



Daytime Population and Commuter Patterns for Kansas and Metropolitan Areas

May 2016

Prepared by
Center for Economic Development and Business Research
W. Frank Barton School of Business
Wichita State University

Wichita State University, 1845 Fairmount St., Wichita, KS 67260-0121
Telephone: (316) 978-3225 Fax: (316) 978-3950 www.cedbr.org

Table of Contents

Kansas	4
Metropolitan Areas.....	7
Kansas City, Kansas	7
Lawrence.....	10
Manhattan	13
Topeka.....	16
Wichita	19
Definitions and Methodology	22

On any given day there are workers commuting into and out of the metropolitan areas of Kansas. This flow of workers creates either a net increase or a net decrease in the daytime population of an area. There are two ways to measure this flow of workers: the employment-residence ratio (ER) and the worker retention ratio.

ER ratios are the total number of workers working in an area, relative to the total number of workers living in the area. Ratios greater than 1.00 indicate there were more workers working in the area than living there. For example, an area with an ER ratio of 1.15 indicates there were 15 percent more workers working in an area than living in an area. These areas could be considered net importers of labor. Values less than 1.00 indicate areas that were net exporters of labor.

Although specific areas may be net importers or exporters of labor, within those areas there were workers commuting in and workers commuting out. This is shown in the varying level of worker retention across urban areas. Worker retention refers to workers who lived and worked in the same area, as a percentage of total workers living in the area. This is the number of workers that were not commuting to other areas for work. A low worker retention percentage indicates a high level of outbound commuting.

Although an area may have a net import or export of workers, the migration of workers in specific industries may vary from area to area. Within each industry, it was assumed that there were both workers commuting in and out. To quantify the net migration of workers in an industry, the number of workers living in an area was subtracted from the number of workers working in an area. The result indicates the net effect of commuting. A positive number indicates there were more workers commuting into an area than out. A negative number indicates there was more outward commuting than inward commuting.

As with variances between industries, there were also differences in commuter patterns by income. Within each income bracket it was assumed there were both workers commuting in and out. The commute by income was calculated by taking the difference in the workers working in an area and of workers living in an area, for each bracket. This indicates the net flow of workers by income. Negative numbers indicate more out-commuters, while a positive number indicates more in-commuters.

The import or export of a particular class of workers should not be interpreted as a strictly positive or negative event. For example, it is good to have higher income earners, who generally pay more in local taxes, living in an area. In this light, an outflow of high income earners may be interpreted positively. However, an outflow of higher income earners may also indicate that local industries are not providing higher wage jobs. Similarly, an inflow of low income workers may indicate the area does not have affordable housing available, or it may indicate a particularly high level of low wage jobs available in the area. The data provided here gives insights as to the flow of commuters in an area, but further analysis would be needed to understand the reasons for the commuter flow in a specific area.

Kansas

Relative to population, there were few workers living or working in Kansas that crossed state borders in their daily commute. There were one percent more workers working in Kansas than living in Kansas. This was unchanged between 2010 and 2014. The commuters crossing state borders changed only slightly between 2010 and 2014, with very little change in worker retention.

Kansas Daytime Population

	2010	2014	10-14
Total resident population	2,809,329	2,882,946	2.6%
Total workers working in area	1,387,303	1,395,853	0.6%
Workers who lived and worked in same area	1,272,591	1,280,064	0.6%
Workers commuting in:	114,712	115,789	0.9%
Total workers living in area	1,374,765	1,383,284	0.6%
Workers who lived and worked in same area	1,272,591	1,280,064	0.6%
Workers commuting out:	102,174	103,220	1.0%
Total daytime population	2,821,867	2,895,515	2.6%
Daytime population change due to commuting	12,538	12,569	0.2%
Worker retention	92.6%	92.5%	0.0%
Employment residence ratio	1.01	1.01	0.00

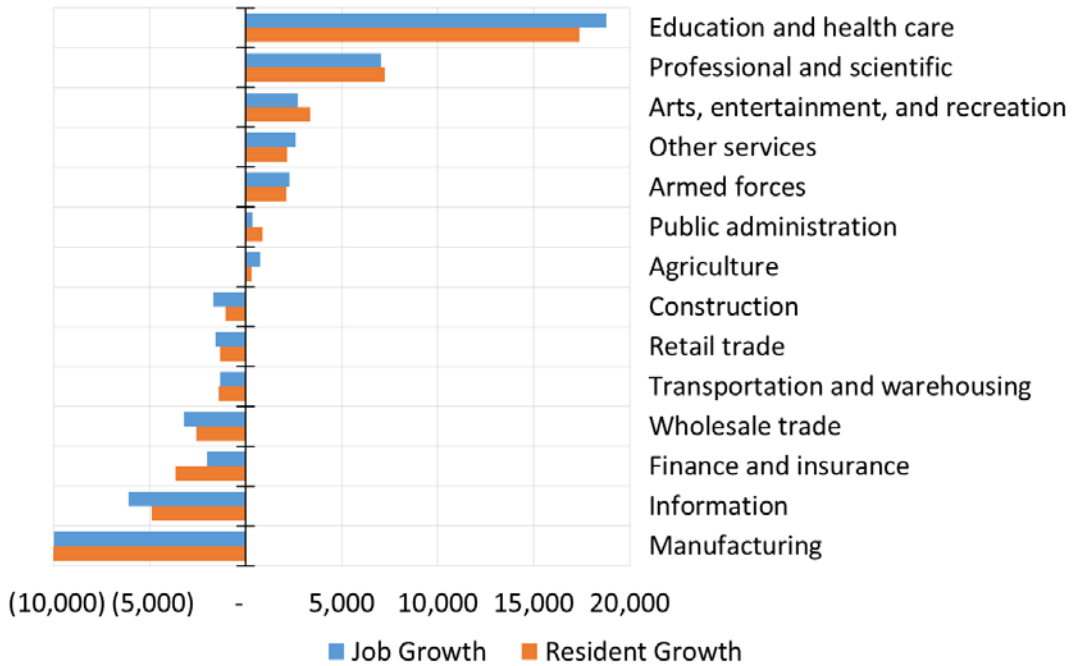
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey 5-Year Estimates

Between 2010 and 2014, the daytime population change of Kansas increased by 0.2 percent. The workers commuting in increased by 0.9 percent. The workers commuting out increased by one percent. Overall this increased the daily population change by 31 workers. The state as a whole imports approximately 12,583 workers on a typical day.

