,122	1%	\$30,896,102	99%	\$31,315,224	12.0%
484121	General Freight Trucking, Long-Distance, Truckload	\$1,985,905	15%	\$11,262,781	85%	\$13,248,686	5.1%
481111	Scheduled Passenger Air Transportation	\$0	0%	\$12,072,932	100%	\$12,072,932	4.6%
493110	General Warehousing and Storage	\$4,176,956	41%	\$5,913,956	59%	\$10,090,912	3.9%
423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	\$0	0%	\$9,816,185	100%	\$9,816,185	3.8%
482110	Rail transportation	\$1,076,511	12%	\$7,550,955	88%	\$8,627,467	3.3%
492110	Couriers and Express Delivery Services	\$108,639	1%	\$8,078,978	99%	\$8,187,617	3.1%
423830	Industrial Machinery and Equipment Merchant Wholesalers	\$2,646,025	33%	\$5,434,638	67%	\$8,080,663	3.1%
424210	Drugs and Druggists' Sundries Merchant Wholesalers	\$0	0%	\$7,892,518	100%	\$7,892,518	3.0%
484110	General Freight Trucking, Local	\$792,726	11%	\$6,120,248	89%	\$6,912,974	2.6%
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	\$0	0%	\$6,718,356	100%	\$6,718,356	2.6%
484122	General Freight Trucking, Long-Distance, Less Than Truckload	\$252,840	4%	\$5,835,823	96%	\$6,088,663	2.3%
424410	General Line Grocery Merchant Wholesalers	\$0	0%	\$4,819,308	100%	\$4,819,308	1.8%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	\$0	0%	\$4,750,305	100%	\$4,750,305	1.8%
484220	Specialized Freight (except Used Goods) Trucking, Local	\$1,817,386	39%	\$2,785,618	61%	\$4,603,004	1.8%
424490	Other Grocery and Related Products Merchant Wholesalers	\$196,574	4%	\$4,347,240	96%	\$4,543,814	1.7%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$0	0%	\$4,453,639	100%	\$4,453,639	1.7%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	\$175,055	5%	\$3,181,808	95%	\$3,356,863	1.3%
488510	Freight Transportation Arrangement	\$461,879	14%	\$2,756,089	86%	\$3,217,968	1.2%
424690	Other Chemical and Allied Products Merchant Wholesalers	\$63,333	2%	\$3,109,781	98%	\$3,173,113	1.2%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	\$273,380	9%	\$2,756,038	91%	\$3,029,418	1.2%
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	\$0	0%	\$2,887,406	100%	\$2,887,406	1.1%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	\$0	0%	\$2,885,538	100%	\$2,885,538	1.1%
423110	Automobile and Other Motor Vehicle Merchant Wholesalers	\$149,963	6%	\$2,501,853	94%	\$2,651,816	1.0%
424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	\$167,849	7%	\$2,369,771	93%	\$2,537,620	1.0%
	Totals for TWDL in Livingston County	\$26,297,671	18.9%	\$235,220,562	81.1%	\$261,518,233	100.0%
	Totals for TWDL in LWA 11 Region	\$280,636,932	17.2%	\$1,347,014,436	82.8%	\$1,627,651,369	100.0%
	Totals for All Livingston County Industries	\$484,095,792	16.2%	\$2,498,477,950	83.8%	\$2,982,573,742	100.0%

Table 21 shows the economic development opportunity to build up the region's supply chain supporting TWDL companies. This table shows the goods and services that companies within the TWDL cluster buy to use in making their products or providing their services. Roughly 11% of TWDL supply needs are met within the area, while the remaining 89% are purchased from outside. This demonstrates a strong possibility for Livingston County companies to find new customers within this industry cluster.

In total, the value of the TWDL supply chain for Livingston County is \$111 million. Most imported supplies are services rather than manufactured goods, although manufacturing has significant levels of demand supplied from outside the region.

TABLE 21. TWDL Supply Chain, Livingston County (2016)

NAICS	PURCHASES FROM	2016 PURCHASES				TOTAL PURCHASES	% OF TOTAL PURCHASES
		IN-REGION PURCHASES	% IN-REGION PURCHASES	IMPORTED PURCHASES	% IMPORTED PURCHASES		
48	Transportation and Warehousing	\$2,495,002	13.9%	\$15,495,044	86.1%	\$17,990,046	16.2%
53	Real Estate and Rental and Leasing	\$2,689,384	16.2%	\$13,927,010	83.8%	\$16,616,394	15.0%
31	Manufacturing	\$980,444	7.4%	\$12,303,373	92.6%	\$13,283,817	12.0%
54	Professional, Scientific, and Technical Services	\$622,158	5.5%	\$10,634,888	94.5%	\$11,257,046	10.1%
55	Management of Companies and Enterprises	\$0	0.0%	\$11,197,840	100.0%	\$11,197,840	10.1%
42	Wholesale Trade	\$799,116	8.9%	\$8,168,847	91.1%	\$8,967,963	8.1%
56	Administrative and Support and Waste Management and Remediation Services	\$686,070	8.0%	\$7,880,982	92.0%	\$8,567,053	7.7%
52	Finance and Insurance	\$760,235	9.1%	\$7,630,341	90.9%	\$8,390,576	7.6%
51	Information	\$718,604	15.2%	\$3,995,297	84.8%	\$4,713,901	4.2%
81	Other Services (except Public Administration)	\$694,554	27.7%	\$1,813,553	72.3%	\$2,508,107	2.3%
90	Government	\$566,750	32.0%	\$1,205,704	68.0%	\$1,772,453	1.6%
44	Retail Trade	\$359,629	26.6%	\$992,417	73.4%	\$1,352,047	1.2%
22	Utilities	\$72,064	6.1%	\$1,101,326	93.9%	\$1,173,390	1.1%
72	Accommodation and Food Services	\$280,362	25.7%	\$811,586	74.3%	\$1,091,948	1.0%
23	Construction	\$211,374	26.8%	\$576,785	73.2%	\$788,159	0.7%
71	Arts, Entertainment, and Recreation	\$32,807	8.4%	\$356,280	91.6%	\$389,088	0.4%
61	Educational Services	\$14,033	3.8%	\$359,350	96.2%	\$373,383	0.3%
21	Mining, Quarrying, and Oil and Gas Extraction	\$4,718	1.7%	\$276,809	98.3%	\$281,527	0.3%
11	Crop and Animal Production	\$18,223	8.8%	\$188,046	91.2%	\$206,269	0.2%
62	Health Care and Social Assistance	\$24,761	18.7%	\$107,675	81.3%	\$132,436	0.1%
	Totals for TWDL in Livingston County	\$12,030,288	10.8%	\$99,023,155	89.2%	\$111,053,444	100.0%
	Totals for TWDL in LWA 11 Region	\$90,342,587	14.8%	\$521,058,472	85.2%	\$611,401,059	100.0%
	Totals for All Livingston County Industries	\$237,827,476	17.8%	\$1,101,088,168	82.2%	\$1,338,915,645	100.0%



