

Journey to Work Patterns in Kansas C.D. Study Report #231

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Introduction: Economists define a *functional economic unit* as a collection of people, businesses, and places that have strong economic ties. Commuters, shoppers, and business to business relationships forge these ties. This paper analyzes commuting patterns based on the 2000 Census Journey to Work data. People living in one county often work in other counties and these patterns suggest that the economies of counties are linked. In an ideal world the functional economic units align with political units. Since this alignment is not present in Kansas, many efforts have been made to organize regional development associations. An example is Southeast Kansas, Inc. This is a multi-county organization in the southeast corner of the State with a mission of cooperatively building healthy economies.

Data and Data Sources: The 2000 Census provides Journey to Work data. These data show how many are commuting from home to work. The Census has detailed information on out and in-commuting patterns. All the data used in this report was provided by the Kansas Department of Transportation (KDOT). The original source of the data comes from the 2000 Census Journey to Work data. KDOT also produced Figures 1 & 2, and Map 1. All 105 counties are included in this statistical report.

The *purpose* of this C.D Study Report is to describe commuting patterns. Commuting patterns help economists map labor sheds. This is one way to put borders around the regional economies in the Midwest and the Great Plains. The state of Kansas is not one economy; it is a patchwork of many regional economies.

Discussion: When looking at this report, the reader is able to determine if a county is a bedroom county or a job center county or possibly both. For example, Osage County has a high percentage of out-commuters and a low-percentage of in commuters. This makes it a bedroom county. Seward County has a low percentage of out-commuters and a high percentage of in-commuters. Thus, Seward County is a job center. See Table 1 and 2 and Map 1 for a complete picture of commuting patterns.

The top ten bedroom counties in descending order based on a net commuting pattern, in verses out, are Osage(47%), Wabaunsee(43%), Jefferson(42%), Chase(36%), Ottawa(35%), Miami(31%), Butler(30%), Linn(28%), Sumner(26%), Anderson(25%). An arbitrary definition of a bedroom county is a place where more then 25% of the working population leaves the county to work.

The top ten job center counties, in ascending order, are Seward (-12%), Shawnee (-12%), Stanton (-12%), Saline (-10%), Sedgwick (-9%), Morton (-9%), Montgomery (-8%), Mitchell (-7%), Riley (-6%), and Wyandotte (-6%). An arbitrary definition of a job center county is a place where there are more in-commuters than out-commuters. Also the in-commuting flow must be substantial. Table 1 provides the net commuting percentage, as well as the percent of county residents who commute out. Also it provides the percentage of the county workforce that commutes in to all 105 counties.

Example 1: The first example is a bedroom county example. Osage County fits this definition well. In 2000, the Census counted 8,089 people working out of a population of 16,712.

Of that working population, 60.4% commute out. Most (3,390) are employed in Shawnee County. Another 388 people worked in Franklin County. Also, 221 people commuted to Douglas County and a similar number (221) commuted to Lyon County. This data demonstrates that Osage County is a bedroom county.

Example 2: The next example is a multi-county region around Salina. Saline County is located in the center of the State. It is dominated by Salina with a strong economy and large number of employers. This labor market activity and commuting pattern helps demonstrate interdependence of people and places. Eighty percent of the 4,651 commuters come from five surrounding counties. The county that sends the most people to Saline County is Ottawa (1,290). Dickinson County sends (1,214), McPherson County (688), Ellsworth County (254), and Lincoln County (176). These numbers track the patterns of in-commuters from surrounding counties and demonstrate the importance of Saline County as a job center. The Saline County workforce flows are illustrated in Figures 1 & 2

Example 3: Wyandotte County is both a job center and a bedroom county; however, the net flow shows an in-commuting pattern. Thus, more people commute into the County than commute out. Table 2 has the statistics for Wyandotte County; the 2000 Census puts the population at 157,882. The number employed was 66,696 and 31,919 lived in the county and worked in the county. The Census also found that 34,777 people go out of the county to

work. Although 76,028 people made up the labor force in Wyandotte County, 44,109 of them are coming into the county to work. The large number of out-commuters amount to 52 percent of the working population in the County. The other large number of commuters coming in to work comprise 58 percent of the County's work force. In summary, large numbers of workers are commuting across the County boundary. However, the net effect of all this commuting is a pattern of in-commuting.

Policy Implications: It is important for policy makers at all levels to remember that local and state governmental borders often impact the interactions of people, businesses, and places. Government policies and regulations can either encourage economic progress or discourage it.