Although there was not a significant change in the net effect of commuting, there were significant changes in commuting patterns within industries. The outward commute of workers increased in information, wholesale trade, construction, and retail trade. In these industries the decline in jobs was greater than the decline in resident population. There was also an increase in outward commuting in professional and scientific services, arts, entertainment, and recreation and public administration. In these industries resident growth exceeded job growth.

The increase in outward commuting was almost entirely offset by increases in inward commuting. The industry with the largest increase in inward commuting was finance and insurance, where the decline in resident population was greater than the decrease in jobs. The increase in inward commuting was also affected by education and health care, other services, and agriculture. In these industries job growth was greater than resident growth.

Kansas Job and Resident Change by Industry 2010-2014



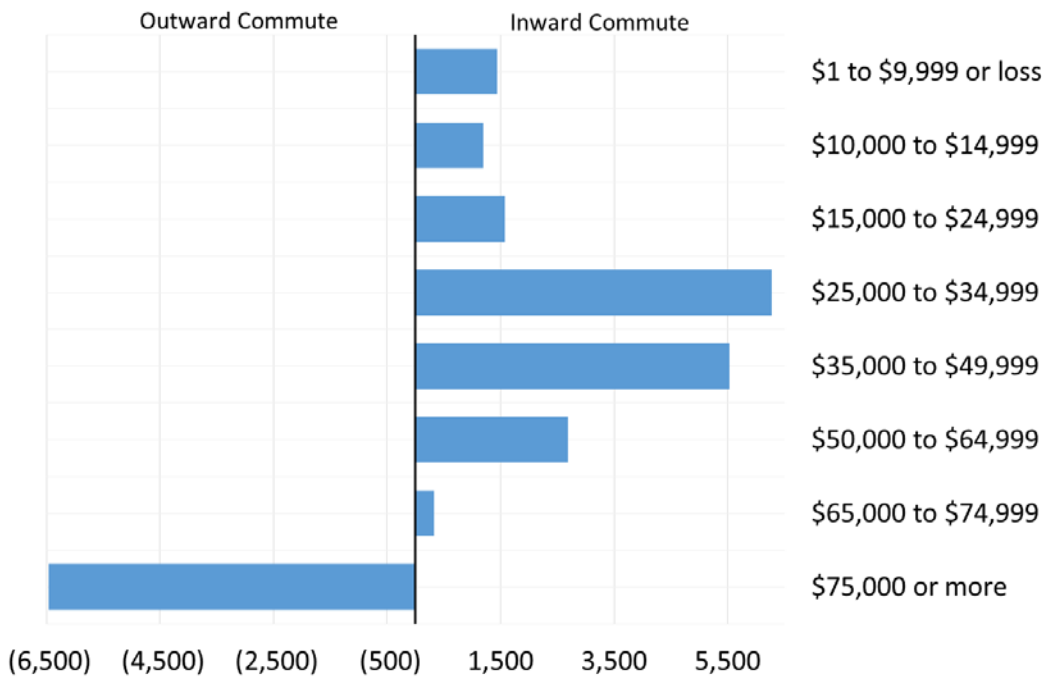
Each day, there were workers commuting into and out of the state of Kansas. The net effect of this commuting activity was an increase of approximately 12,569 workers in the daytime population in 2014. The majority of inward commuters to the state of Kansas were in the manufacturing, retail trade, and transportation and warehousing and utilities industries. Professional, scientific, and management, and administrative and waste management services had the highest level of outward commuters. Kansas had a net inward commute in all income categories, with the exception of those earning over \$75,000 annually.

Kansas Daytime Population Change by Industry 2014

	Commute
Total:	12,569
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	(2,346)
Arts, entertainment, and recreation, and accommodation and food svcs.	(1,239)
Public administration	(1,020)
Educational services, and health care and social assistance	(220)
Armed forces	126
Agriculture, forestry, fishing and hunting, and mining	169
Other services (except public administration)	521
Construction	803
Finance and insurance, and real estate and rental and leasing	1,067
Wholesale trade	1,514
Information	1,861
Transportation and warehousing, and utilities	3,289
Retail trade	3,524
Manufacturing	4,520

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Kansas Daytime Population Change by Earnings 2014



Metropolitan Areas

Kansas City, Kansas

The Kansas City, Kansas metropolitan area consists of five counties: Johnson, Leavenworth, Linn, Miami and Wyandotte. This analysis does not contain the counties in the metropolitan area that are in Missouri. Kansas City, Kansas was a net importer of labor. There were five percent more workers working in the area than living in the area in 2014, down from six percent in 2010. There was also a very high level of commuting, the highest of all Kansas metropolitan areas. The level of commuting in the area increased slightly between 2010 and 2014. This was shown by the decrease in the worker retention ratio of 0.8 percent.

Kansas City KS Daytime Population

	2010	2014	10-14
Total resident population	803,199	839,494	4.5%
Total workers working in area	426,834	434,213	1.7%
Workers who lived and worked in same area	258,741	262,665	1.5%
Workers commuting in:	168,093	171,548	2.1%
Total workers living in area	402,100	413,640	2.9%
Workers who lived and worked in same area	258,741	262,665	1.5%
Workers commuting out:	143,359	150,975	5.3%
Total daytime population	827,933	860,067	3.9%
Daytime population change due to commuting	24,734	20,573	-16.8%
Worker retention	64.3%	63.5%	-0.8%
Employment residence ratio	1.06	1.05	-0.01

