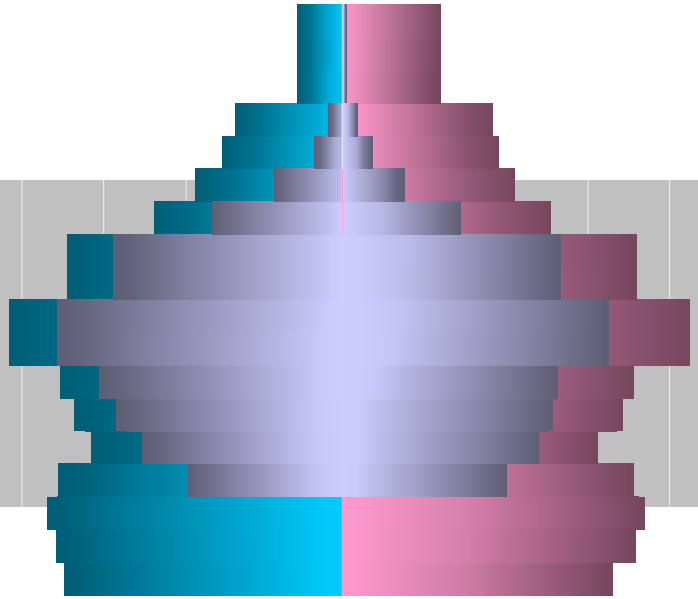
The Louisville Labor Force

KentuckianaWorks

State of the Regional Workforce Report

2003

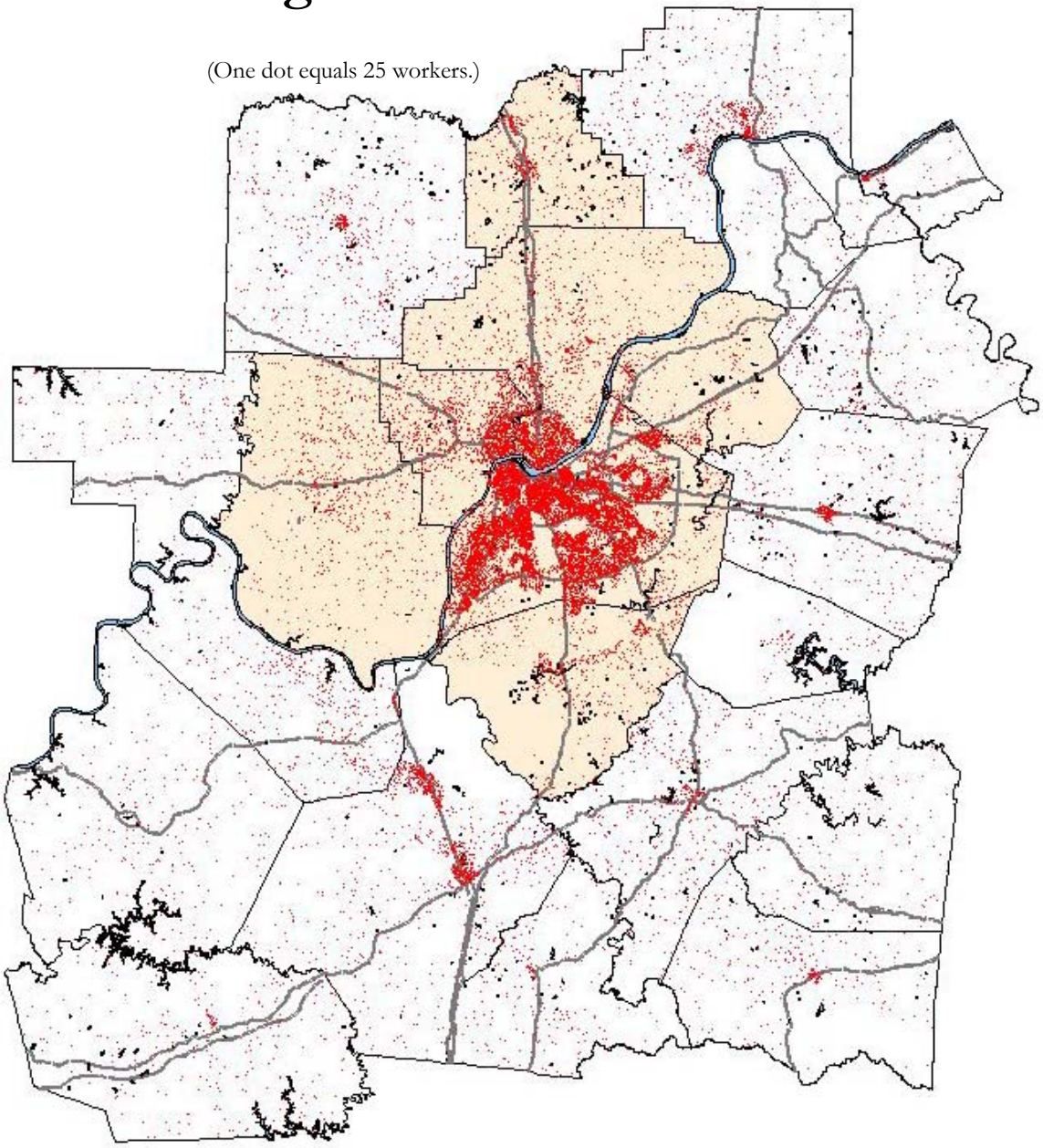


Paul Coomes, Ph.D., Michael Price, Barry Kornstein, and Martye Scobee

University of Louisville

Louisville Region Civilian Labor Force 2000

(One dot equals 25 workers.)



Jefferson County Civilian Labor Force 2000

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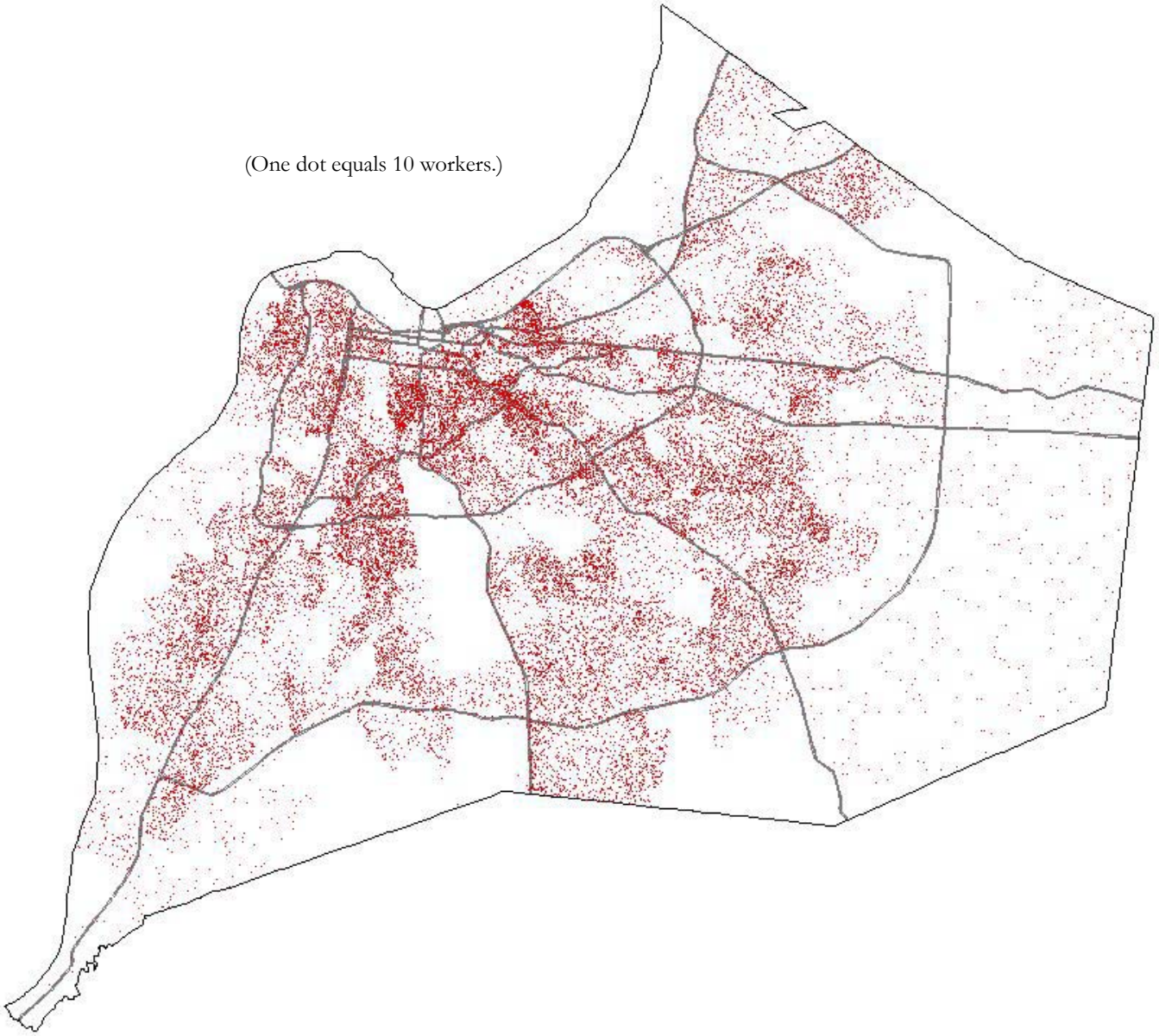

About the authors

This document is based upon research conducted at the University of Louisville under a contract with KentuckianaWorks. A grant from National City provided support for production, printing, and dissemination of this document.

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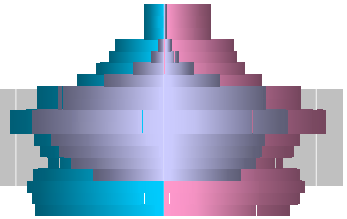
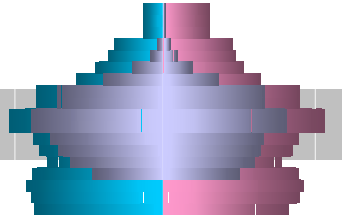




Introductions and main findings

This report updates and expands our March 2000 study entitled *The Louisville Labor Force: Trends and Issues*. As such, we examine worker characteristics not only in the central counties where most employment occurs, but also in the outlying counties where increasingly workers have chosen to live. Our primary objective is to understand how jobs were filled during the last decade, and to characterize the current labor force in terms of age, gender, educational levels, as well as industrial affiliation. In doing so, we also delve into many of the causal factors behind the current labor force status. This includes basic demographic and social issues, like birth and death rates, domestic and foreign migration, household composition, and educational attainment.

Our prior study provided estimates of the most important labor market variables. However, the study was performed two years before the detailed results of the 2000 Census were released. We now have rich statistical snapshots of labor market participation in the Louisville regional economy, and can provide a sharper picture of workforce developments. This report, including detailed statistical tables, and other labor market information is available on KentuckianaWorks' website, www.kentuckianaworks.org and on our website http://monitor.louisville.edu.

The reader will find labor market information analyzed in several ways. At the outset we present the essential labor force statistics on Louisville, released recently from the 2000 Census. In many cases, we present information at several geographic levels, including county, seven-county metro area, and twenty-three county economic area. In other cases, we present information for the Louisville metro area along with that for its prime competitors. These are the same fourteen 'peer' metros we have used in other studies for economic development groups, and include Birmingham, Charlotte, Cincinnati, Columbus, Dayton, Greensboro, Indianapolis, Jacksonville, Kansas City, Memphis, Nashville, Omaha, Raleigh, and Richmond.

We also occasionally provide comparisons over time, so that labor market trends over the last few decades become evident. Detailed profiles are provided as appendices, one each for demographics, educational attainment, jobs, and the characteristics of the labor force.

1. According to the latest census, there are 1.1 million persons aged 16 or older in the Louisville economic area. Of these, 686,000 are employed, 34,000 are unemployed, and the rest are not in the labor force.

2. The Louisville economic area added on net 160,000 jobs during the last decade, with over half of the gain occurring in the central county, Jefferson.

3. Job growth was supported by (a) 126,000 net new residents (b) including a growth of 80,000 employed persons (c) and a decline of 7,000 in the number of unemployed persons.

4. Rising female employment rates have been a key element in supporting job growth in the region. The proportion of adult men holding a job has not changed since 1980, while the employment rate for women has risen by thirteen percentage points in just twenty years.

5. The Louisville area continued its twenty-year trend of relatively low birth rates and high mortality rates However, in the nineties Louisville gained population through migration, reversing the net outflow of the previous decade. By the end of the century, the population of the Louisville area was growing almost as fast as the US as a whole.

6. The Louisville area continues to lag its competitor markets in terms of overall college attainment rates. However, there are encouraging signs in the most recent statistical evidence on young adults. In fact, Louisville posted the second best improvement in the high school attainment rate of persons aged 25-34 over the last decade, and the sixth best improvement in college attainment rates.