Table 22 shows the amount of goods and services sold by Livingston County companies both inside and outside the region. These companies sell approximately \$306 million of products and services, of which nearly \$280 million is sold outside Livingston County, thus bringing additional revenues into the region.

TABLE 22. Livingston County TWDL Companies' Sales in Region and Exported Out of Region

NAICS	PURCHASES FROM	2016 PURCHASES				TOTAL PURCHASES	% OF TOTAL PURCHASES
		IN-REGION PURCHASES	% IN-REGION PURCHASES	IMPORTED PURCHASES	% IMPORTED PURCHASES		
484121	General Freight Trucking, Long-Distance, Truckload	\$18,023,819	13%	\$118,533,287	87%	\$136,557,106	44.6%
482110	Rail transportation	\$11,592,619	12%	\$88,045,693	88%	\$99,638,312	32.5%
424490	Other Grocery and Related Products Merchant Wholesalers	\$11,367,563	18%	\$52,057,287	82%	\$63,424,850	20.7%
424480	Fresh Fruit and Vegetable Merchant Wholesalers	\$1,671,120	4%	\$44,153,149	96%	\$45,824,269	15.0%
425120	Wholesale Trade Agents and Brokers	\$419,122	1%	\$40,061,665	99%	\$40,480,787	13.2%
493110	General Warehousing and Storage	\$4,176,956	11%	\$35,245,606	89%	\$39,422,562	12.9%
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	\$1,240,015	3%	\$35,858,634	97%	\$37,098,649	12.1%
424910	Farm Supplies Merchant Wholesalers	\$1,692,771	6%	\$25,049,241	94%	\$26,742,012	8.7%
424510	Grain and Field Bean Merchant Wholesalers	\$760,860	3%	\$22,491,598	97%	\$23,252,458	7.6%
484121	General Freight Trucking, Long-Distance, Truckload	\$1,985,905	12%	\$13,953,351	88%	\$15,939,256	5.2%
423830	Industrial Machinery and Equipment Merchant Wholesalers	\$2,646,026	26%	\$7,639,855	74%	\$10,285,881	3.4%
484110	General Freight Trucking, Local	\$792,725	8%	\$8,741,644	92%	\$9,534,369	3.1%
484220	Specialized Freight (except Used Goods) Trucking, Local	\$1,817,386	20%	\$7,404,383	80%	\$9,221,769	3.0%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	\$863,133	10%	\$8,086,567	90%	\$8,949,700	2.9%
423710	Hardware Merchant Wholesalers	\$655,767	12%	\$4,722,281	88%	\$5,378,048	1.8%
486110	Pipeline Transportation of Crude Oil	\$361,295	8%	\$4,139,891	92%	\$4,501,186	1.5%
482110	Rail transportation	\$1,076,511	27%	\$2,897,222	73%	\$3,973,733	1.3%
424710	Petroleum Bulk Stations and Terminals	\$711,840	20%	\$2,829,162	80%	\$3,541,002	1.2%
425110	Business to Business Electronic Markets	\$63,176	2%	\$3,187,088	98%	\$3,250,264	1.1%
485410	School and Employee Bus Transportation	\$102,136	4%	\$2,283,115	96%	\$2,385,251	0.8%
423930	Recyclable Material Merchant Wholesalers	\$498,912	21%	\$1,826,100	79%	\$2,325,012	0.8%
488510	Freight Transportation Arrangement	\$461,879	21%	\$1,741,806	79%	\$2,203,685	0.7%
423840	Industrial Supplies Merchant Wholesalers	\$526,064	26%	\$1,494,100	74%	\$2,020,164	0.7%
423140	Motor Vehicle Parts (Used) Merchant Wholesalers	\$258,343	20%	\$1,058,289	80%	\$1,316,632	0.4%
424450	Confectionery Merchant Wholesalers	\$235,079	20%	\$929,226	80%	\$1,164,305	0.4%
	Totals for TWDL in Livingston County	\$26,297,675	20%	\$279,845,073	80%	\$306,142,744	100.0%
	Totals for TWDL in LWA 11 Region	\$280,636,925	18.3%	\$1,252,489,738	81.7%	\$1,533,126,670	100.0%
	Totals for All Livingston County Industries	\$476,831,182	16.5%	\$2,417,490,741	83.5%	\$2,894,321,923	100.0%