Appendix: Another perspective on this journey to work data is provided in map 2. Map 2 presents out-commuting patterns from all the counties in percentage terms and these are mapped according to quintiles. The top quintile counties are colored blue and these counties are most often bedroom counties. One obvious exception is Wyandotte County which is both a bedroom county and a job center. The bottom quintile counties are colored red and these counties are job center counties. But sometimes there are also places that are isolated and are self-sufficient for jobs. See Map on page 11.

| Table 1. Net Commuting Patterns by Counties Based on 2000 Census Journey to Work Data | | | |
|--|------------------------------|--|--|
| Kansas County | NET Commuting Pattern | Percent of Workers Leaving County to Work | Percent of Non-Residing Workers in County Workforce |
| Osage | 47.12% | 60.42% | 13.30% |
| Wabaunsee | 43.16% | 64.43% | 21.27% |
| Jefferson | 42.06% | 67.40% | 25.34% |
| Chase | 35.94% | 46.15% | 10.21% |
| Ottawa | 34.98% | 50.36% | 15.38% |
| Miami | 30.67% | 58.56% | 27.89% |
| Butler | 30.30% | 51.61% | 21.31% |
| Linn | 28.25% | 51.49% | 23.24% |
| Sumner | 25.94% | 41.92% | 15.99% |
| Anderson | 25.24% | 38.95% | 13.71% |
| Woodson | 19.69% | 39.96% | 20.27% |
| Marion | 19.23% | 32.09% | 12.86% |
| Leavenworth | 18.51% | 38.83% | 20.32% |
| Elk | 18.47% | 39.29% | 20.82% |
| Chautauqua | 18.38% | 34.57% | 16.19% |
| Cherokee | 18.18% | 45.41% | 27.23% |
| Lincoln | 17.69% | 26.31% | 8.62% |
| Jackson | 16.45% | 47.31% | 30.87% |
| Greenwood | 15.99% | 34.31% | 18.31% |
| Jewell | 15.69% | 27.34% | 11.65% |
| Clay | 15.65% | 27.95% | 12.31% |
| Kingman | 15.41% | 35.44% | 20.02% |
| Meade | 15.28% | 26.02% | 10.74% |
| Rush | 14.67% | 29.44% | 14.77% |
| Dickinson | 14.30% | 30.79% | 16.49% |
| Morris | 14.22% | 29.63% | 15.42% |
| Franklin | 13.91% | 40.05% | 26.15% |
| Rice | 13.30% | 27.52% | 14.22% |
| Washington | 12.90% | 27.63% | 14.73% |
| Stafford | 10.10% | 26.19% | 16.09% |
| Harvey | 9.98% | 32.27% | 22.28% |
| Geary | 9.78% | 40.47% | 30.69% |
| Trego | 9.73% | 23.75% | 14.01% |
| Edwards | 8.95% | 24.59% | 15.64% |
| Doniphan | 8.43% | 50.00% | 41.57% |
| Kearny | 8.40% | 29.94% | 21.53% |
| Douglas | 8.01% | 24.01% | 16.00% |
| Harper | 7.81% | 21.03% | 13.21% |
| Graham | 7.57% | 18.60% | 11.03% |
| Pottawatomie | 7.54% | 46.24% | 38.70% |
| Gray | 7.16% | 27.99% | 20.83% |

Table 1. Net Commuting Patterns by Counties Based on 2000 Census Journey to Work Data

| Kansas County | NET Commuting Pattern | Percent of Workers Leaving County to Work | Percent of Non- Residing Workers in County Workforce |
|--------------------------|----------------------------------|--|---|
| Smith | 7.05% | 15.67% | 8.62% |
| Sheridan | 6.84% | 17.43% | 10.59% |
| Haskell | 6.55% | 22.78% | 16.23% |
| Cowley | 6.48% | 17.43% | 10.94% |
| Hodgeman | 6.15% | 21.91% | 15.75% |
| Cheyenne | 5.97% | 13.19% | 7.23% |
| Rooks | 4.90% | 18.35% | 13.45% |
| Rawlins | 4.73% | 13.66% | 8.93% |
| Clark | 4.04% | 22.52% | 18.48% |
| Decatur | 3.73% | 15.45% | 11.72% |
| Logan | 3.71% | 23.94% | 20.23% |
| Barber | 2.31% | 14.10% | 11.79% |
| Sherman | 2.23% | 9.36% | 7.13% |
| Wilson | 2.18% | 22.08% | 19.90% |
| Republic | 1.94% | 15.36% | 13.42% |
| Comanche | 1.91% | 14.12% | 12.21% |
| Kiowa | 1.89% | 17.53% | 15.64% |
| Cloud | 1.78% | 14.08% | 12.30% |
| Reno | 1.60% | 11.49% | 9.90% |
| Scott | 1.58% | 11.10% | 9.52% |
| Ellsworth | 1.43% | 22.11% | 20.68% |
| Stevens | 0.97% | 18.24% | 17.26% |
| Labette | 0.81% | 15.54% | 14.72% |
| Brown | 0.71% | 26.93% | 26.22% |
| Lane | 0.42% | 11.52% | 11.10% |
| Osborne | -0.33% | 15.38% | 15.70% |
| Allen | -0.45% | 20.32% | 20.77% |
| Ellis | -0.74% | 7.21% | 7.96% |
| Barton | -1.01% | 9.05% | 10.06% |
| Pawnee | -1.07% | 16.52% | 17.59% |
| Wallace | -1.12% | 11.67% | 12.79% |
| Grant | -1.43% | 12.15% | 13.58% |
| Pratt | -1.47% | 12.60% | 14.08% |
| Marshall | -1.54% | 12.59% | 14.13% |
| McPherson | -1.57% | 15.27% | 16.84% |
| Ness | -1.96% | 9.96% | 11.92% |
| Lyon | -2.00% | 9.96% | 11.96% |
| Atchison | -2.05% | 22.67% | 24.73% |
| Wichita | -2.90% | 12.50% | 15.40% |
| Russell | -2.99% | 14.22% | 17.21% |
| Bourbon | -3.11% | 14.48% | 17.59% |
| Crawford | -3.25% | 12.63% | 15.89% |
| Hamilton | -3.57% | 9.20% | 12.77% |