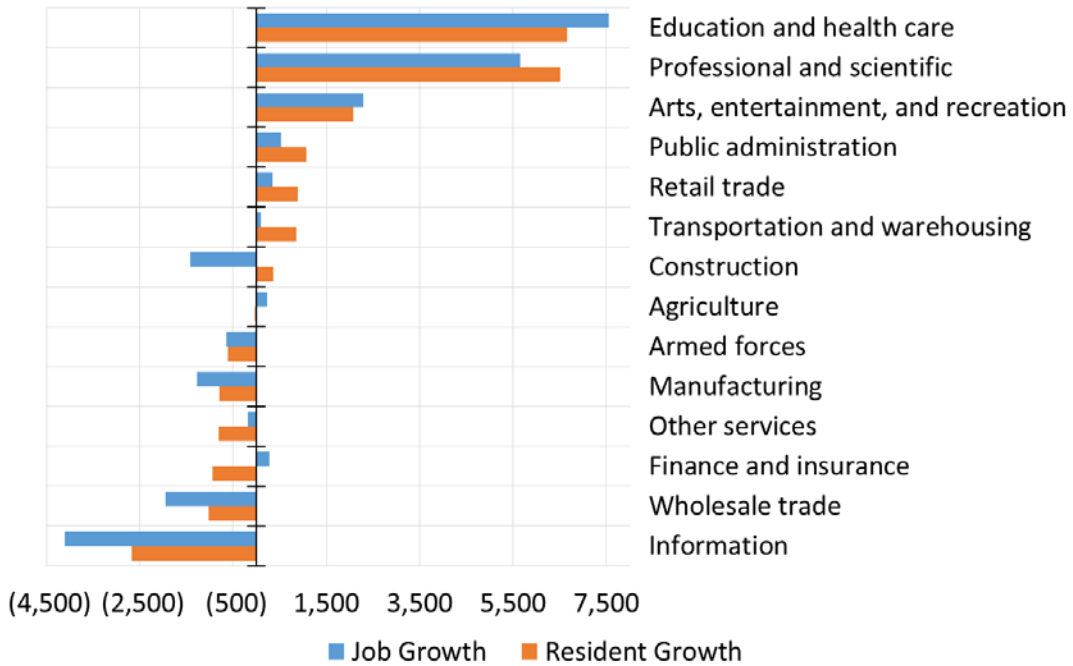
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey
5-Year Estimates

Between 2010 and 2014, the daytime population change of Kansas City, Kansas, decreased by 16.8 percent. Although the workers commuting into the area increased by 2.1 percent, the workers commuting out increased by 5.3 percent. Overall this reduced the daily population change by 4,161 workers.

The increase in inward commuters was primarily attributed to three industries: finance and insurance, education and health care, and other services. Finance and insurance experienced job growth and a decline in the number of residents. In the education and health care industry, job growth exceeded the growth in resident population. The other services industry experienced a decline in the number of residents that was greater than the decline in jobs.

The increase in outward commuters was attributed to many industries. The construction industry experienced a decrease in jobs and an increase in residents. Information, wholesale trade, and manufacturing had decreases in jobs that exceeded the decrease in resident population. Professional and scientific services, transportation and warehousing, retail trade and public administration all had residential growth greater than job growth.

Kansas City KS Job and Resident Change by Industry 2010-2014



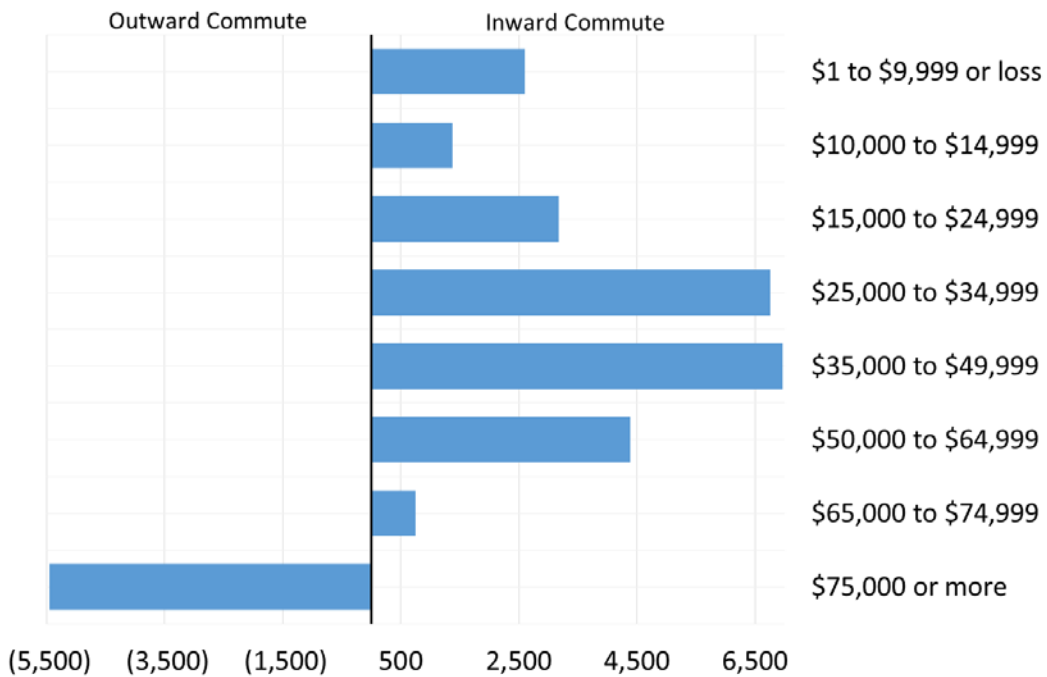
Each day, there were workers commuting into and out of Kansas City. The net effect of this commuting activity was an increase of approximately 20,573 workers in the daytime population in 2014. This commuting activity varies by industry and income. The net effect of commuting for the majority of industries was an influx of workers. The largest of these inflows were in manufacturing, retail trade, and transportation and warehousing. Only professional services and public administration had a net outflow of workers. All income brackets had a net inflow of workers, with the exception of those earning over \$75,000.

Kansas City KS Daytime Population Change by Industry 2014

	Commute
Total:	20,573
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	(1,745)
Public administration	(498)
Arts, entertainment, and recreation, and accommodation and food svcs.	210
Agriculture, forestry, fishing and hunting, and mining	261
Armed forces	296
Educational services, and health care and social assistance	1,076
Other services (except public administration)	1,180
Construction	1,192
Finance and insurance, and real estate and rental and leasing	1,681
Wholesale trade	1,749
Information	2,314
Transportation and warehousing, and utilities	3,937
Retail trade	4,295
Manufacturing	4,625

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Kansas City KS Daytime Population Change by Earnings 2014



Lawrence

The Lawrence Kansas metropolitan area consists of Douglas County. Douglas County is a net exporter of workers. There were 11 percent fewer workers working in the area than living in the area in 2014, up from nine percent in 2010. There was also a high level of commuting, the second highest of all Kansas metropolitan areas. The level of commuting in the area increased slightly between 2010 and 2014. This was shown by the decrease in the worker retention ratio of 0.5 percent.