7. We estimate that postsecondary institutions in the Louisville area would need to raise enrollments collectively by twenty percent per year over the next decade in order for Louisville to move to the midpoint of college attainment rates among our competitor markets.

8. Louisville's low rate of college attainment correlates tightly with the relatively low earnings per job of its workers. Our ranking actually fell by one position during the last decade, from twelfth to thirteenth. Louisville's manufacturing sector, the source of most of the area's highest paying jobs, added on net no jobs during the nineties.

Louisville score card

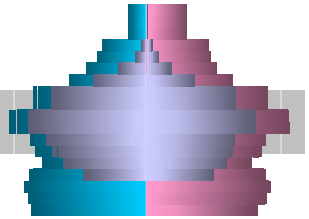
Louisville's rank among 15 Comparison Metros, 2000

Educational Attainment - share of population with these levels of education

Age groups	Completed high school/GED	Associate college degree or more	Four year college degree or more	Graduate or professional degree
18-24	8	12	12	7
25-34	9	10	11	8
35-44	9	15	14	10
45-64	10	14	15	8
65+	10	14	13	11
All adults (ages 25+)	11	14	14	11

Among 15 prime competitor markets, Louisville ranks near the bottom on the percentage of all adults ages 25 and above who were two-year or four-year college graduates. Young adults ages 25-34 ranked highest in relative educational attainment among Louisville's population cohorts. This group ranked eleventh in college attainment and eighth in graduate and professional degrees compared to Louisville's fourteen peer metros.

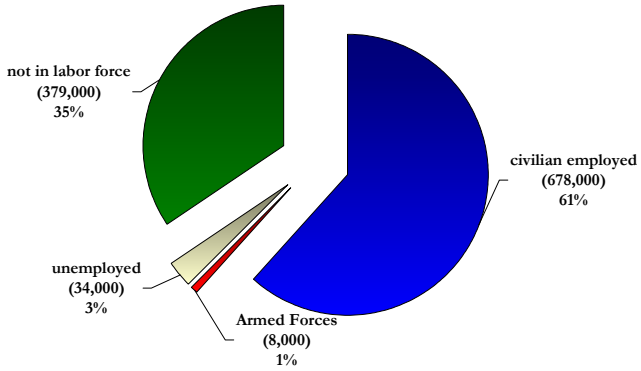
Louisville's labor force in 2000



The 2000 Census gives us a clear picture of the labor force in Louisville and comparison areas. Given that the Census was taken just before the last recession, and that the downturn and recovery were both modest, these estimates are probably still representative of labor market conditions today. Labor force statistics typically refer to persons aged sixteen and older. We see from the table that the twenty-three county Louisville economic area has nearly 1.1 million persons of that age, and of those 720,000 are in the labor force. The Armed Forces account for over 8,000 employed persons, mostly male and nearly all located around Fort Knox (Hardin and Meade counties).

Most published labor force estimates refer to the workforce status of civilians. About 62 percent of Louisville area residents, aged 16 and older, are employed in a civilian job. With 34,000 persons seeking work, the area had an unemployment rate of 4.8 percent during the spring of 2000. The unemployment rates for males and females were almost identical. Males have a higher labor force participation rate than females, though females have been rapidly catching up to their male counterparts.

The Louisville Economic Area
1.1 million persons, aged 16 and older



The Louisville Economic Area Labor Force, 2000

	Male	Female	Total
Persons aged 16 and older	527,954	571,386	1,099,340
in the labor force	382,062	337,995	720,057
in Armed Forces	7,383	691	8,074
in civilian labor force	374,679	337,304	711,983
employed	357,113	320,841	677,954
unemployed	17,566	16,463	34,029
not in the labor force	145,892	233,391	379,283
% of persons employed (civilian)	67.6%	56.2%	61.7%
unemployment rate (civilian)	4.7%	4.9%	4.8%
% of persons not in labor force	27.6%	40.8%	34.5%

Source: US Census Bureau, 2000 Census. Estimates refer to 23-county area.

In the next table, we provide the same labor force summary for the seven-county Louisville MSA. This is a more narrow geographic area than above, but is commonly used for comparisons to other labor markets and we wish to examine this further. The pattern is much the same, however, as for the twenty-three county economic area. Note that there are less than one thousand persons in the Armed Forces in the MSA. Employment rates as slightly higher, and unemployment rates are slightly lower, but overall the MSA statistics mirror (in fact, dominate) those for the wider economy.

Employed persons

In the next chart we have organized the latest employment data by age and gender. The economic life cycle is evident. Young males and females have equal probabilities of working, with six out of ten persons aged 16 to 24 holding a job. This is a time of experimentation in the job market, schooling, and for some, family formation. During the next ten years, male employment rates jump by twenty-two percentage points, as schooling ends and careers take root.

The female employment rate rises also, though by only half as much, with many women choosing to work at home. Employment rates reach a peak in the subsequent cohort, those people aged 35 to 44. Eighty-four percent of men and seventy-five percent of women hold a job during those ages. Employment rates for those aged 45 to 54 are also high for both men and women, but begin to fall quickly afterwards.

Interestingly, the local employment rates are higher than the national average for those in their twenties, thirties, and forties, but are lower for Louisville area residents in their fifties and sixties.

Compared to peer metro areas, Louisville looks fairly typical in terms of labor force statistics. The percentage of adults holding a job in Louisville is now about 63 percent, tenth highest among the fifteen comparison metros and three percentage points above the national average. Employment rates for females are ninth highest, while male employment rates rank eleventh highest.

The highest employment rates are for Raleigh, Charlotte, and Greensboro. These are also coincidentally the metros with the youngest populations, fitting with the economic life cycle analysis just presented. The lowest employment rates are for Birmingham, Dayton, and Memphis. Labor force profiles for each of the peer metros are provided in Appendix B of this report. These profiles provide data on the labor force characteristics of the population from the 1990 and 2000 Censuses.

Unemployed persons

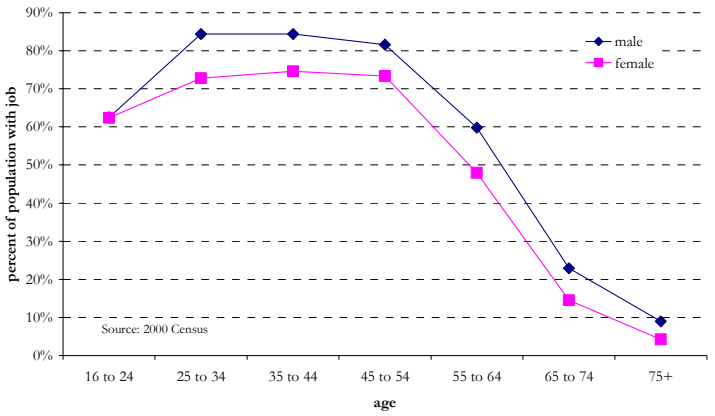
The Louisville metro area posted the seventh highest unemployment rate, 4.6 percent, among the fifteen peer markets. The decennial census provides the only precise measure of unemployment, as it is based on a survey of households. Each of the sampled households are asked about their household makeup, and detailed labor force questions is asked about all household members sixteen years of age or older. A person is classified as unemployed if they report they have looked for work within the last four weeks. The unemployment rate is calculated as the percentage of the labor force that is unemployed, where the labor force is made up of those employed and those unemployed.

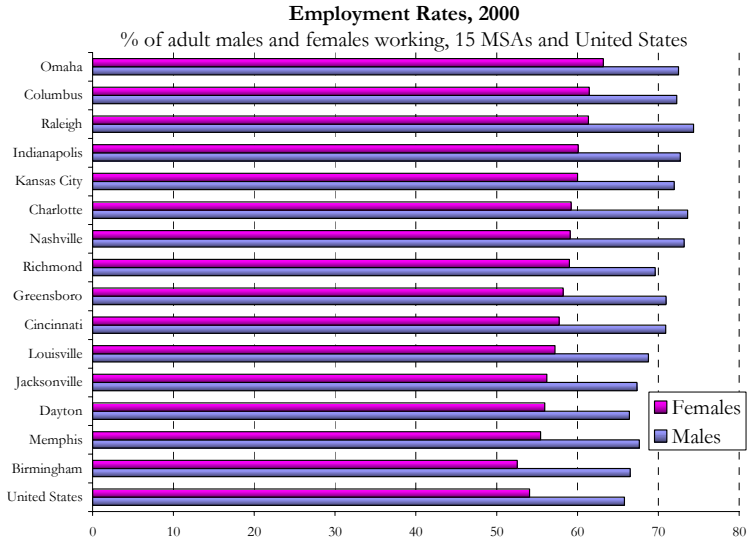
The Louisville MSA Labor Force, 2000

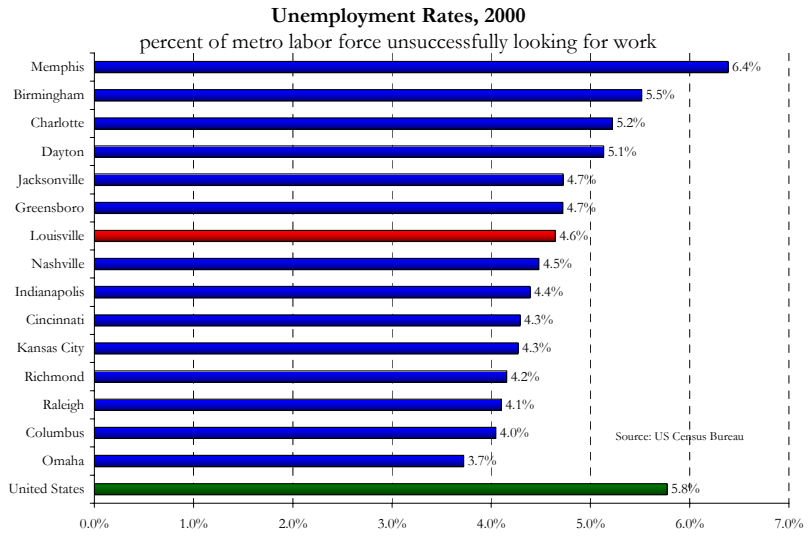
	Male	Female	Total
Persons aged 16 and older	380,252	419,286	799,538
in the labor force	275,097	251,536	526,633
in Armed Forces	869	96	965
in civilian labor force	274,228	251,440	525,668
employed	261,428	239,830	501,258
unemployed	12,800	11,610	24,410
not in the labor force	105,155	167,750	272,905
% of persons employed	68.8%	57.2%	62.7%
unemployment rate (civilian)	4.7%	4.6%	4.6%
% of persons not in labor force	27.7%	40.0%	34.1%

Source: US Census Bureau, 2000 Census. Estimates refer to seven county metropolitan area.

Employment Rates by Age and Gender
Louisville MSA, 2000

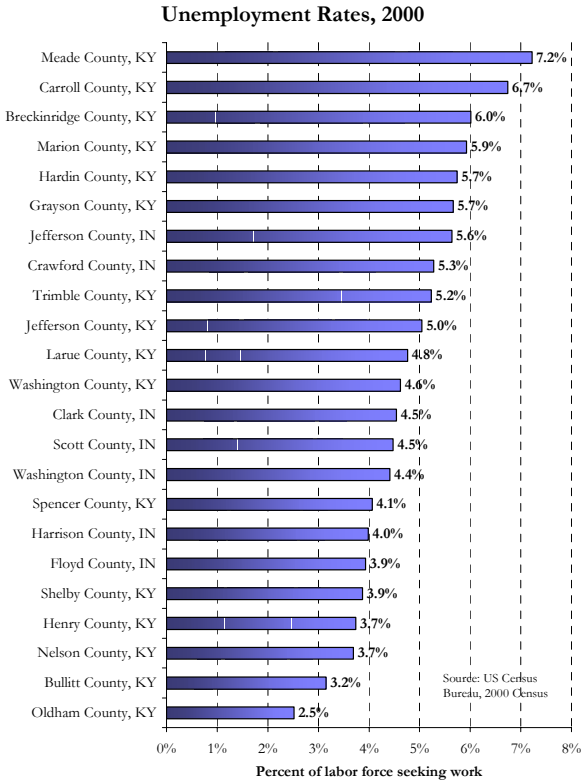






Previously published estimates of the local rate of unemployment were grossly inaccurate. For example, the US Bureau of Labor Statistics/Kentucky Workforce Cabinet had estimated the unemployment rate for Jefferson County to be 3.8 percent in March of 2000; the Census estimate was 5.0 percent.