Table 1. Net Commuting Patterns by Counties Based on 2000 Census Journey to Work Data

| Kansas County | NET Commuting Pattern | Percent of Workers Leaving County to Work | Percent of Non- Residing Workers in County Workforce |
|--------------------------|----------------------------------|--|---|
| Phillips | -3.57% | 12.06% | 15.63% |
| Coffey | -3.82% | 21.74% | 25.56% |
| Nemaha | -4.01% | 18.10% | 22.11% |
| Thomas | -4.10% | 9.55% | 13.65% |
| Ford | -4.18% | 6.02% | 10.20% |
| Gove | -4.24% | 17.11% | 21.35% |
| Finney | -4.24% | 4.68% | 8.92% |
| Neosho | -5.10% | 20.25% | 25.35% |
| Greeley | -5.41% | 9.55% | 14.97% |
| Norton | -5.47% | 10.70% | 16.17% |
| Johnson | -5.50% | 31.97% | 37.47% |
| Wyandotte | -5.87% | 52.14% | 58.02% |
| Riley | -6.45% | 18.68% | 25.13% |
| Mitchell | -7.29% | 9.21% | 16.49% |
| Montgomery | -8.30% | 10.78% | 19.08% |
| Morton | -8.62% | 15.50% | 24.11% |
| Sedgwick | -8.72% | 3.54% | 12.26% |
| Saline | -9.89% | 5.27% | 15.17% |
| Stanton | -11.75% | 18.05% | 29.80% |
| Shawnee | -11.79% | 6.70% | 18.49% |
| Seward | -11.88% | 9.30% | 21.18% |