Lawrence KS Daytime Population

	2010	2014	10-14
Total resident population	109,052	113,703	4.3%
Total workers working in area	52,484	53,334	1.6%
Workers who lived and worked in same area	43,106	44,014	2.1%
Workers commuting in:	9,378	9,320	-0.6%
Total workers living in area	57,974	59,594	2.8%
Workers who lived and worked in same area	43,106	44,014	2.1%
Workers commuting out:	14,868	15,580	4.8%
Total daytime population	103,562	107,443	3.7%
Daytime population change due to commuting	(5,490)	(6,260)	-14.0%
Worker retention	74.4%	73.9%	-0.5%
Employment residence ratio	0.91	0.89	-0.01

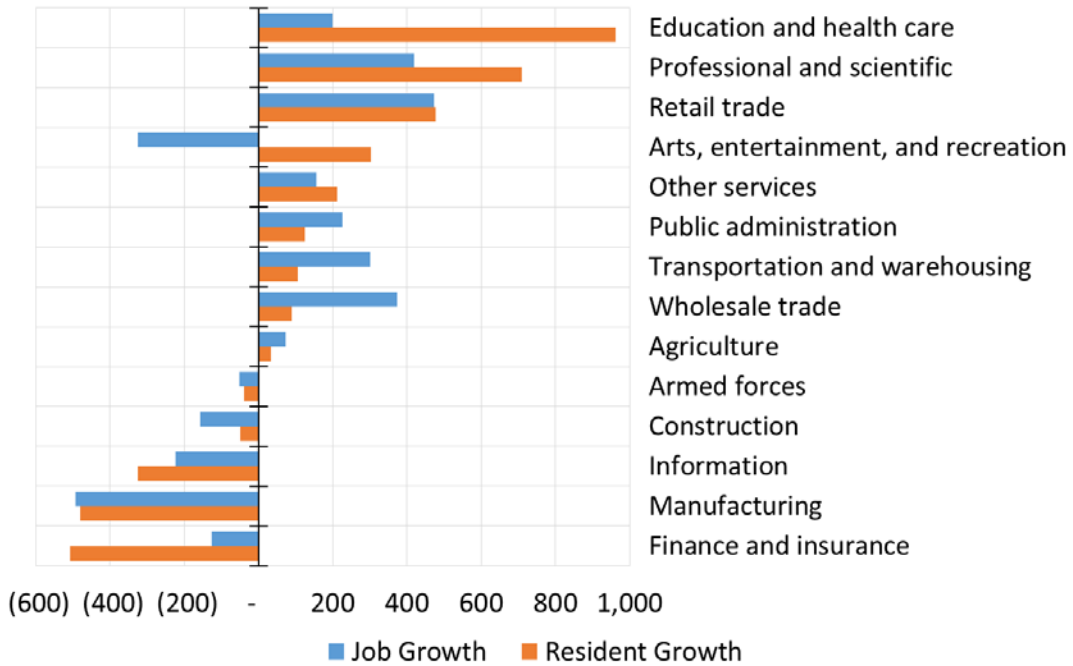
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey 5-Year Estimates

Between 2010 and 2014, the daytime population change of Lawrence decreased by 14.0 percent. The workers commuting into the area decreased by 0.6 percent. The workers commuting out increased by 4.8 percent. Overall this decreased the daily population by 770 workers.

There was a small decline in the number of inward commuters to the Lawrence area between 2010 and 2014. There were many industries that had changes in the levels of inward commuting. Information, and finance and insurance had decreases in resident population that were greater than the decrease in jobs. Public administration, transportation and warehousing, and wholesale trade all had increases in jobs that were larger than the increases in resident population.

The increase in outward commuting can primarily be attributed to three industries: education and health care, professional and scientific services, and arts, entertainment and recreation. In both education and health care, and professional and scientific services, the resident growth exceeded job growth. In arts, entertainment, and recreation, there was a decline in jobs and an increase in residents.

Lawrence KS Job and Resident Change by Industry 2010-2014



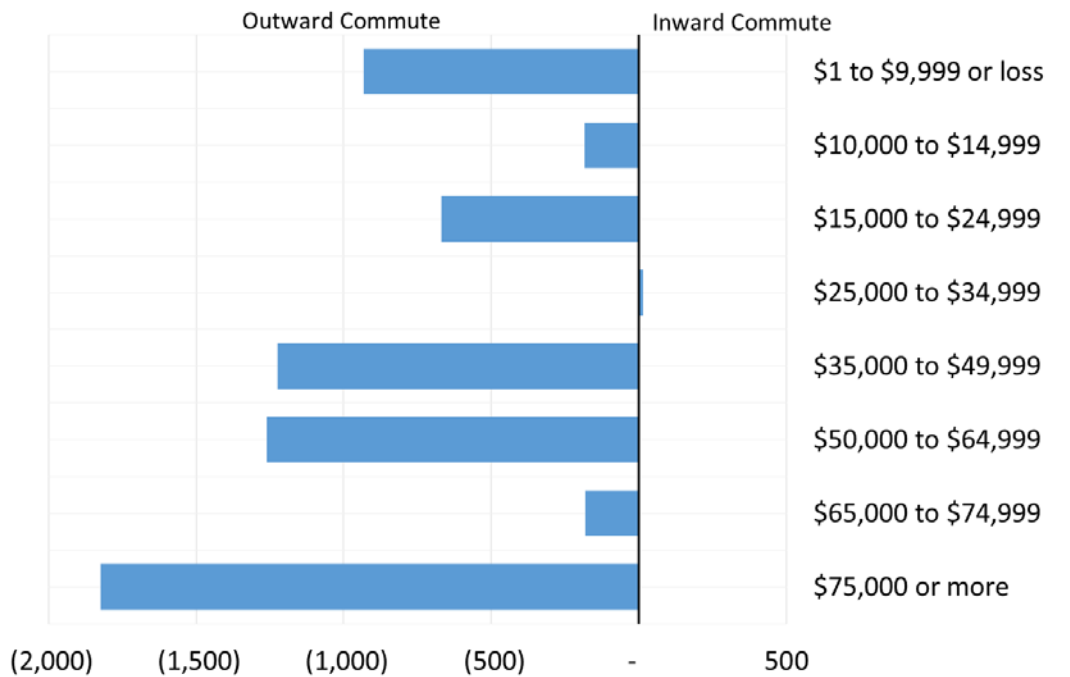
Douglas County had a net outward commute in all industries in 2014, with the exception of agriculture, forestry, fishing, hunting and mining. The net outward commute in education and health care was the largest of all industries, 1,092 commuters. There was also a net outward commute in all income brackets, with the exception of a very small net inward commute of workers earning between \$25,000 and \$34,999. The largest net outward commute was among those earning more than \$75,000.