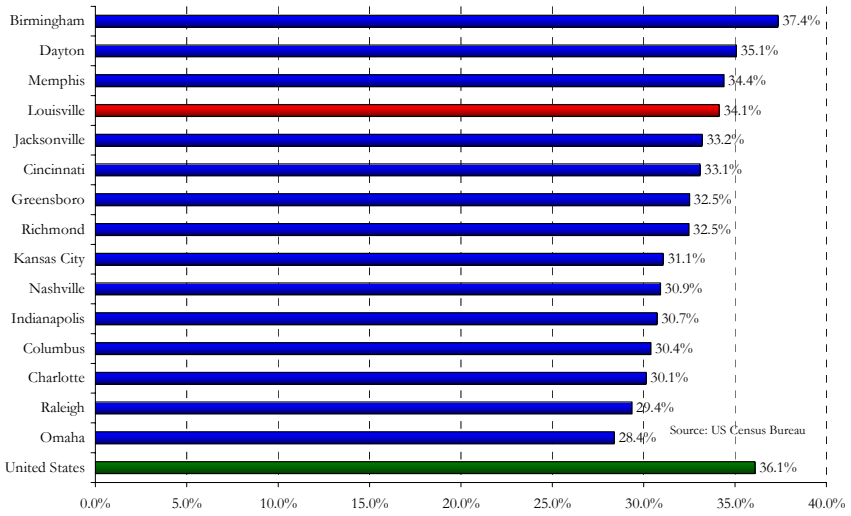
Unemployment rates varied among the twenty-three counties, from a high of 7.3 percent in Meade County to a low of 2.5 percent in Oldham County. One can easily detect a geographic pattern in the accompanying chart. The lowest unemployment rates are in suburban counties surrounding the urban core of Jefferson KY and Clark counties. The highest unemployment rates are in counties farthest from the core – Meade, Carroll, Breckinridge, Marion, Hardin, Grayson, and Jefferson IN.

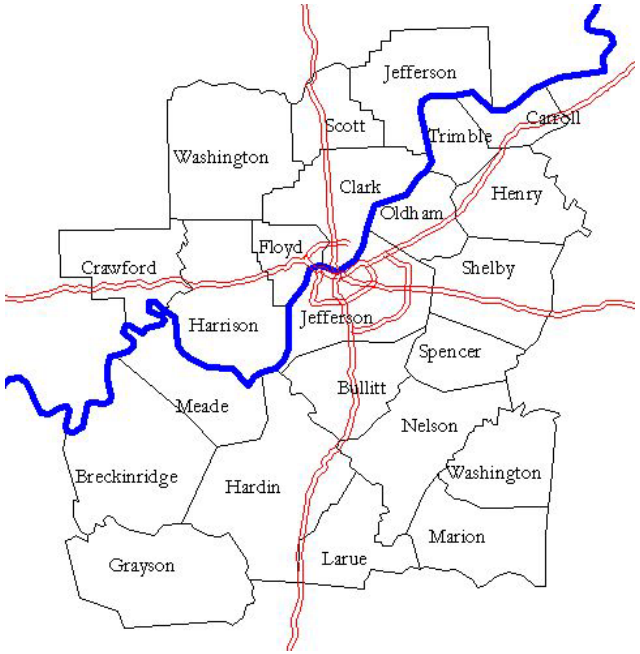


Persons not in the labor force

Louisville has one of the lowest overall rates of labor force participation among its peers. Over one in three adults are not in the labor force, a rate surpassed only by Birmingham, Dayton and Memphis. Note however that Louisville's rate is significantly lower than the national average, with most of its peer metros posting very high rates of labor force participation. This partly reflects Louisville's relatively old population., with a higher percentage of retired persons than most of its peer metros. With a median age of 36.5 years, Louisville ranks second oldest, behind Dayton, among the fifteen peers.

Percent of Adults Not In Labor Force, 2000





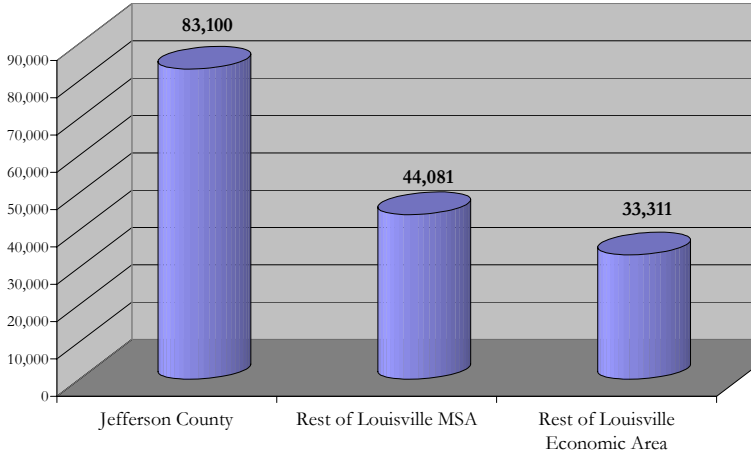
The Louisville labor force attracts workers from seven Indiana counties and 16 Kentucky counties

How jobs were filled in the 1990s

In our previous study we offered an explanation of how the Louisville metropolitan area economy managed to support net job growth of 10-15,000 per year during the last decade when the area was adding only a few thousand new residents annually. We did not yet have the benefit of the 2000 Census and its great detail on the population, their workforce status, migration, and commuting patterns. Using detailed data from the 1980 and 1990 Censuses, and preliminary estimates of jobs and people through 1998, we constructed estimates of workforce participation by age, gender, and county of residence. We used those estimates and comparisons to national measures to reconcile the economic and demographic information. In particular, we concluded that job growth in the 1990s was supported by a combination of factors, including an enlarged commuter shed of twenty-three counties in Kentucky and Indiana, an acceleration in regional population growth, a dramatic increase in female employment rates, and a reduction in the area's unemployment rate.

Most of the results of the 2000 Census are now available, though important pieces still to be released include the full county-to-county commuting estimates, the PUMS microdata, and the transportation planning package information on journey to work. However, enough information is available to construct a clear explanation of workforce developments in the nineties. The story turns out to be much the same as that we outlined nearly three years ago, but we can tell it now with more confidence and precision, and can add a few interesting subplots. Mathematically, the growth in total jobs in an economy can be decomposed into the growth in working age population times the change in the rate of employment of that population, with an adjustment for moonlighting to reflect the ratio of jobs to employed persons. Decomposing this further by age and gender, and accounting for changes in the regional commuting patterns, one can get a rich picture of workforce trends in an economy.

Growth in Jobs, 1990 to 2000



Note: Jefferson County accounted for 52 percent of the job growth in the Economic Area.

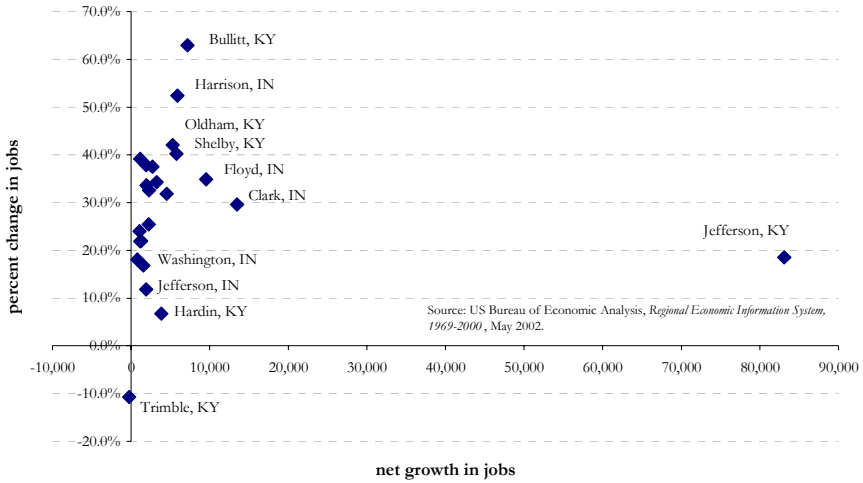
Job growth in Jefferson County last decade more than doubled the gains made in the remainder of the Louisville region.

Job growth

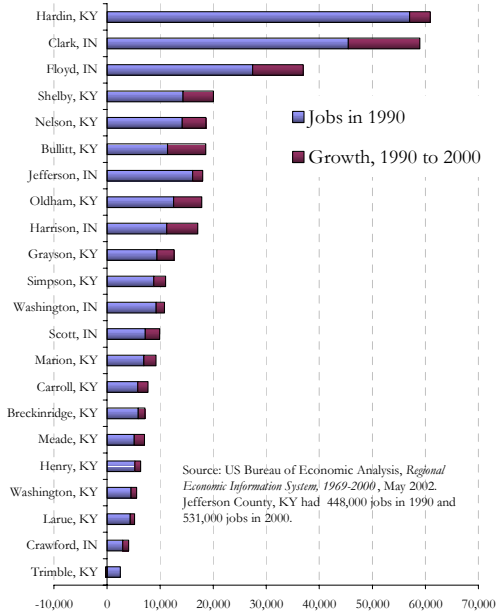
The twenty-three county Louisville economy added on net 160,000 jobs between 1990 and 2000, surely the greatest such growth in the area's history. The regional economy posted a 22 percent growth in jobs during the decade, two percentage points greater than for the US as a whole. The area supported an average of 890,000 total jobs in 2000.

Slightly over one-half of the net growth in jobs occurred in the central county, Jefferson KY, and nearly eighty percent of the growth occurred in the seven county metropolitan area. The surrounding counties grew somewhat faster in percentage terms, though all counties (except Trimble) posted significant job growth last decade.

Net Job Growth by County, 1990 to 2000
by place of work



Net Job Growth by Place of Work, 1990 to 2000
Counties in Economic Area (Jefferson KY omitted)



Hardin and Clark, the two most populous counties after Jefferson, also have the most jobs. Clark County posted great gains during the past decade, as did its neighbor Floyd County. Shelby, Nelson, Bullitt, Jefferson IN, Oldham, and Harrison counties rank next highest in the number of jobs supported at the end of the decade, with all posting solid growth since 1990. Trimble County was the only county to have fewer jobs in 2000 than a decade earlier. In percentage terms, the top counties for job growth during the decade were Bullitt, Harrison, Oldham, and Shelby. The slowest growing were Trimble and Hardin counties.

The job data just discussed includes all jobs, whether part-time or full-time, low-pay or high-pay. The industrial and occupational characteristics of jobs vary widely around the region, though all counties followed the national pattern of fast growth in the retail, service, and local government (including public K-12 education) sectors, and continuing decline in agricultural employment. Bullitt County, for example, has seen relatively strong growth in construction, manufacturing and distribution industries. Harrison County's job growth was driven by the manufacturing sector and by the Caesar's casino (services) which opened near the end of the decade. Note the sharp decline in federal employment for Hardin and Jefferson counties (Ft. Knox, Army Mapping office), only partially offset by the increase in Clark County (Census Bureau). State government employment posted almost no growth during the decade, rising only 1,300 jobs from its 1990 level of nearly 20,000. Local government rose rapidly on the other hand, to a total of 58,000 by decade's end.

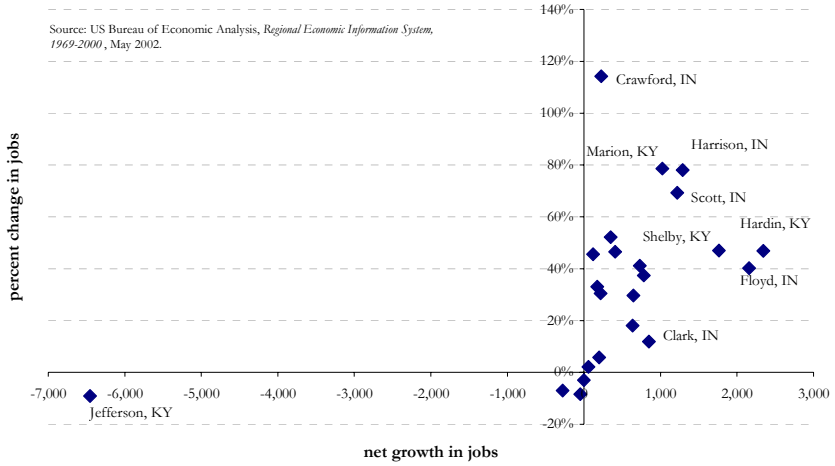
"manufacturing… remains important due the higher pay of its workers and the key linkages it has with other sectors."