Table 2. Statistical Profile of Counties based on Journey to Work Data

| County | Census Pop. 2000 | Number Employed | Live There Work there | Size of Work Force | Number Out of County | Number In the County |
|------------|------------------|-----------------|-----------------------|--------------------|----------------------|----------------------|
| Kansas | 2,688,418 | | | | | |
| Allen | 14,385 | 6,731 | 5,363 | 6,769 | 1,368 | 1,406 |
| Anderson | 8,110 | 3,743 | 2,285 | 2,648 | 1,458 | 363 |
| Atchinson | 16,774 | 7,665 | 5,927 | 7,874 | 1,738 | 1947 |
| Barber | 5,307 | 2,517 | 2,162 | 2,451 | 355 | 289 |
| Barton | 28,205 | 13,387 | 12,176 | 13,538 | 1,211 | 1362 |
| Bourbon | 15,379 | 7,309 | 6,251 | 7,585 | 1,058 | 1334 |
| Brown | 10,724 | 4,883 | 3,568 | 4,836 | 1,315 | 1268 |
| Butler | 69,482 | 27,789 | 13,447 | 17,088 | 14,342 | 3641 |
| Chase | 3,030 | 1,519 | 818 | 911 | 701 | 93 |
| Chautauqua | 4,359 | 1,701 | 1,113 | 1,328 | 588 | 215 |
| Cherokee | 22,605 | 10,119 | 5,524 | 7,591 | 4,595 | 2067 |
| Cheyenne | 3,165 | 1,493 | 1,296 | 1,397 | 197 | 101 |
| Clark | 2,390 | 1,110 | 860 | 1,055 | 250 | 195 |
| Clay | 8,822 | 4,293 | 3,093 | 3,527 | 1,200 | 434 |
| Cloud | 10,268 | 4,888 | 4,200 | 4,789 | 688 | 589 |
| Coffey | 8,865 | 4,370 | 3,420 | 4,594 | 950 | 1174 |
| Comanche | 1,967 | 963 | 827 | 942 | 136 | 115 |
| Cowley | 36,291 | 16,205 | 13,381 | 15,025 | 2,824 | 1644 |
| Crawford | 38,242 | 18,038 | 15,759 | 18,736 | 2,279 | 2977 |
| Decatur | 3,472 | 1,586 | 1,341 | 1,519 | 245 | 178 |
| Dickinson | 19,344 | 9,639 | 6,671 | 7,988 | 2,968 | 1317 |
| Doniphan | 8,249 | 3,826 | 1,913 | 3,274 | 1,913 | 1361 |
| Douglas | 99,962 | 54,496 | 41,414 | 49,301 | 13,082 | 7887 |
| Edwards | 3,449 | 1,574 | 1,187 | 1,407 | 387 | 220 |
| Elk | 3,261 | 1,303 | 791 | 999 | 512 | 208 |
| Ellis | 27,507 | 14,764 | 13,699 | 14,883 | 1,065 | 1184 |
| Ellsworth | 6,525 | 2,944 | 2,293 | 2,891 | 651 | 598 |
| Finney | 40,523 | 18,287 | 17,431 | 19,139 | 856 | 1708 |
| Ford | 32,458 | 14,966 | 14,065 | 15,663 | 901 | 1598 |
| Franklin | 24,784 | 12,161 | 7,290 | 9,871 | 4,871 | 2581 |
| Geary | 27,947 | 13,414 | 7,985 | 11,521 | 5,429 | 3536 |
| Gove | 3,068 | 1,467 | 1,216 | 1,546 | 251 | 330 |
| Graham | 2,946 | 1,387 | 1,129 | 1,269 | 258 | 140 |
| Grant | 7,909 | 3,448 | 3,029 | 3,505 | 419 | 476 |
| Gray | 5,904 | 2,776 | 1,999 | 2,525 | 777 | 526 |
| Greeley | 1,534 | 691 | 625 | 735 | 66 | 110 |
| Greenwood | 7,673 | 3,361 | 2,208 | 2,703 | 1,153 | 495 |
| Hamilton | 2,670 | 1,174 | 1,066 | 1,222 | 108 | 156 |
| Harper | 6,536 | 2,944 | 2,325 | 2,679 | 619 | 354 |
| Harvey | 32,869 | 16,020 | 10,851 | 13,962 | 5,169 | 3111 |
| Haskell | 4,307 | 1,892 | 1,461 | 1,744 | 431 | 283 |