Lawrence KS Daytime Population Change by Industry 2014

	Commute
Total:	(6,260)
Educational services, and health care and social assistance	(1,092)
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	(938)
Public administration	(808)
Arts, entertainment, and recreation, and accommodation and food svcs.	(736)
Retail trade	(697)
Information	(416)
Finance and insurance, and real estate and rental and leasing	(391)
Transportation and warehousing, and utilities	(385)
Other services (except public administration)	(379)
Wholesale trade	(231)
Manufacturing	(132)
Armed forces	(92)
Construction	(25)
Agriculture, forestry, fishing and hunting, and mining	62

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Lawrence KS Daytime Population Change by Earnings 2014



Manhattan

The Manhattan Kansas metropolitan area consists of Pottawatomie and Riley counties. Manhattan was a net exporter of workers in 2014 and had a small import of workers in 2010. There were 3 percent fewer workers working in the area than living in the area in 2014. In 2010 there was one percent more workers working in the area than living in the area. There was also an increasing level of commuting activity in the area between 2010 and 2014. This was shown by the decrease in the worker retention ratio of 2.5 percent, the largest change of the metropolitan areas in the state.

Manhattan KS Daytime Population

	2010	2014	10-14
Total resident population	89,816	96,816	7.8%
Total workers working in area	47,461	48,824	2.9%
Workers who lived and worked in same area	33,631	34,836	3.6%
Workers commuting in:	13,830	13,988	1.1%
Total workers living in area	46,968	50,415	7.3%
Workers who lived and worked in same area	33,631	34,836	3.6%
Workers commuting out:	13,337	15,579	16.8%
Total daytime population	90,309	95,225	5.4%
Daytime population change due to commuting	493	(1,591)	-422.7%
Worker retention	71.6%	69.1%	-2.5%
Employment residence ratio	1.01	0.97	-0.04

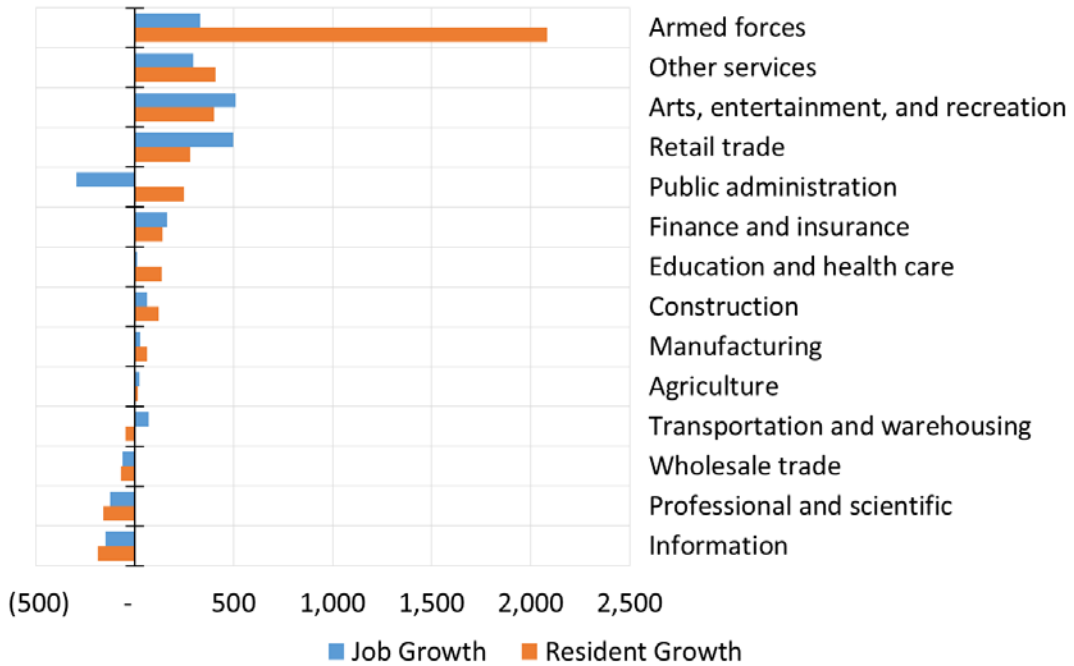
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey 5-Year Estimates

Between 2010 and 2014 the daytime population change of Manhattan decreased by 422.7 percent. The workers commuting into the area increased by 1.1 percent. The workers commuting out increased by 16.8 percent. Overall this decreased the daily population by 2,084 workers due to commuting.

The change in inward commuters can be primarily be attributed to three industries. Arts, entertainment, and recreation, and retail trade had increases in jobs that were greater than the increases in the resident population. Transportation and warehousing had job growth and decreases in resident population.

The change in outward commuters in Manhattan can be primarily attributed to the armed forces. The armed forces had resident growth that far exceeded job growth. Public administration also contributed to the increase in the outward flow of commuters. Public administration had job decreases and increases in resident population.

Manhattan KS Job and Resident Change by Industry 2010-2014



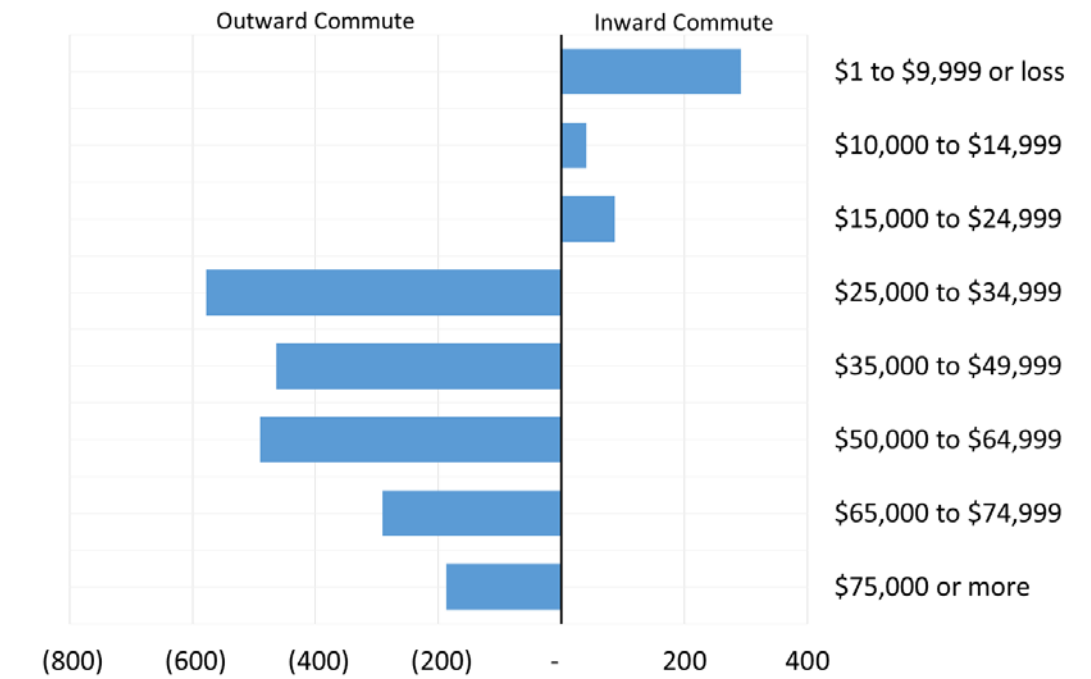
The Manhattan area had a net outward commute of 1,591 workers in 2014. This was primarily attributable to the large net outward commute in the armed forces and public administration. However, it was somewhat offset by the net inward commute of service industries and manufacturing. In the Manhattan area the net outward commute was mostly made up of higher income earners. The inward commute included mostly lower wage earners.