Net Growth in Jobs by Major Industry, 1990 to 2000

County	Agriculture	Construction, Agr. Services & Mining	Manufacturing	Transportation, Communication, Utilities	Wholesale Trade	Retail Trade	Finance, Insurance, Real Estate	Services	Federal Govt, incl Military	State Govt	Local Govt	Total
Breckinridge, KY	-139	100	118	177	-33	154	173	392	-10	3	215	1,289
Bullitt, KY	-100	1,127	783	120	411	1,624	842	1,688	16	39	534	7,184
Carroll, KY	1	42	730	18	-36	276	35	926	-3	-148	104	1,944
Clark, IN	-101	1,234	851	2,077	273	2,890	789	3,271	1,113	126	837	13,461
Crawford, IN	-46	244	225	156	-1	107	65	282	-10	32	53	1,153
Floyd, IN	-84	1,289	2,156	-22	219	1,052	589	3,520	-25	239	544	9,561
Grayson, KY	-178	496	646	73	517	373	-5	726	-8	8	411	3,237
Hardin, KY	-297	577	2,343	452	384	1,243	642	2,929	-6,205	250	1,243	3,858
Harrison, IN	-142	153	1,292	76	25	913	202	2,793	3	5	420	5,882
Henry, KY	-5	329	218	70	69	112	124	101	1	-15	134	1,143
Jefferson, IN	-148	742	-278	-91	-47	662	265	791	-464	149	178	1,907
Jefferson, KY	-263	6,152	-6,457	14,547	6,632	11,157	9,881	38,861	-2,972	394	4,905	83,100
Larue, KY	-180	-40	174	51	-110	181	118	253	-2	5	162	792
Marion, KY	-197	-45	1,025	61	-95	307	58	654	-6	1	303	2,263
Meade, KY	-13	351	-50	9	24	417	155	664	6	10	348	1,934
Nelson, KY	-274	776	636	106	50	595	338	1,496	17	9	486	4,509
Oldham, KY	-242	746	407	-16	342	759	587	1,655	17	152	633	5,282
Scott, IN	-29	80	1,219	112	23	479	97	513	3	5	180	2,711
Shelby, KY	-264	309	1,762	354	98	1,021	283	1,450	15	61	400	5,753
Simpson, KY	-44	169	199	136	21	652	72	709	-12	2	294	2,242
Trimble, KY	-78	-620	-1	0	0	117	21	160	-1	1	56	-267
Washington, IN	-84	369	60	85	39	319	94	417	-3	-5	188	1,563
Washington, KY	-172	153	350	31	112	76	5	251	-3	1	104	1,080
Total, 23 Counties	-3,079	14,733	8,408	18,582	8,917	25,486	15,430	64,502	-8,533	1,324	12,732	161,581
Seven County MSA	-961	10,781	251	16,894	7,925	18,874	12,987	52,301	-1,845	960	8,053	127,181

Source: US Bureau of Economic Analysis, *Regional Economic Information System, 1969-2000*, May 2002, with minor adjustments by authors for missing values.

Net Manufacturing Job Growth by County, 1990 to 2000 by place of work



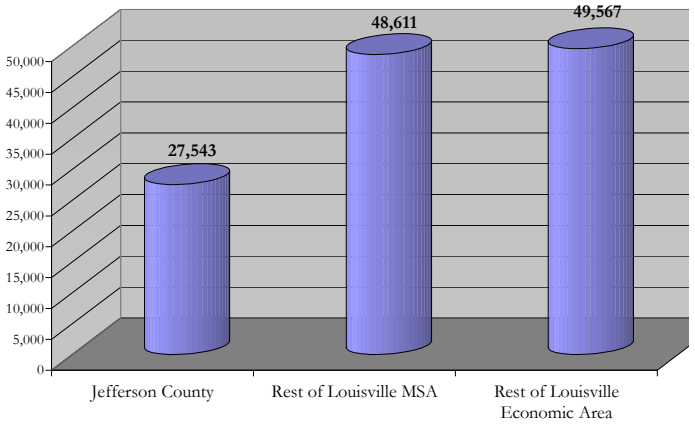
While manufacturing is no longer the dominant source of industrial job growth, it remains important due the higher pay of its workers and the key linkages it has with other sectors like transportation and distribution. The region as a whole now supports 129,000 manufacturing jobs, a net gain of 8,400 during the past decade. The chart below provides a summary of job activity by county during the past decade. The major loser of manufacturing jobs was Jefferson KY, as several plant closures (Naval Ordnance, Phillip Morris) and employment shrinkages (General Electric) were not offset by expansions at other county firms. Fast growth in outlying counties, however, more than made up for the loss in the central county. Hardin, Floyd, Shelby, Harrison, Scott, and Marion counties posted the most raw growth in manufacturing jobs, while Crawford, Marion, Harrison, and Scott posted the most percentage growth.

Population growth

The Louisville economic area added 126,000 net residents between 1990 and 2000, for a growth rate of about ten percent. This was less than the 13 percent growth in population for the US as a whole, continuing a trend where our area generates more job growth but less population growth than the nation. See the next section of this report for a detailed analysis of demographic trends locally. Also, Appendix C provides a set of demographic profiles for Louisville and its competitor metro areas.

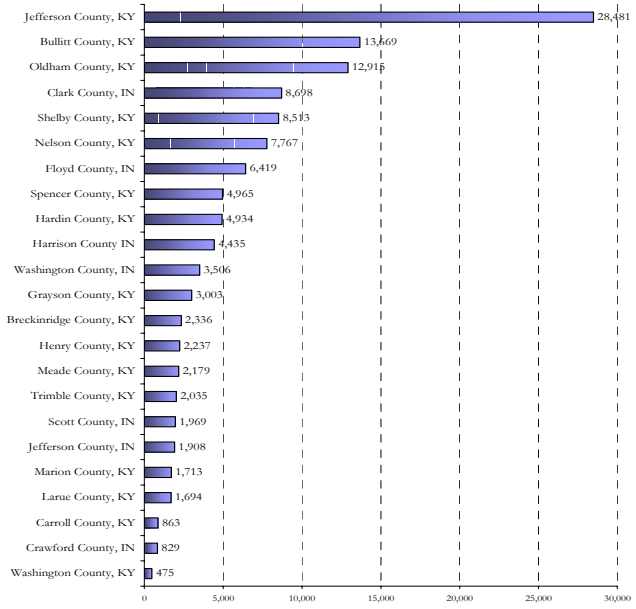
The geographic pattern of population growth inside the Louisville economic area is the opposite of that for job growth, with outlying counties growing much faster than Jefferson KY. The fastest growing counties, in terms of percentage population growth, were Spencer (73 percent) and Oldham (39 percent). The slowest growing counties were Jefferson KY (4 percent) and Washington KY (5 percent).

Growth in Population, 1990 to 2000

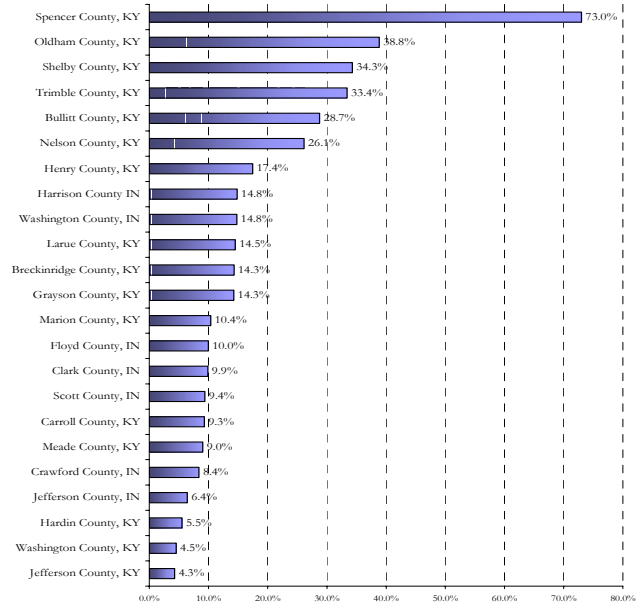


Note: Jefferson County accounted for 22 percent of the population growth in the Economic Area.

Growth in Population, 1990 to 2000
Counties in Louisville Economic Area



% Growth in Population, 1990 to 2000
Counties in Louisville Economic Area



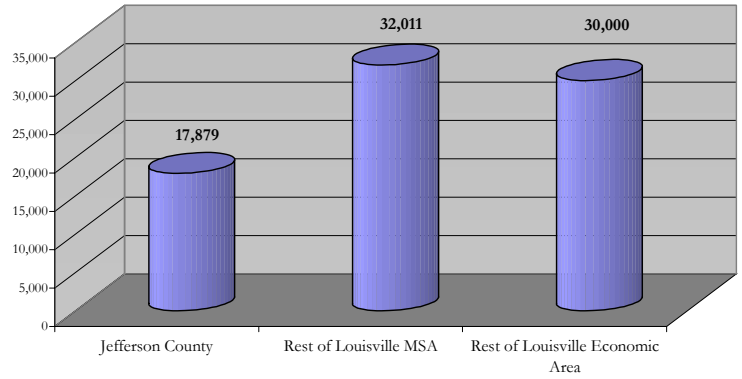
The Louisville MSA finally passed the one million residents mark, after gaining 76,000 persons in the decade. Jefferson's small percentage growth partly reflects its large population base of nearly 700,000 residents. Its growth of 28,000 residents reversed and completely offset two decades of population decline.

Growth in number of employed persons

There were 80,000 more employed residents in 2000 than in 1990, a growth rate of 13 percent compared to an 11 percent growth nationally. One can see from the chart that the geographic pattern is similar to that for population growth, with the outlying counties supplying a majority of the net new workers in the region. Jefferson KY continues to be the primary place of employment, but increasingly those workers are choosing to live in the first, second, and even third ring of counties around it.

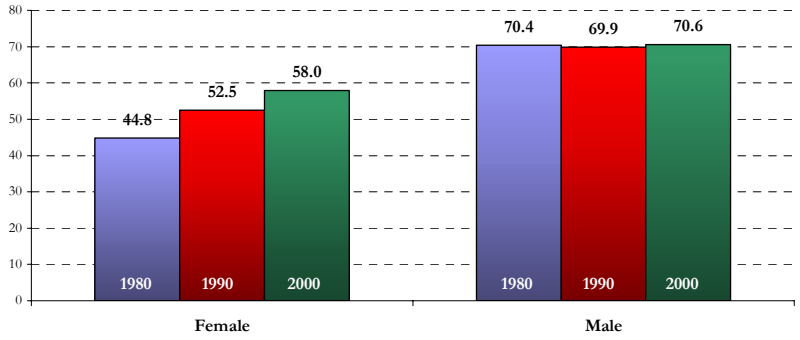
As of late 2002, the Census Bureau has not released new estimates of county-to-county commuting flows. The Summary File (SF3) compilation that is available shows the number of workers living in each county that also work in that county (Table P26), but for those working in another county, does not provide their workplace destination. The full commuting patterns information will not be released for several months. It was inevitable that the average commute time in the region would rise over the last decade, given the strong growth in jobs in the central county and the relatively faster growth in population in the outlying counties. The average round trip travel time to work in the Louisville MSA was 45 minutes in 2000, up about three minutes from 1990. However, Louisville remains near the bottom of the list of regional comparison metros in terms of travel time, with only smaller Lexington and Dayton workers having a shorter commute.

Growth in Employed Residents, 1990 to 2000



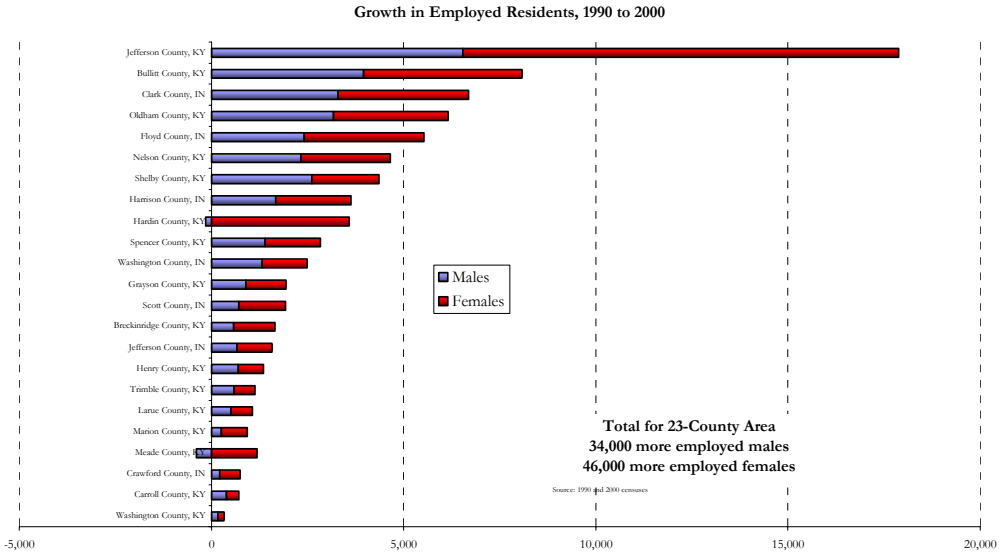
Note: Jefferson County accounted for 22 percent of the growth in employed residents in the Economic Area.
Source: US Census Bureau.