| Table 2. Statistical Profile of Counties based on Journey to Work Data | | | | | | |
|---|--------------------|-----------------|--------------|----------------|-------------------|------------------|
| | | Number | Live | Size of | Number Out | Number In |
| County | Census Pop. | Employed | Work | Work | of County | County |
| | 2000 | | there | Force | | |
| Hodgeman | 2,085 | 986 | 770 | 914 | 216 | 144 |
| Jackson | 12,657 | 6,062 | 3,194 | 4,620 | 2,868 | 1426 |
| Jefferson | 18,426 | 8,876 | 2,894 | 3,876 | 5,982 | 982 |
| Jewell | 3,791 | 1,785 | 1,297 | 1,468 | 488 | 171 |
| Johnson | 451,086 | 243,908 | 165,924 | 265,363 | 77,984 | 99439 |
| Kearny | 4,531 | 1,914 | 1,341 | 1,709 | 573 | 368 |
| Kingman | 8,673 | 3,965 | 2,560 | 3,201 | 1,405 | 641 |
| Kiowa | 3,278 | 1,563 | 1,289 | 1,528 | 274 | 239 |
| Labette | 22,835 | 10,676 | 9,017 | 10,574 | 1,659 | 1557 |
| Lane | 2,155 | 1,059 | 937 | 1,054 | 122 | 117 |
| Leavenworth | 68,691 | 31,233 | 19,105 | 23,977 | 12,128 | 4872 |
| Lincoln | 3,578 | 1,813 | 1,336 | 1,462 | 477 | 126 |
| Linn | 9,570 | 4,317 | 2,094 | 2,728 | 2,223 | 634 |
| Logan | 3,046 | 1,483 | 1,128 | 1,414 | 355 | 286 |
| Lyon | 35,935 | 17,807 | 16,033 | 18,211 | 1,774 | 2178 |
| McPherson | 29,554 | 14,925 | 12,646 | 15,207 | 2,279 | 2561 |
| Marion | 13,361 | 6,236 | 4,235 | 4,860 | 2,001 | 625 |
| Marshall | 10,965 | 5,228 | 4,570 | 5,322 | 658 | 752 |
| Meade | 4,631 | 2,010 | 1,487 | 1,666 | 523 | 179 |
| Miami | 28,351 | 14,310 | 5,930 | 8,224 | 8,380 | 2294 |
| Mitchell | 6,932 | 3,346 | 3,038 | 3,638 | 308 | 600 |
| Montgomery | 36,252 | 16,244 | 14,493 | 17,911 | 1,751 | 3418 |
| Morris | 6,104 | 2,963 | 2,085 | 2,465 | 878 | 380 |
| Morton | 3,496 | 1,594 | 1,347 | 1,775 | 247 | 428 |
| Nemaha | 10,717 | 4,929 | 4,037 | 5,183 | 892 | 1146 |
| Neosho | 16,997 | 7,911 | 6,309 | 8,452 | 1,602 | 2143 |
| Ness | 3,454 | 1,666 | 1,500 | 1,703 | 166 | 203 |
| Norton | 5,953 | 2,468 | 2,204 | 2,629 | 264 | 425 |
| Osage | 16,712 | 8,089 | 3,202 | 3,693 | 4,887 | 491 |
| Osborne | 4,452 | 2,068 | 1,750 | 2,076 | 318 | 326 |
| Ottawa | 6,163 | 3,058 | 1,518 | 1,794 | 1,540 | 276 |
| Pawnee | 7,233 | 3,227 | 2,694 | 3,269 | 533 | 575 |
| Phillips | 6,001 | 2,836 | 2,494 | 2,956 | 342 | 462 |
| Pottawatomie | 18,209 | 9,016 | 4,847 | 7,907 | 4,169 | 3060 |
| Pratt | 9,647 | 4,721 | 4,126 | 4,802 | 595 | 676 |
| Rawlins | 2,966 | 1,347 | 1,163 | 1,277 | 184 | 114 |
| Reno | 64,790 | 29,998 | 26,550 | 29,466 | 3,448 | 2916 |
| Republic | 5,835 | 2,767 | 2,342 | 2,705 | 425 | 363 |
| Rice | 10,761 | 4,920 | 3,566 | 4,157 | 1,354 | 591 |
| Riley | 62,843 | 34,591 | 28,129 | 37,572 | 6,462 | 9443 |
| Rooks | 5,685 | 2,578 | 2,105 | 2,432 | 473 | 327 |
| Rush | 3,551 | 1,627 | 1,148 | 1,347 | 479 | 199 |
| Russell | 7,370 | 3,354 | 2,877 | 3,475 | 477 | 598 |

Table 2. Statistical Profile of Counties based on Journey to Work Data

| | | Number | Live There | Size of | Number Out | Number In the |
|------------|------------------|----------|------------|------------|------------|---------------|
| County | Census Pop. 2000 | Employed | Work there | Work Force | of County | County |
| Saline | 53,597 | 27,461 | 26,013 | 30,664 | 1,448 | 4651 |
| Scott | 5,120 | 2,748 | 2,443 | 2,700 | 305 | 257 |
| Sedgwick | 452,869 | 218,599 | 210,859 | 240,333 | 7,740 | 29474 |
| Seward | 22,510 | 9,478 | 8,597 | 10,907 | 881 | 2310 |
| Shawnee | 169,871 | 83,741 | 78,127 | 95,850 | 5,614 | 17723 |
| Sheridan | 2,813 | 1,360 | 1,123 | 1,256 | 237 | 133 |
| Sherman | 6,760 | 3,333 | 3,021 | 3,253 | 312 | 232 |
| Smith | 4,536 | 2,048 | 1,727 | 1,890 | 321 | 163 |
| Stafford | 4,789 | 2,169 | 1,601 | 1,908 | 568 | 307 |
| Stanton | 2,406 | 1,141 | 935 | 1,332 | 206 | 397 |
| Stevens | 5,463 | 2,380 | 1,946 | 2,352 | 434 | 406 |
| Sumner | 25,946 | 11,535 | 6,699 | 7,974 | 4,836 | 1275 |
| Thomas | 8,180 | 4,000 | 3,618 | 4,190 | 382 | 572 |
| Trego | 3,319 | 1,537 | 1,172 | 1,363 | 365 | 191 |
| Wabaunsee | 6,885 | 3,444 | 1,225 | 1,556 | 2,219 | 331 |
| Wallace | 1,749 | 857 | 757 | 868 | 100 | 111 |
| Washington | 6,483 | 3,160 | 2,287 | 2,682 | 873 | 395 |
| Wichita | 2,531 | 1,136 | 994 | 1,175 | 142 | 181 |
| Wilson | 10,332 | 4,634 | 3,611 | 4,508 | 1,023 | 897 |
| Woodson | 3,788 | 1,579 | 948 | 1,189 | 631 | 241 |
| Wyandotte | 157,882 | 66,696 | 31,919 | 76,028 | 34,777 | 44109 |

Figure 1: Workforce Flow Out of Saline County to Surrounding Counties.