Manhattan KS Daytime Population Change by Industry 2014

	Commute
Total:	(1,591)
Armed forces	(2,389)
Public administration	(713)
Information	(22)
Other services (except public administration)	(17)
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	(10)
Agriculture, forestry, fishing and hunting, and mining	5
Wholesale trade	26
Arts, entertainment, and recreation, and accommodation and food svcs.	57
Finance and insurance, and real estate and rental and leasing	71
Transportation and warehousing, and utilities	223
Retail trade	240
Manufacturing	251
Construction	338
Educational services, and health care and social assistance	349

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Manhattan KS Daytime Population Change by Earnings 2014



Topeka

The Topeka Kansas metropolitan area consists of Jackson, Jefferson, Osage, Shawnee and Wabaunsee counties. Topeka was a net exporter of workers in 2010 and had a small import of workers in 2014. The number of inward commuters roughly equaled the number of outward commuters in 2014, changing the daytime population by only 371 workers. The overall level of commuting activity in Topeka remained level between 2010 and 2014, with very little change in worker retention.

Topeka KS Daytime Population

	2010	2014	10-14
Total resident population	231,386	234,195	1.2%
Total workers working in area	109,812	109,762	0.0%
Workers who lived and worked in same area	88,949	86,702	-2.5%
Workers commuting in:	20,863	23,060	10.5%
Total workers living in area	112,254	109,391	-2.6%
Workers who lived and worked in same area	88,949	86,702	-2.5%
Workers commuting out:	23,305	22,689	-2.6%
Total daytime population	228,944	234,566	2.5%
Daytime population change due to commuting	(2,442)	371	115.2%
Worker retention	79.2%	79.3%	0.0%
Employment residence ratio	0.98	1.00	0.03

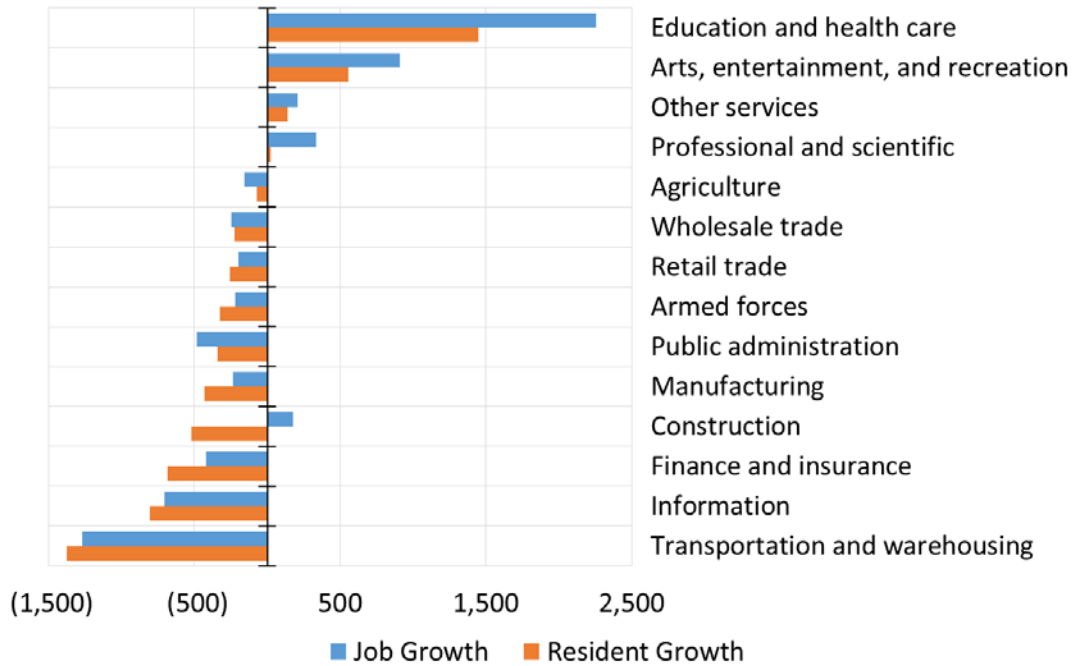
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey 5-Year Estimates

Between 2010 and 2014 the daytime population change of Topeka increased by 115.2 percent. The workers commuting into the area increased by 10.5 percent. The workers commuting out decreased by 2.6 percent. Overall this increased the daily population by 2,813 workers due to commuting.

The increase in the inward commute can be attributed to many industries. The education and health care, arts, entertainment and recreation, professional and scientific services, and other services industries all experienced job growth that was greater than residential growth. The construction industry experienced job growth and a decline in resident population. The manufacturing, finance and insurance, information, and transportation and warehousing industries experienced a decline in residential population that was greater than the decline in jobs.

There were three industries that contributed to the small change in workers commuting out. The agriculture, wholesale trade, and public administration industries all experienced a larger decline in jobs than the decline in residential population.