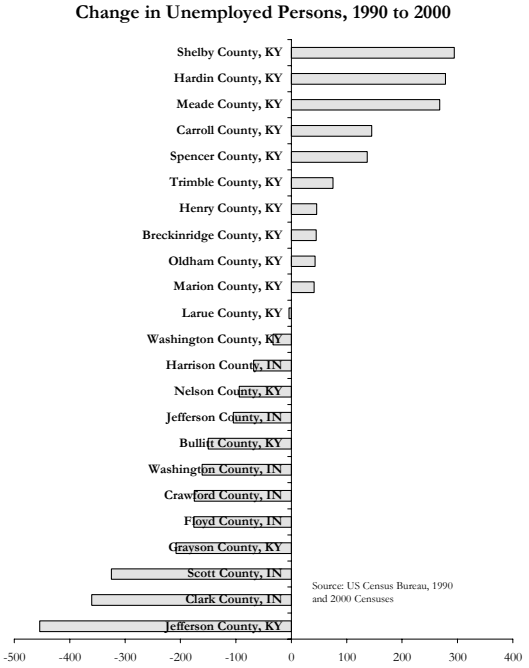
Employment Rates Over Last Twenty Years
Louisville Economic Area
percentage of males and females, aged 16+, employed, last three censuses



Using the last three censuses to look back over two decades, it is clear that rising female employment rates have been a key element, if not the key element, in supporting job growth in the region. The proportion of adult men holding a job has not changed since 1980, while the employment rate for women has risen by thirteen percentage points in just twenty years. Recall that there are over one-half million adult females in the Louisville region. Even small changes in the percentage of women holding a job can yield thousands more workers. Other than the baby boom induced rise in the number of workers beginning in the 1970s, this dramatic increase in female employment rates is probably the biggest single workforce development since the immediate post-World War II era.

We have also organized the 1990 and 2000 Census data on the number of employed persons by county of residence. One can see that the major contributors of workers during the last decade were Jefferson, Bullitt, Clark, Oldham and Floyd KY – the largest or fastest growing counties. Note that the strong growth in female employment is pervasive around the region. Well over forty percent of all employed persons are females in each of the twenty-three counties, and the proportion is nearly fifty percent in Jefferson KY. Note also that Hardin and Meade counties actually posted a decline in male workers, as the reduction in activity at Fort Knox affected civilian employment in both of these counties.





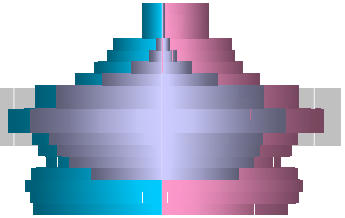
Change in the number of unemployed persons

As employment counts and employment rates rose in the nineties, particularly for women, unemployment overall fell. For the seven county metro area, there were 51,000 more employed persons and 5,000 fewer unemployed persons in 2000 than there were in 1990.

The unemployment rate fell from 5.1 to 4.6 percent over the decade. Similarly for the complete twenty-three county economic area, unemployment fell while employment rose. There were 89,000 more employed persons and 7,100 fewer unemployed persons. The unemployment rate fell from 6.5 to 4.8 percent over the decade.

Unemployment did rise in some regional counties, however. Hardin and Meade counties both experienced a rise in the number of unemployed persons and a rise in their unemployment rates, as economic activity at Fort Knox declined. Surprisingly, unemployment also rose in Shelby County, a county with a rapidly expanding population and job base. Shelby's rate of unemployment was only 3.9 percent of the labor force in 2000 (up from 2.2 percent in 1990), though, suggesting that labor market conditions there remain relatively tight.

Population growth and demographic trends



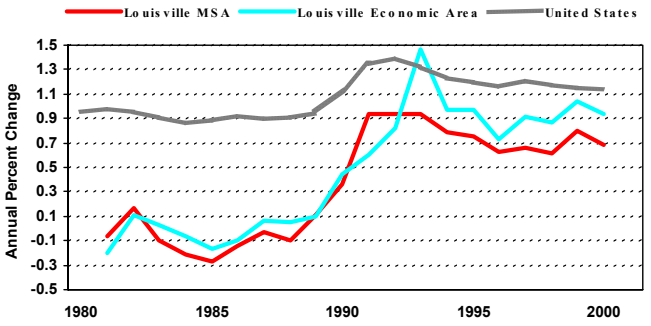
The population of an area changes over time due to births, deaths, and migration. All three of these factors contributed to the Louisville area's slow population growth in the 1980s. Louisville has had relatively low birth rates and high mortality rates for most of the last two decades, and had net out-migration of persons in the 1980s. A turnaround in migration in the 1990s, though, has led to a demographic resurgence during the last decade.

There was no population growth in the Louisville MSA or economic region during much of the 1980s. Net out-migration negated the region's population growth from natural increase - the difference between the number of births and deaths. By the end of the decade, however, population growth rates for the MSA and region began to rise towards the national rate in just a few years. Since the early 1990s, the regional population growth rate has hovered near the national rate.

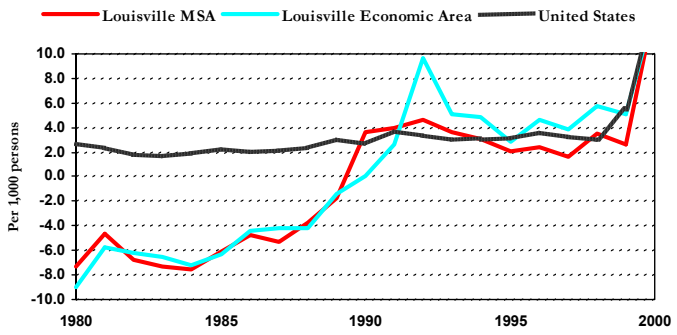
The Louisville region experienced a migration turnaround over the last two decades. Although waning over the decade, net out-migration characterized the 1980s. In 1991, more migrants began to enter the region than depart. The annual net migration rate rose steadily from minus 9.0 per 1,000 persons in 1981 to plus 9.7 per 1,000 persons in 1992. For the remainder of decade, the regional rate has been at or above the national rate of net international migration. See Appendix B for demographic profiles of Louisville, its competitor metros, and the US.

The Louisville region experienced a migration turnaround over the last two decades.

Annual Population Growth Rates



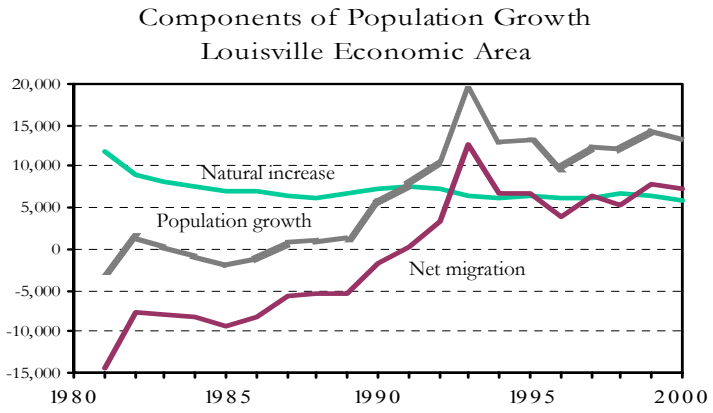
Annual Net Migration

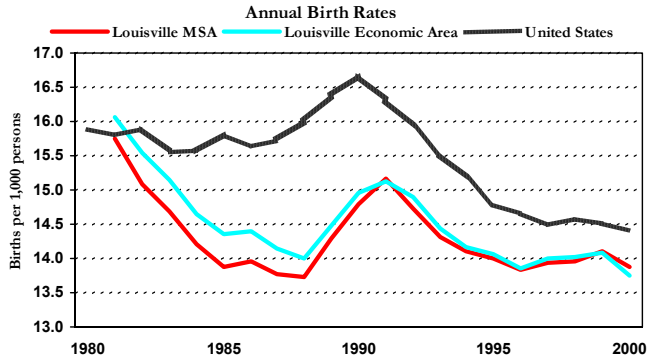


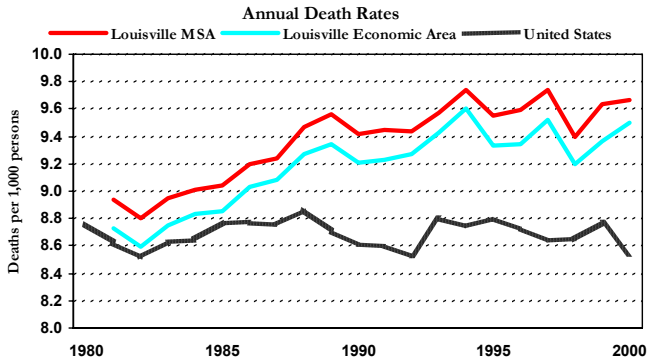
Births, deaths, migration

In 1981, the regional birth and death rates were comparable to those of the US, as a whole. In the Louisville region., the annual birth rate was 16.1 live births per 1,000 persons and the annual death rate was 8.7 deaths per 1,000 persons. The difference between these rates produced a regional rate of natural increase of 7.4 per 1,000 persons, slightly above the national rate of 7.2. Since then, the regional birth rate has dropped below the US rate while the region's death rate rose above its national counterpart. In 2000, regional rate of natural increase was 4.3 per 1,000 persons, compared the US rate of 5.9.

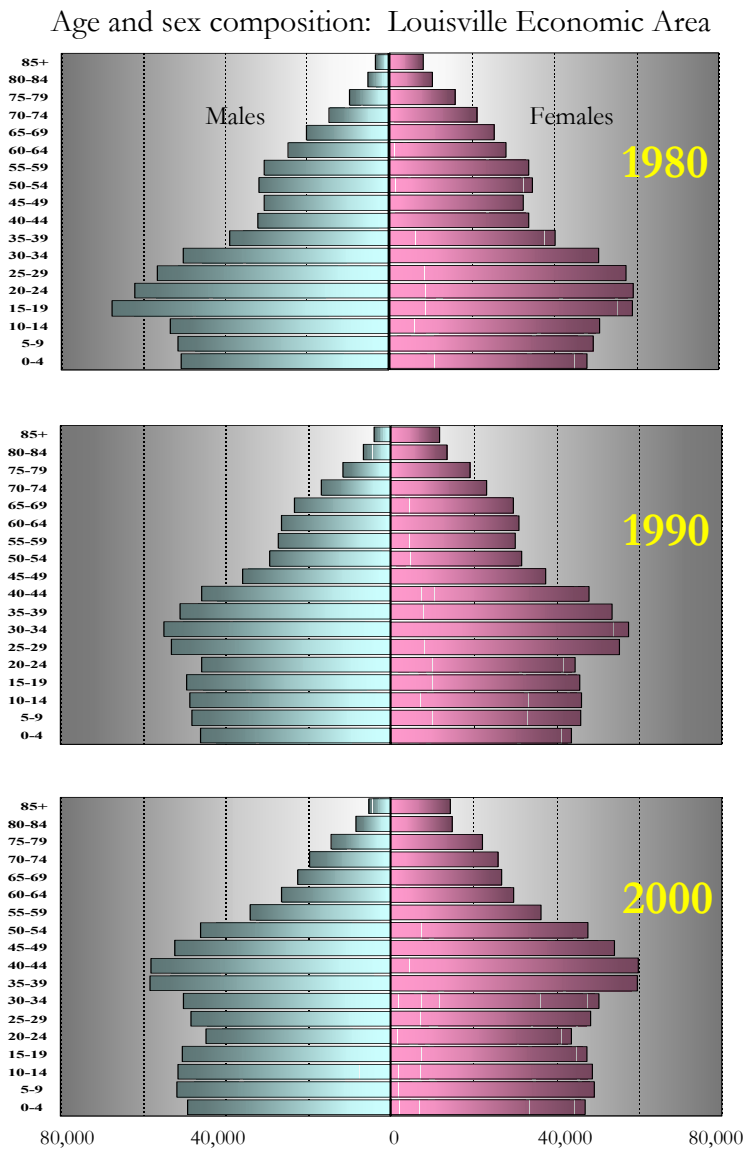
Since the early 1990s, migration and natural increase have been nearly equal components of population growth in the Louisville economic region. From 1990 to 2000, the 23-county region recorded 192,000 live births and 127,000 deaths – a natural increase of 65,000 persons. The movement of population into and out of the region resulted in net in-migration, a gain of 60,000 persons for the decade.







Natural increase—the population growth from births exceeding deaths in the Louisville MSA is now below the national rate. Net migration is now equal to natural increase as a component of population growth in the metro.