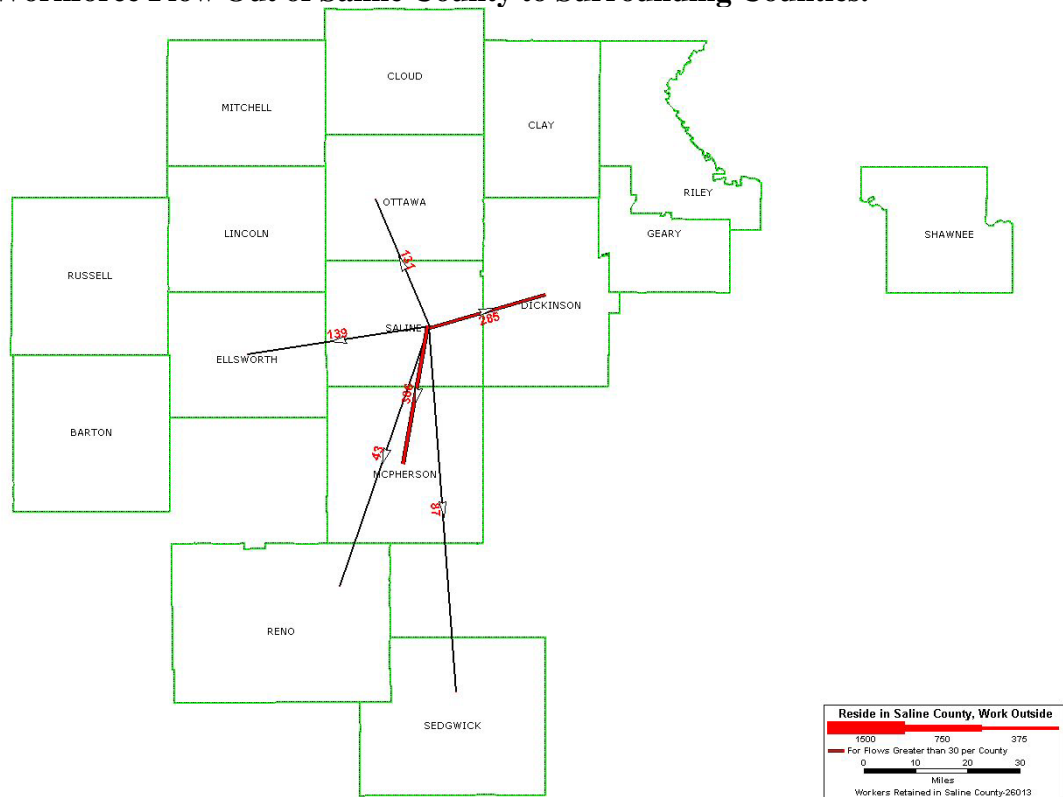
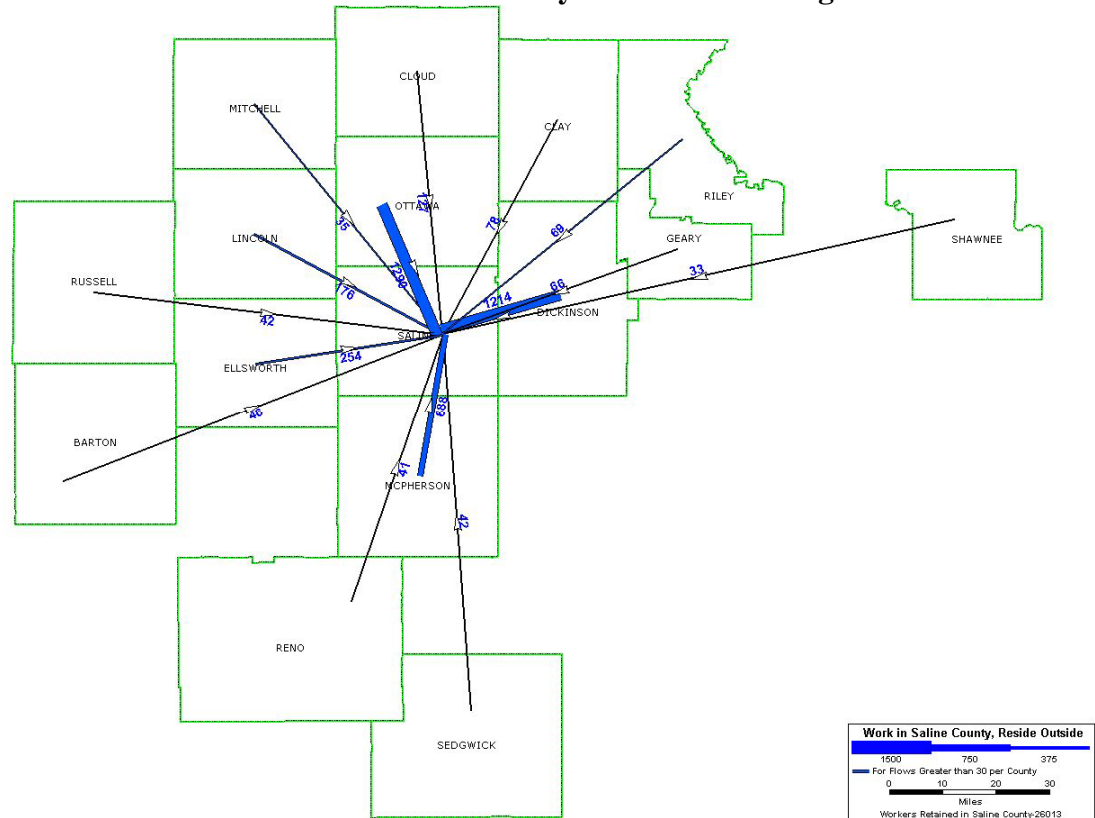