Topeka KS Job and Resident Change by Industry 2010-2014



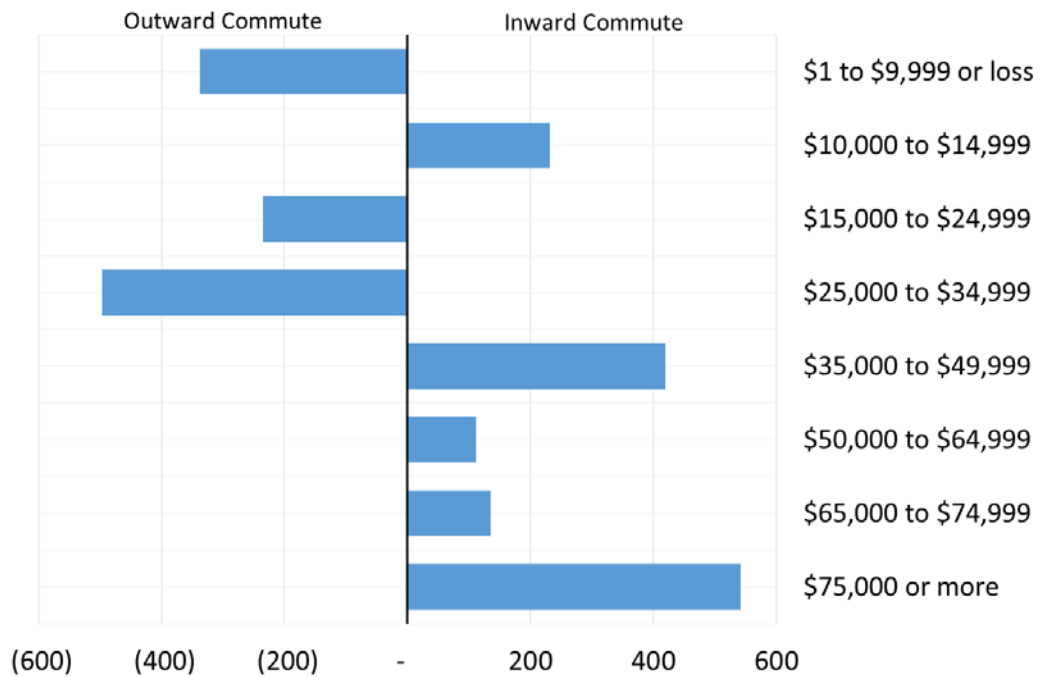
In Topeka in 2014 there was a small inward commute of 371 workers. This is primarily due to the inward commute of public administration workers and educational services, and health care and social assistance workers. This inward commute was partially offset by the outward commute of manufacturing workers, transportation and warehousing and utilities workers, and construction workers. The majority of commuters driving into Topeka are in the higher income brackets.

Topeka KS Daytime Population Change by Industry 2014

	Commute
Total:	371
Manufacturing	(614)
Transportation and warehousing, and utilities	(500)
Construction	(391)
Retail trade	(203)
Agriculture, forestry, fishing and hunting, and mining	(174)
Wholesale trade	(98)
Armed forces	48
Other services (except public administration)	55
Information	96
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	170
Finance and insurance, and real estate and rental and leasing	172
Arts, entertainment, and recreation, and accommodation and food svcs.	225
Educational services, and health care and social assistance	700
Public administration	885

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Topeka KS Daytime Population Change by Earnings 2014



Wichita

The Wichita Kansas metropolitan area consists of Butler, Harvey, Kingman, Sedgwick and Sumner counties. Wichita was a net importer of workers in 2010 and 2014 with one percent more workers working in the area than living in the area. There was less than a one percent decrease in the employment-residence ratio in the Wichita area between 2010 and 2014. Over that same period of time there was a slight increase in the level of commuting. This is shown by the 0.5 percent reduction in worker retention.

Wichita KS Daytime Population

	2010	2014	10-14
Total resident population	617,332	636,095	3.0%
Total workers working in area	298,153	298,573	0.1%
Workers who lived and worked in same area	256,436	256,880	0.2%
Workers commuting in:	41,717	41,693	-0.1%
Total workers living in area	294,176	296,357	0.7%
Workers who lived and worked in same area	256,436	256,880	0.2%
Workers commuting out:	37,740	39,477	4.6%
Total daytime population	621,309	638,311	2.7%
Daytime population change due to commuting	3,977	2,216	-44.3%
Worker retention	87.2%	86.7%	-0.5%
Employment residence ratio	1.014	1.007	-0.006

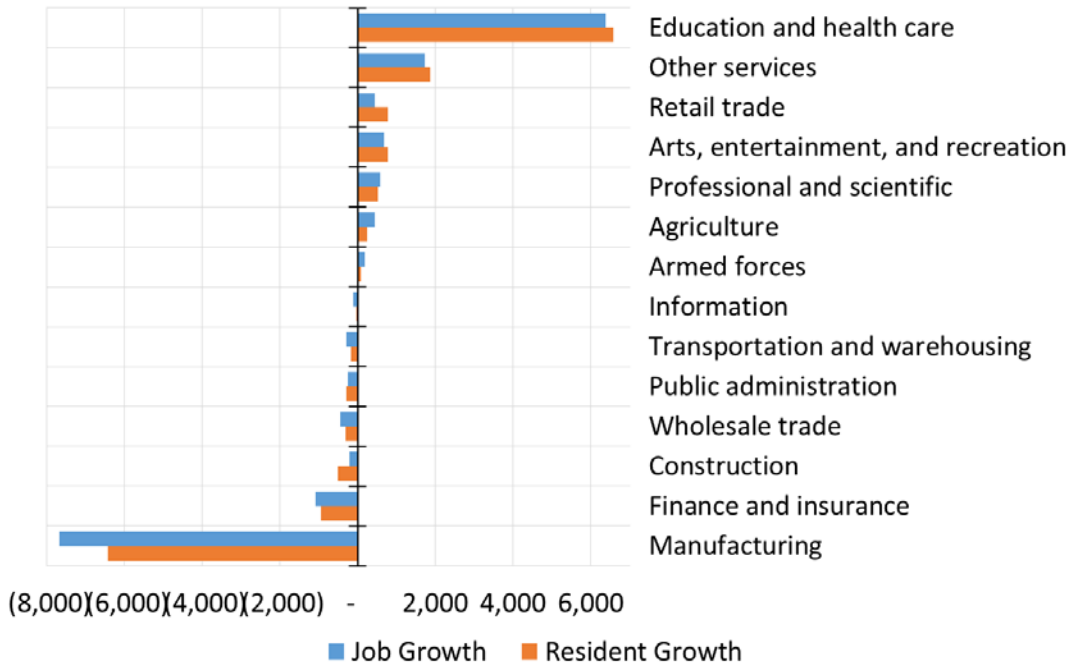
Source: U.S. Census Bureau, 2010-2014 and 2006-2010 American Community Survey 5-Year Estimates

Between 2010 and 2014 the daytime population change of Wichita decreased by 44.3 percent. The workers commuting into the area decreased by 0.1 percent. The workers commuting out increased 4.6 percent. Overall this decreased the daily population by 1,761 workers due to commuting.