Age and sex composition of population

The divergence between the Louisville region and US on birth and death rates over the last two decades was, in part, a consequence of the region's population becoming generally older than the US population. In 1980, the median age of the population was 29.1 years in the region and 30.0 years in the US. The net out-migration of young adults during the 1970s and 1980s affected the regional age structure and lowered fertility by depleting cohorts most likely to have children. National fertility levels have been maintained by immigration of foreign populations with birth rates above US domestic rates. The region's higher mortality was the result of its older age structure and poorer overall health. In 1990, the median age was 33.3 years in the region and 32. 9 years in the US. The median age disparity was larger in 2000: 36.2 years in the region and 35.3 years in the US. The MSA population was older than the region as a whole over the two decades. In 2000, the MSA median age was 36.5 years.

Population pyramids display how the population of the Louisville economic region has changed in age and sex composition over the last two decades. These charts reflect the major demographics trend of the period - the aging of the baby boom generation from labor force entrants to middle age.

The birth cohorts following the baby boom have been smaller but relatively stable in size. Some labor analysts speculate that the many of the boomers will remain in the workforce longer than previous generations (American Demographics, 2003). This increase in the longevity of working life would spread out workforce exits over a longer time span and provide stability to labor supply as boomers retire.

The sex ratio of the regional population did not change much over the two decades. Females comprised 51.1 percent of the population and outnumbered males by 28,000 in 1980. In 2000, females made up 51.2 percent and had a 35,000 numerical advantage. Women live longer than men, as reflected in the growth of older female cohorts. In addition, the downsizing and reduction of force at Fort Knox has reduced the region's male population.

Components of Population Growth 1980-2000
Louisville Economic Area

	Population	Births		Deaths		Net Migration	
		#	Rate	#	Rate	#	Rate
1980	1,290,881						
1981	1,288,223	20,747	16.1	11,265	8.7	-11,609	-9.0
1982	1,289,635	20,009	15.5	11,068	8.6	-7,529	-5.8
1983	1,289,937	19,541	15.2	11,286	8.8	-7,953	-6.2
1984	1,289,090	18,898	14.7	11,400	8.8	-8,345	-6.5
1985	1,286,942	18,509	14.4	11,415	8.9	-9,242	-7.2
1986	1,285,687	18,517	14.4	11,628	9.0	-8,144	-6.3
1987	1,286,488	18,196	14.2	11,677	9.1	-5,718	-4.4
1988	1,287,220	18,007	14.0	11,930	9.3	-5,345	-4.2
1989	1,288,480	18,647	14.5	12,028	9.3	-5,359	-4.2
1990	1,294,128	19,277	15.0	11,862	9.2	-1,767	-1.4
1991	1,301,864	19,568	15.1	11,946	9.2	114	0.1
1992	1,312,526	19,382	14.9	12,066	9.3	3,346	2.6
1993	1,331,831	18,941	14.4	12,377	9.4	12,741	9.7
1994	1,344,769	18,874	14.2	12,788	9.6	6,852	5.1
1995	1,357,782	18,912	14.1	12,550	9.3	6,651	4.9
1996	1,367,729	18,822	13.9	12,688	9.3	3,813	2.8
1997	1,380,205	19,145	14.0	13,016	9.5	6,347	4.6
1998	1,392,222	19,345	14.0	12,695	9.2	5,367	3.9
1999	1,406,704	19,603	14.1	13,042	9.4	7,921	5.7
2000	1,419,849	19,343	13.8	13,357	9.5	7,159	5.1

Rates are per 1,000 persons.

Population counts are July 1 estimates. Components are for the previous year.

Source: U.S. Bureau of the Census and calculations by authors.

Over the last two decades, birth rates decreased, death rates increased, and migration reversed from net loss to net gain.

Jefferson County has half of the Louisville economic area population and had the largest numerical growth (28,000 persons) of the 23 counties from 1990 to 2000. Oldham, Shelby, Nelson, and Spencer—counties in Kentucky had the largest increases in share of the regional population.

Population of Louisville Economic Area

	Census Estimates				Shares of 23 County Region		
	1990	2000	change	% change	1990	2000	change
Breckinridge County, KY	16,312	18,648	2,336	14.3%	1.3%	1.3%	0.1%
Bullitt County, KY	47,567	61,236	13,669	28.7%	3.7%	4.3%	0.6%
Carroll County, KY	9,292	10,155	863	9.3%	0.7%	0.7%	0.0%
Clark County, IN	87,774	96,472	8,698	9.9%	6.8%	6.8%	0.0%
Crawford County, IN	9,914	10,743	829	8.4%	0.8%	0.8%	0.0%
Floyd County, IN	64,404	70,823	6,419	10.0%	5.0%	5.0%	0.0%
Grayson County, KY	21,050	24,053	3,003	14.3%	1.6%	1.7%	0.1%
Hardin County, KY	89,240	94,174	4,934	5.5%	6.9%	6.6%	-0.3%
Harrison County IN	29,890	34,325	4,435	14.8%	2.3%	2.4%	0.1%
Henry County, KY	12,823	15,060	2,237	17.4%	1.0%	1.1%	0.1%
Jefferson County, IN	29,797	31,705	1,908	6.4%	2.3%	2.2%	-0.1%
Jefferson County, KY	665,123	693,604	28,481	4.3%	51.5%	49.0%	-2.6%
Larue County, KY	11,679	13,373	1,694	14.5%	0.9%	0.9%	0.0%
Marion County, KY	16,499	18,212	1,713	10.4%	1.3%	1.3%	0.0%
Meade County, KY	24,170	26,349	2,179	9.0%	1.9%	1.9%	0.0%
Nelson County, KY	29,710	37,477	7,767	26.1%	2.3%	2.6%	0.3%
Oldham County, KY	33,263	46,178	12,915	38.8%	2.6%	3.3%	0.7%
Scott County, IN	20,991	22,960	1,969	9.4%	1.6%	1.6%	0.0%
Shelby County, KY	24,824	33,337	8,513	34.3%	1.9%	2.4%	0.4%
Spencer County, KY	6,801	11,766	4,965	73.0%	0.5%	0.8%	0.3%
Trimble County, KY	6,090	8,125	2,035	33.4%	0.5%	0.6%	0.1%
Washington County, IN	23,717	27,223	3,506	14.8%	1.8%	1.9%	0.1%
Washington County, KY	10,441	10,916	475	4.5%	0.8%	0.8%	0.0%
TOTAL - 23 County	1,291,371	1,416,914	125,543	9.7%	100.0%	100.0%	0.0%
Louisville MSA	949,012	1,025,598	76,586	8.1%	73.5%	72.4%	-1.1%

Source: US Bureau of the Census

Human capital

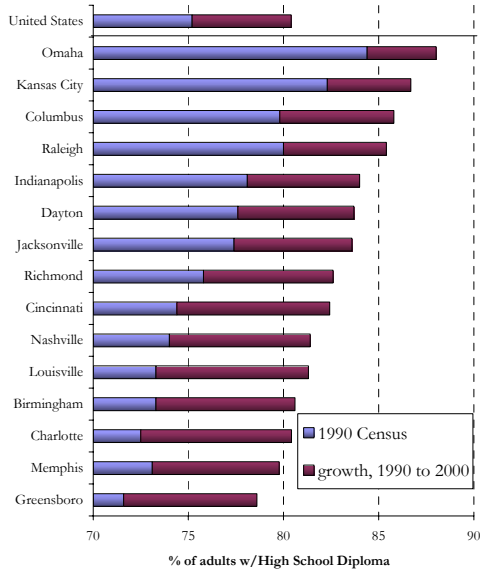
Human capital is a concept used by labor economists to represent the quality of the workforce. It encompasses the various traits acquired by workers—the expertise, skills, experiences, education, and motivation that contribute to gains in productivity. Accordingly, workers with more human capital are more productive and thereby receive higher pay.

Educational attainment

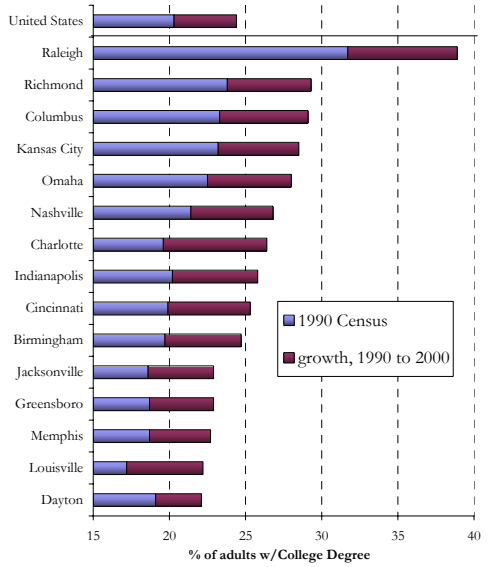
The Louisville area has historically ranked low in the rate of formal education of its population. Compared to its fourteen traditional competitors, the Louisville metro ranked eleventh in the rate of high school attainment of its adults in 1990, and fifteenth in college attainment. Our area has made some progress during the last decade, moving up one notch in the college attainment ranking. In this section we delve into some of the details behind these summary measures to learn more about the characteristics and trends in local human capital. We find that Louisville's low ranking is partly due to the age structure of the population, as our area has the second highest median age among the competitors. We explore the educational attainment of the youngest adult population, that aged 25-34, and find that the story is not so bleak and that the trends are positive, particularly for women.

Central counties One can often get different statistical signals by varying the geographic scope of comparison. In this report we use three basic geographic levels – county, metropolitan area, and economic area. We find that for most measures, there is little difference between the metropolitan area and economic area, as the MSAs are the most populated and industrially active portions of the economic areas. However, because of the vagaries of topography and history, there can be significant differences in ratings and rankings when one compares central counties versus metropolitan areas. Some central counties are physically quite small (Greensboro, Kansas City, Charlotte) and their urbanized area tends to spill into several adjacent counties. Other metros have very large central counties that account for most people and jobs (Memphis, Jacksonville, Columbus).

High School Attainment, 1990-2000
Louisville and 14 Comparison Metro Areas



College Attainment Rates, 1990-2000
Louisville and 14 Comparison Metro Areas



Louisville's central county, Jefferson, is relatively large in size and accounts for about seventy percent of the MSA population and about fifty percent of the population of the 23-county economic area. We have organized the most recent educational attainment data for all fifteen central counties of our competitor metros. Louisville ranks eleventh highest in both high school and college attainment of the adult residents among the central counties of our competitor metros.

Enrollment in postsecondary institutions

We can see from the charts to our right that Louisville ranks very low in the percentage of persons with a college diploma. With all the attention that has been given to education during the last decade, it is interesting to also look at the rate of participation at the college level.

The Louisville metro had nearly 51,000 persons attending college in 2000. This sounds high until we realize this is less than five percent of the population, or when we compare ourselves to other similar markets. Louisville ranked fourteenth among fifteen competitor metros in the number of persons attending college in 2000. Of course, two competitors are home to flagship universities – Columbus and Raleigh. But there is no reason Louisville could not have as many college students as Omaha or Dayton, two cities that are smaller than Louisville and do not have state flagship or nationally prominent universities.

Louisville ranks above Memphis, Jacksonville, Kansas City, and Indianapolis in the rate of college participation among persons aged 18 to 24. The Indianapolis rank is a bit misleading, as it is served by both Indiana and Purdue Universities in adjacent metro areas – Bloomington and West Lafayette. Louisville ranks higher in the participation rate for older students, those aged 25 or more, and this much larger cohort accounts for slightly over one-half of all college enrollment in the Louisville metro area.

Comparing the results of the last two censuses, we can see that college enrollment fell in Louisville over the decade by about 4,000 students. Some of this decline can be explained by demographic factors, in that the cohort size did not grow over the decade. Also, the strong economy lured

Educational Attainment of Adults, Central Counties, 2000

	High School		College	
MSA (Central Counties)	% of pop aged 25+	rank	% of pop aged 25+	rank
Birmingham (Jefferson)	80.9	14	24.6	12
Charlotte (Mecklenberg)	86.2	2	37.1	2
Cincinnati (Hamilton)	82.7	10	29.2	8
Columbus (Franklin)	85.7	3	31.8	4
Dayton (Montgomery)	83.5	5	22.8	14
Greensboro (Guilford)	83.0	7	30.3	7
Indianapolis (Marion)	81.6	12	25.4	9
Jacksonville (Duval)	82.7	9	21.9	15
Kansas City (Jackson)	83.4	6	23.4	13
Louisville (Jefferson)	**81.8**	**11**	**24.8**	**11**
Memphis (Shelby)	80.8	15	25.3	10
Nashville (Davidson)	81.5	13	30.5	6
Omaha (Douglas)	87.3	1	30.6	5
Raleigh (Durham)	83.0	8	40.1	1
Richmond (Richmond, Henrico, Chesterfield)	84.0	4	32.6	3
United States	80.4		24.4	

Source: US Census Bureau

Enrollment of Residents in College, Louisville and Fourteen Peer Metros

			Percent of Population Enrolled, 2000			
			Aged 18 to 24		Aged 25+	
Metropolitan area	Enrollment, Residents 18 and older, 2000	Growth in enrollment, 1990 to 2000	Share	Rank (of 15)	Share	Rank (of 15)
Birmingham	49,042	-1.5%	32.0%	8	3.6%	13
Charlotte	75,317	0.9%	27.9%	10	3.8%	9
Cincinnati	84,907	-5.3%	30.6%	9	3.7%	12
Columbus	116,962	-0.6%	39.7%	3	5.3%	3
Dayton	66,167	-6.4%	39.9%	2	4.5%	4
Greensboro	70,269	0.1%	34.6%	4	3.5%	15
Indianapolis	73,867	0.7%	24.2%	15	3.8%	9
Jacksonville	58,522	4.7%	26.4%	13	4.5%	4
Kansas City	88,942	-6.1%	25.0%	14	4.4%	6
Louisville	**50,797**	**-7.5%**	**27.7%**	**11**	**3.8%**	**9**
Memphis	59,413	-4.5%	26.7%	12	4.4%	6
Nashville	71,908	5.5%	34.3%	5	3.6%	13
Omaha	48,085	2.2%	33.7%	6	5.4%	2
Raleigh	107,035	5.7%	46.5%	1	5.7%	1
Richmond	58,093	-0.3%	33.6%	7	4.3%	8

Source: US Census Bureau. Students living in dormitories or off-campus are counted as residents of the county containing the college.