Figure 2: Workforce Flow into Saline County from Surrounding Counties.



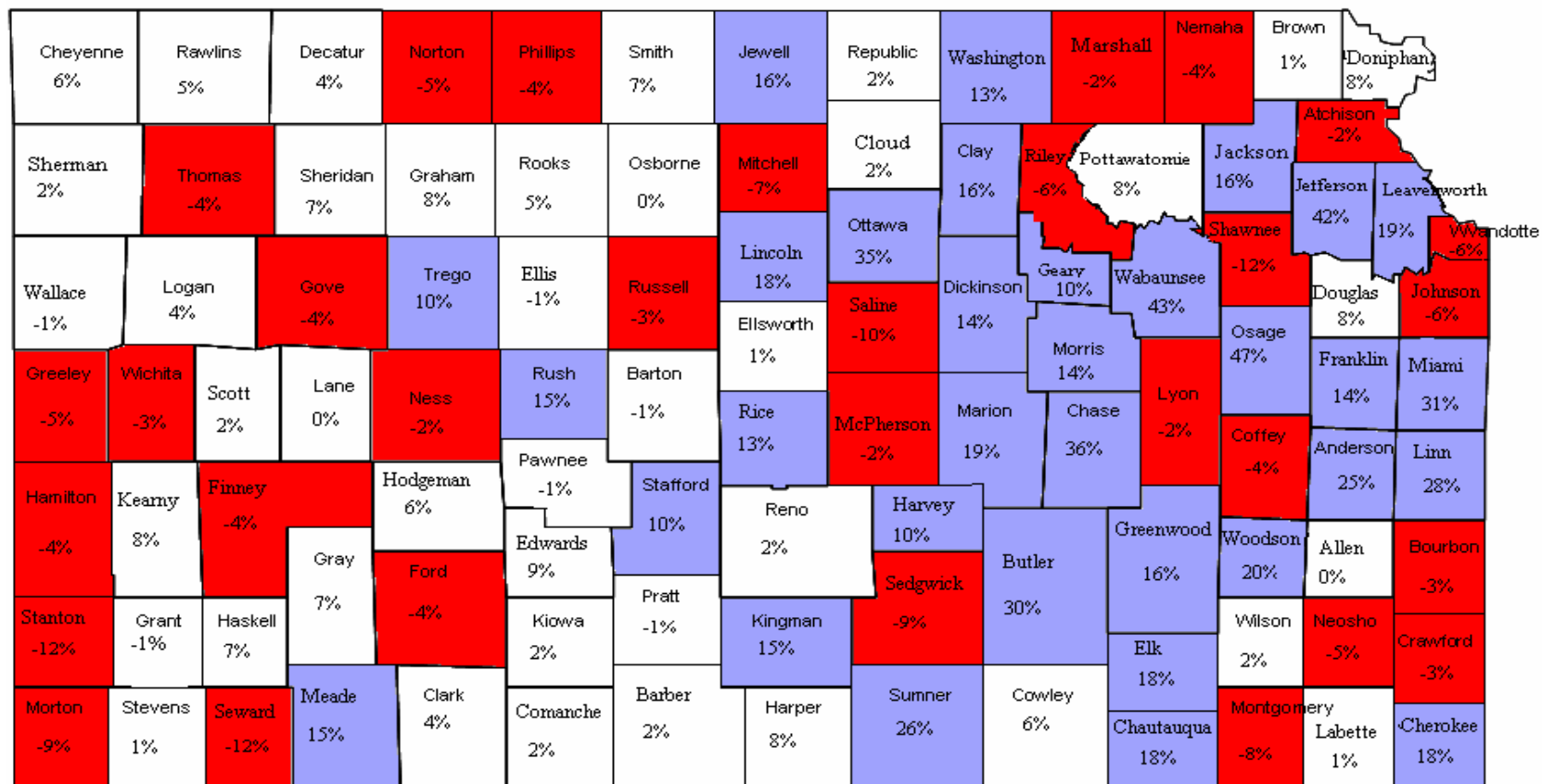
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Source: Journey to work data, Kansas Department of Transportation