The change in inward commuting can be attributed to three industries, construction, agriculture and armed forces. The construction industry had a decrease in resident population that exceeded the decrease in jobs. The agriculture and armed forces industries had job growth that exceeded resident growth.

The change in outward commuting activity can be attributed to many industries. The largest portion of the change was in the manufacturing industry where the decrease in jobs was greater than the decrease in resident population. This is also true in the finance and insurance, wholesale trade, transportation and warehousing, and information industries. The education and health care, other services, retail trade and arts, entertainment and recreation industries had resident growth that exceeded job growth.

Wichita KS Job and Resident Change by Industry 2010-2014



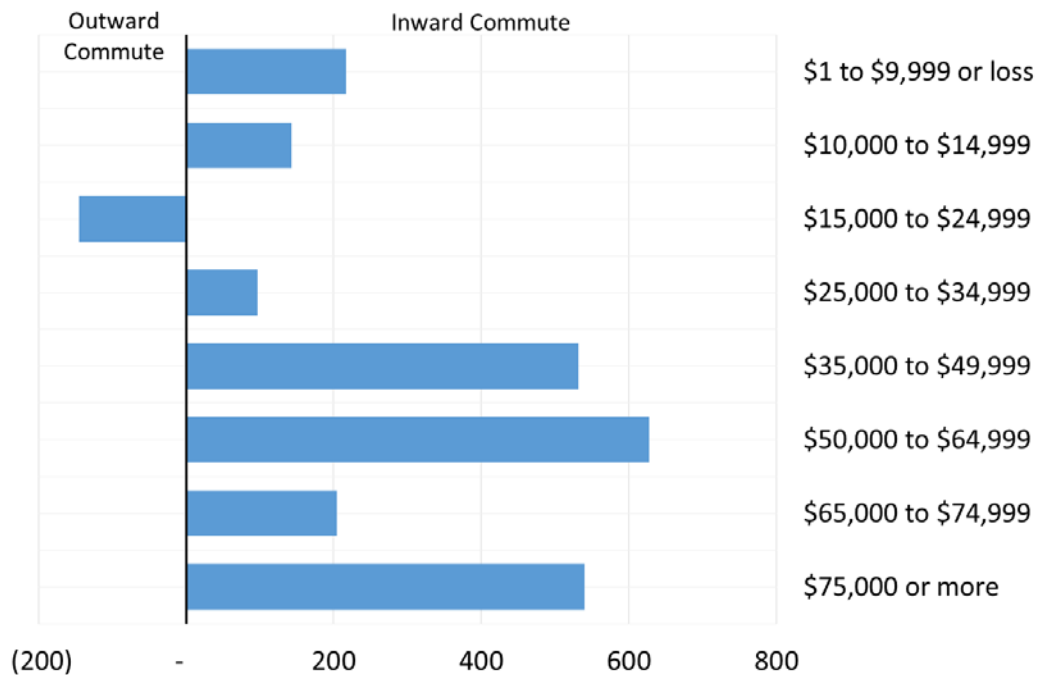
In 2014 there was a net inward commute to the Wichita area. The industries with the largest inward commute were manufacturing, construction and professional services. All income brackets had a net inward commute, with the exception of those earning between \$15,000 and \$24,999 which had a net outward commute from the area.

Wichita KS Daytime Population Change by Industry 2014

	Commute
Total:	2,216
Information	(89)
Other services (except public administration)	(84)
Finance and insurance, and real estate and rental and leasing	(78)
Armed forces	(52)
Arts, entertainment, and recreation, and accommodation and food svcs.	(46)
Retail trade	(6)
Public administration	63
Transportation and warehousing, and utilities	110
Agriculture, forestry, fishing and hunting, and mining	225
Wholesale trade	236
Educational services, and health care and social assistance	361
Professional, scientific, and mgt., and admin. and waste mgt. svcs.	416
Construction	438
Manufacturing	722

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year

Wichita KS Daytime Population Change by Earnings 2014



Definitions and Methodology

Total resident population – This is the total number of persons living in the area, as shown in the 2006-2010 American Community Survey.

Total workers working in area – This is the number of workers who reported working in the area, regardless of their place of residence.

Workers who lived and worked in same area – This is the number of workers who reported working in their county of residence.

Workers commuting in – This is the total number of workers working in the area, less the workers who lived and worked in the same area.

Total workers living in area – This is the number of workers who reported living in the area, regardless of their place of work.

Workers commuting out – This is the total number of workers living in the area, less the workers who lived and worked in the same area.

Total daytime population – This is the total resident population plus the number of workers commuting in and less the number of workers commuting out. It does not adjust for people entering or leaving the area for purposes other than commuting, nor does the commuting adjustment take the time of day of the work trips into consideration.

Daytime population change due to commuting – This is the increase or decrease in the population of the area as a result of work related commuting. It is the workers commuting in, less the workers commuting out. Positive numbers indicate more commuters entering an area; negative numbers indicate more commuters leaving an area.

Worker retention – This is the number of workers who lived and worked in the same area as a percentage of total workers living in the area. This is the number of workers that are not commuting to other areas for work. A low percent of worker retention indicates a high level of commuting.

Employment-Residence ratio – This is a ratio of the total number of workers working in an area, relative to the total number of workers living in the area. Ratios greater than 1.00 indicate there are more workers working in the area than living there. These areas can be considered net importers of labor. Values less than 1.00 indicate areas that are net exporters of labor.

Commute by industry – For each industry, this is the number of workers working in an area, less the number of workers living in that area. In any industry it is assumed that there are both workers commuting in and out, this figure indicates the net effect of commuting on that industry. A positive number indicates there are more workers commuting into an area than outbound commuters in that industry. A negative number indicates there is more outward commuting than inward commuting.

Commute by income – Within each income bracket it is assumed that there are both workers commuting in and out. The commute by income is calculated by taking the difference in the workers

working in an area and workers living in an area, for each bracket. This indicates the net flow of workers by income. Negative numbers show more commuters out, and a positive number indicates more inward bound commuters.