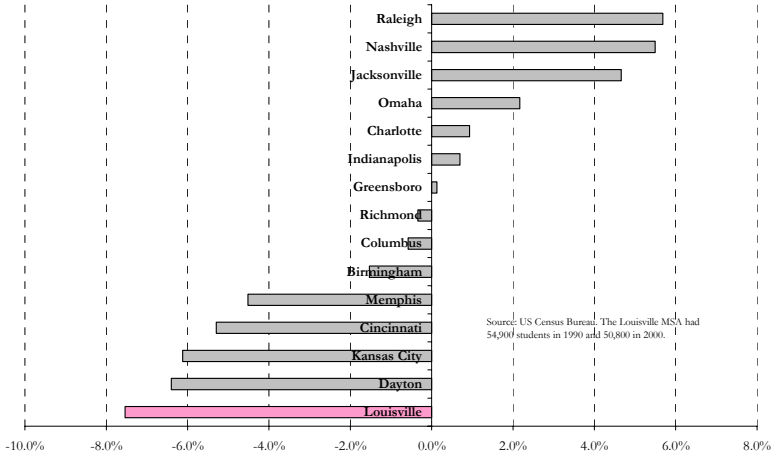
Degree-Granting Postseconday Institutions in the Louisville Area

	Degrees Granted			
	Graduate or Professional (post-bacculaureate)	Four-year Cacculaureate	Two-year Associate	Vocational
Bellarmine University	*	*		
Daymar College				*
Elizabethtown Community College *			*	
Elizabethtown Technical College *				*
Hanover College *		*		
Indiana University - Southeast	*	*		
Indiana Wesylan University, Lville Educ Cente	*	*	*	*
ITT Technical Institute		*	*	*
Ivy Tech Southcentral			*	*
Ivy Tech Southeast *			*	*
Jefferson Community College			*	*
Jefferson Technical College*				*
Kentucky Career Institute				*
Louisville Bible College		*	*	
Louisville Presbyterian Theological Seminary	*			
Louisville Technical Institute			*	*
McKendree College		*	*	
Norwood University, Kentucky Center			*	
RETS Institute of Technology			*	*
Southern Baptist Seminary	*			
Spalding University	*	*		
Spencerian College			*	*
St. Catherine College *			*	
Sullivan University	*	*	*	*
The Health Institute of Louisville			*	*
University of Louisville	*	*		
Webster University-Jeffersonville	*			

** located outside the seven-county Louisville metropolitan statistical area, but inside the twenty-three county Louisville economic area.*

Growth in College Enrollment, 1990 to 2000

Louisville and Peer Metros, residents aged 18 and older



many out of school and into the workplace. However, these factors were in play among our competitor markets also. Louisville suffered the greatest percentage decline in enrollments among the fifteen markets.

We are only now starting to track college enrollment and degrees annually in the Louisville area, and hence do not have yet a precise understanding of the relationship between educational activity at local institutions and the educational attainment of the resident population. Over the next decade we will monitor degrees granted by institution, in Louisville and its peer metros, using a comprehensive database from the National Center for Education Statistics.

We have identified twenty-seven degree-granting postsecondary institutions in the Louisville economic area, and have compiled published data on enrollments for the last decade. Fifteen of these institutions offer four-year college degrees and/or postgraduate degrees. Eight institutions offer two-year associate degrees, and thirteen offer vocational or technical degrees.

The Kentucky Council on Postsecondary Education and the Indiana Higher Education Council each keep statistics on enrollment and degrees granted at public and private colleges in their respective states. However, there are some differences in definitions and coverage between the two statistical systems, and a full reconciliation is beyond the scope of the current research. Moreover, neither system tracks activity at many of the private vocational and associate degree institutions in the area. We have organized enrollment data on these, as published annually in *Business First*, to help rough out activity during the last decade.

While the data are still incomplete, we can make some tentative observations. Two trends appear from our preliminary data. First, as observed in the Census data, there has been no growth over the last decade in total enrollments. This can be partly explained by the strong economy during the last decade, when immediate economic opportunities lured young people away from further schooling. Also, the number of persons aged 18-24 (the prime college-going age group) in the Louisville metro area, was unchanged during the decade. We do not know yet how enrollments translated into degrees, but presumably the general pattern for degrees received will be similar to that for enrollments.

Second, enrollment in graduate and professional schools rose by about 1,000 students, from a base of about 7,000 students at the beginning of the decade. Most of the growth in graduate enrollment occurred at the University of Louisville, though gains were also posted at Indiana University-Southeast, Sullivan University, Spalding University and Bellarmine University

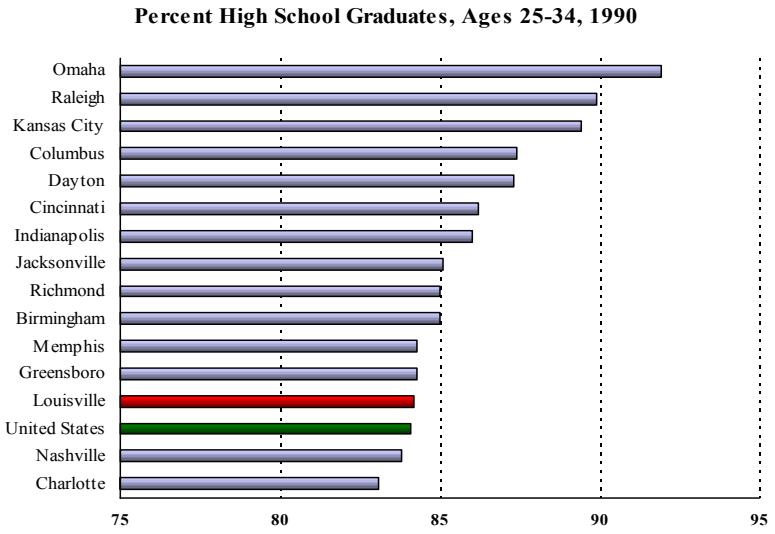
A natural question to ask is: what level of local postsecondary enrollment would it take to move Louisville's college attainment rate up significantly? While there is not a one-to-one relationship between enrollment and graduation, nor between graduation rates at local colleges and the college attainment rate of the resident population, there will be a strong correlation.

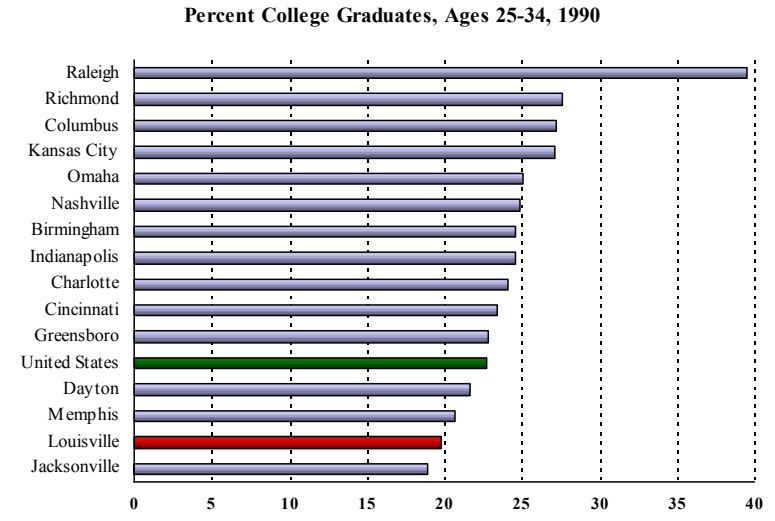
Louisville would need to add about 5,300 college students in the 18 to 24 age group to move from eleventh to seventh in the college participation rate for young adults. Louisville would need to add about 4,800 students in the aged 25 and older group to move up from ninth to fifth in that ranking. Overall, this would represent a twenty percent increase in college enrollment in the Louisville metro area.

The comparison markets will continue to attract young educated persons and to expand their local colleges, so there is no guarantee that raising local college enrollments by twenty percent will move us up significantly in the college attainment rankings by 2010. But it seems certain our ranking would be better than if we simply maintained current enrollment levels. Given that the University of Louisville is accenting graduate education and research, the bulk of the increased enrollment will need to be met by other area institutions.

Young adults: brain drain, brain gain

Of concern among Louisville leadership has been the loss of human capital, because of the out-migration of young adults and the relatively low education levels of the indigenous population. Younger people are more likely to have completed college than those now in their sixties and seventies. The Louisville labor market, it was feared, could not provide enough new, high paid jobs to retain the best and brightest of the youth population and labor force entrants. Moreover, there is concern that





Louisville's economy has not been renewing itself with fresh knowledge-based firms, those typically started by young educated persons. Previous data indicate that Louisville was losing younger, more educated workers while competing markets—such as Indianapolis and Nashville, were attracting human capital.

See charts for a summary of the 1990 Census results as regards educational attainment of young persons. The Louisville metro area ranked thirteenth among the fifteen comparison markets in high school attainment, and fourteenth in college attainment. Moreover, Louisville lagged several southern cities that we had presumed were lagging us – Greensboro, Memphis, Birmingham.

This so-called *brain drain* may indeed have been the Louisville story of the 1970s and 1980s. The Louisville MSA did experience an out-migration, a net loss, of young adults over these decades. During this period, the largest age cohorts of the baby boom generation were entering the workforce. The local supply of new workers exceeded demand and many young workers left for faster growing labor markets. As shown for the Louisville MSA in the table above, the cohort born from 1950 through 1959 (shaded cells) decreased in size by 20,000 persons, 11 percent, from 1970 to 1990. The next cohort of labor force entrants, born 1960 through 1969, lost another 20,000 (13 percent) in half the time, 1980-1990. These declines far exceeded those expected from mortality, indicating net out-migration

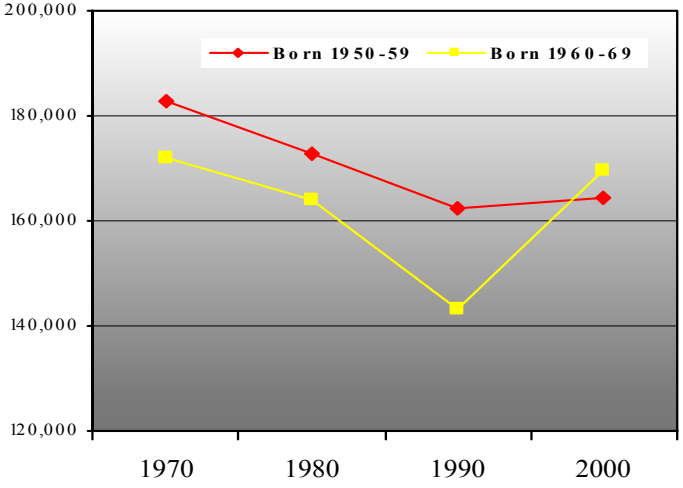
Ten-year age cohorts (ages 10-49): Louisville MSA

Number of persons	1970	1980	1990	2000
ages 10-19	182,629	163,944	135,560	139,403
ages 20-29	132,258	172,652	143,107	134,611
ages 30-39	102,260	135,181	162,270	169,600
ages 40-49	110,118	96,879	125,106	164,244

Source: US Census Bureau

Baby boomers left Louisville in the 1970s and 1980s, to return in the 1990s.