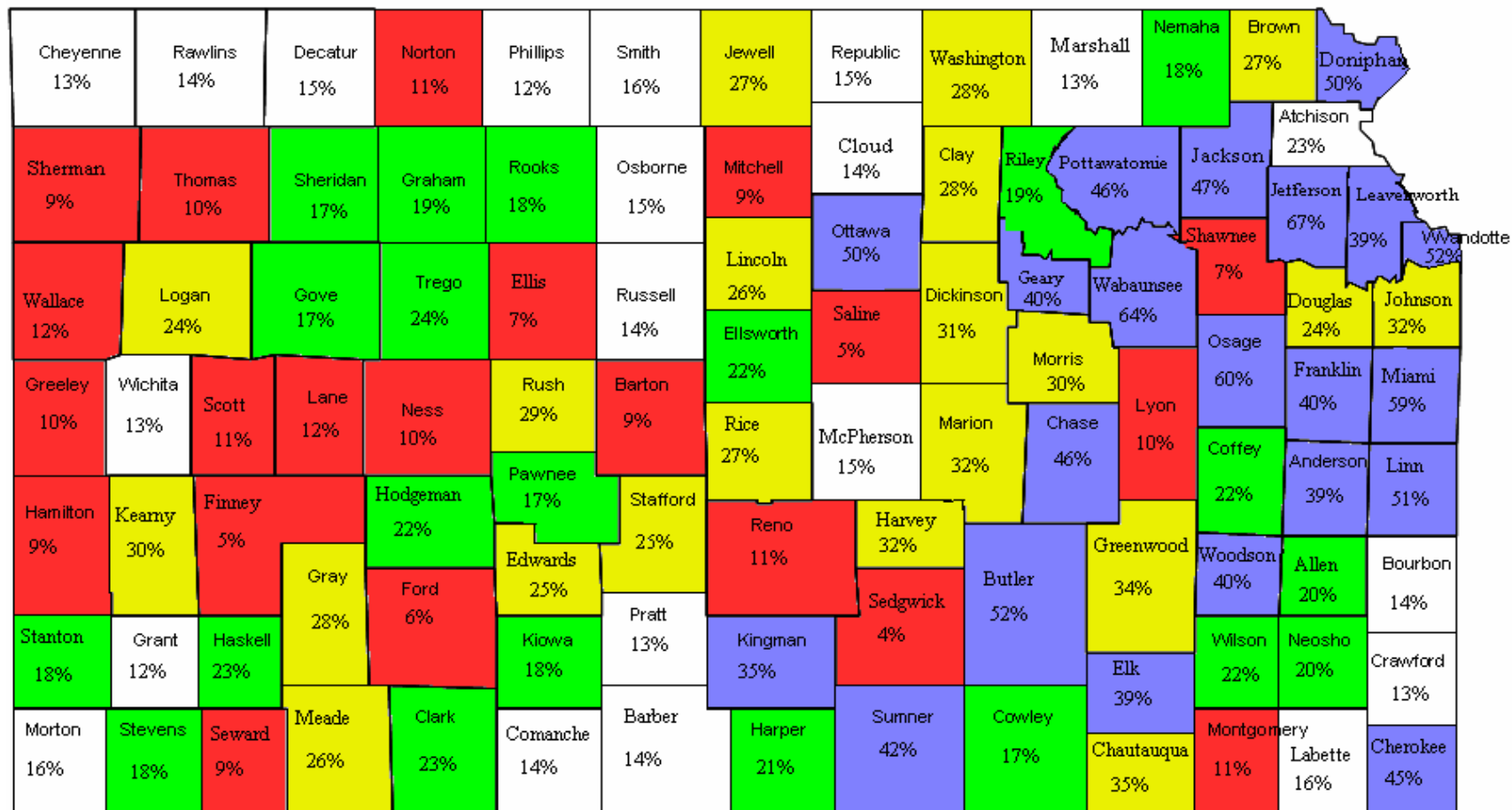
Counties in Red are Job Center Counties

Counties in Blue are Bedroom Counties

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Out-Commuting Patterns from High to Low



Counties in Blue are in Top Quintile (35-67%) Counties in White are in the Next Quintile (12-24%)
 Counties in Yellow are in Next Quintile (24-35%) Counties in Red are in the Bottom Quintile (4-12%)
 Counties in Green are in Next Quintile (17-24%)

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