Change in size of baby boom cohorts: Louisville MSA



Because migrants are generally better educated than non-migrants, the loss of young adults was doubly detrimental to Louisville's stock of human capital. In 1990, Louisville ranked near the bottom of the list of fifteen traditional competitor metro areas in terms of the educational attainment of young adults. The Louisville MSA was at the national average, but ranked 13th among the comparison metros for the percent of persons ages 25-34 who had graduated from high school (84 percent). For the same group of young adults, Louisville ranked 14th in higher education with 20 percent college graduates. Nationally, 23 percent of persons ages 25-34 were college graduates. Justifying local fears, Indianapolis and Nashville were both above the national average.

Has the drain been plugged?

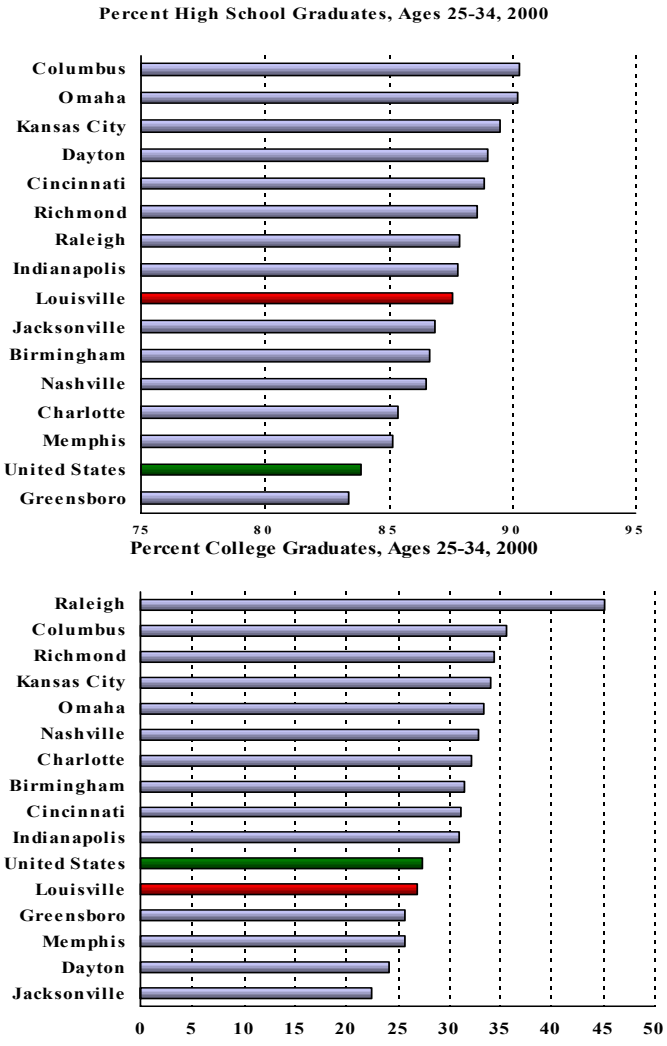
Over the 1990-2000 decade, the net out-migration of young adults from the Louisville MSA began to cease as birth cohorts that had previously decreased in size were returning. Moreover, Louisville's young adults became better educated and Louisville improved its position among competing markets on workforce quality.

After two decades of net out-migration and decline, the baby boom cohorts increased in size in the Louisville MSA from 1990 to 2000. The cohort born 1950-59 had experienced consecutive decennial losses of 10,000 persons before 1990. Over the following decade, this *boomer* cohort grew by 2,000 persons. The cohort born 1960-69 had a more dramatic turnaround. Following a 13 percent decline over the 1980-90 decade, these *late boomers* increased by 26,000 or 19 percent over the 1990-2000 decade, indicating significant net in-migration of young adults and labor force entrants.

Since the 1960s, a dramatic decline in birth rates and out-migration combined to reduce the local supply of labor force entrants in the Louisville MSA. The size of the youth cohort ages 10-19 fell by 47,000 or 26 percent from 1970 to 1990. The MSA job growth of the 1990s increased the demand for new workers beyond the available local supply. To meet the rising demand, workers were attracted from a larger commuting area (the 23 county region) and by net in-migration of younger workers into the metro area.

While substantially smaller than earlier birth cohorts in the Louisville MSA, those born during 1970-79 decreased their cohort size by less than one percent as they made the transition from ages 10-19 in 1990 to ages 20-29 in 2000. Reflecting the feminization of the workforce, the number of females in this cohort actually increased by 1,600. Young males, meanwhile, decreased in size by 2,500. However, nationally this cohort grew by 10 percent and in only two other competitor metros—Cincinnati and Dayton, did this youth cohort not increase.

During the 1990s, the in-migration of young adults who were ages 20-29 in 1990 and ages 30-39 in 2000 into the Louisville MSA was an important component of how jobs were filled. The growth of this cohort in the Louisville MSA (26,000 or 19 percent) was fourth largest among the competitor metro areas. For the US as a whole, this cohort grew by seven percent.



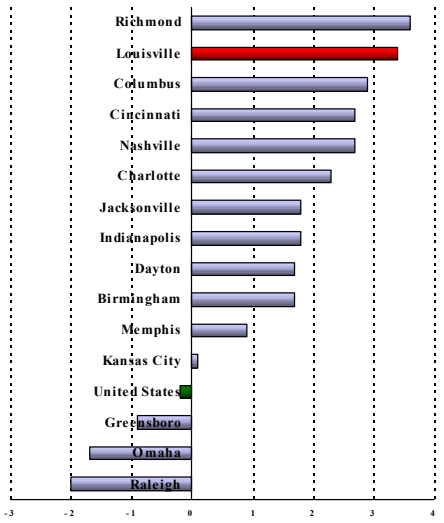
Educational improvement

In 1990, relatively low levels of educational attainment caused concern over the quality of the Louisville labor force. Over the following decade, the Louisville population, especially young adults, became better educated. Among the 15 competitor metro areas, the Louisville MSA had the second best improvement in the basic education rate of its young adults. The percent of persons aged 25-34 completing high increased from 84 percent to 88. Nationally, this percentage actually dropped. Louisville's ranking among its competitor metros improved from 13th in 1990 to 9th in 2000.

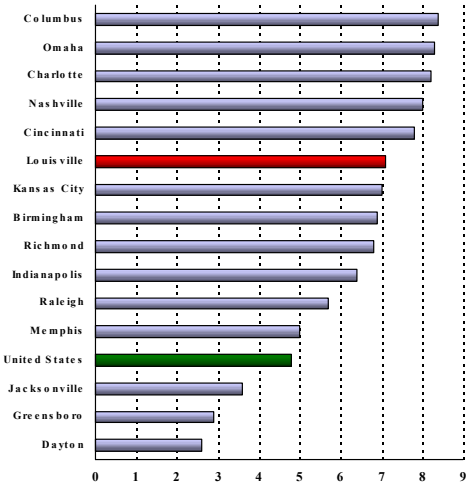
The Louisville MSA also improved in the higher education of young adults. For ages 25-34 in the MSA, the percent completing college increased from 20 percent in 1990 to 27 percent in 1990, nearly equally the national rate. With the sixth best improvement among the comparison metros, Louisville's ranking rose from 14th to 11th. Graduate school or professional school graduates of the same ages increased from five percent to seven percent in the Louisville MSA. Louisville's ranking among its competitors for those with post-graduate degrees - including doctors, lawyers, and teachers - improved from 10th to 8th.

Young women more than young men have invested in their human capital by continuing their education. In the Louisville MSA, women no matter their age were more likely than men to be enrolled in college or graduate school in 2000. In the MSA, while college enrollment rates for females remained steady or increased, males ages 18-24 enrolled in college fell from 30 percent in 1990 to 24 percent in 2000. Reflecting their higher enrollments, young women under age 35 were more likely than their male counterparts to be a college graduate. For ages 35-44, men and women were equally likely to be college graduates. Men had an advantage over women in higher education only in cohorts older than age 45. In 1990, males were better educated in all cohorts above age 25. In the Louisville MSA as elsewhere, young women have led the way in improving the educational quality of the workforce.

Change in Percent High School Graduates
Ages 25-34, 1990-2000



Change in Percent College Graduates
Ages 25-34, 1990-2000



Earnings per job

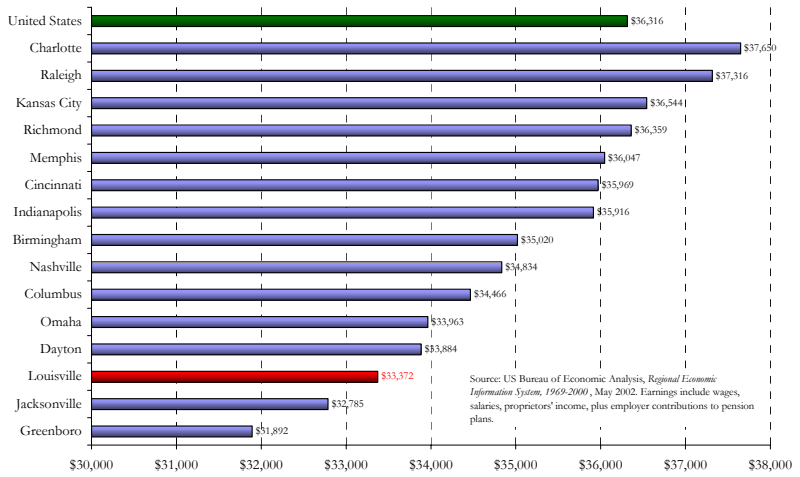
There is a reliable and well-understood relationship between education and earnings. Labor economists can predict with good accuracy the average economic returns per year of schooling. There are anomalies. For example, it is common to observe a construction worker with but a high school diploma earning more than someone with a masters degree in social work. Yet, over a worker's life and over the entire labor market, it is clear statistically that formal education leads to higher earnings.

According to the latest data, Louisville ranks thirteenth among the fifteen comparison metros in terms of total earnings per job. At the bottom of the ranking are the other metros with low rates of college attainment – Greensboro, Jacksonville, and Dayton.

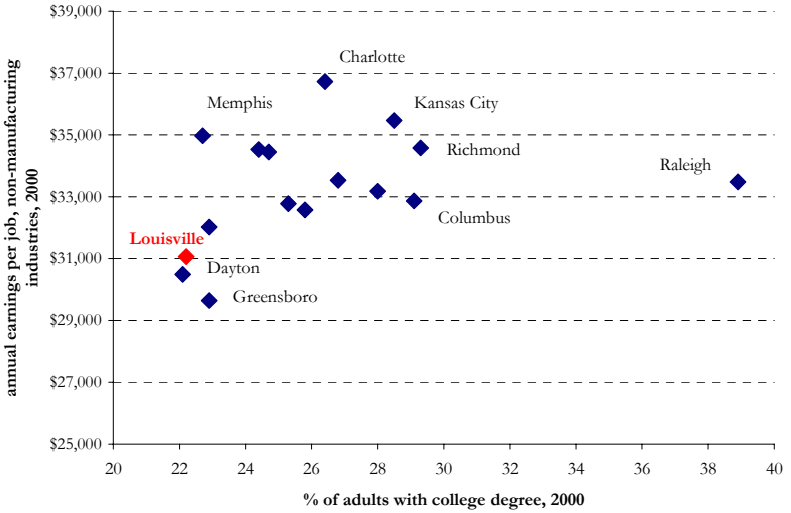
Of perhaps more concern is that Louisville ranked twelfth in *growth* in earnings per job over the decade. Louisville's strength during the post-World War period was manufacturing, and these jobs still pay relatively well (nearly $50,000 per year). However, that sector posted no net job growth between 1990 and 2000, while the metro economy added 127,000 jobs. It is in the service sector - particularly business services, health services, finance, engineering, management – that Louisville has lagged, and these are the industries and professions that require the most formal education.

In the final chart, we organize the most recent data on college attainment rates and annual earnings per job in industries outside of manufacturing. The positive relationship between formal education and earnings is clear. There should be little doubt about the economic advantages to raising educational activity and attainment in the Louisville market.

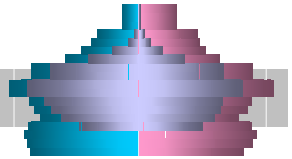
Average Annual Earnings per Job, 2000



College Attainment and Earnings per Job
Louisville and 14 Comparison Metro Areas, 2000



Conclusions & recommendations



The release over the last few months of the detailed results from the 2000 Census has given us a once-in-a-decade opportunity to assess Louisville's labor force in detail. In this report, we have summarized the key measures of importance to policy makers. We provide a rich profile of the workforce status of the regional population. We show how jobs were filled during the last decade - by a mixture of population growth, a reduction in unemployment, but most importantly by a large increase in the rate at which females hold jobs in the marketplace.

We have also analyzed the primary demographic developments of the last decade, and have pointed out Louisville's relatively low birth rate and high mortality rate. The acceleration in population growth since the mid-1980s is primarily due to migration. Louisville's population remains relatively uneducated, at least in comparison to its traditional metropolitan peers. This is true for all age groups and at all education levels. The low ranking in educational attainment parallels Louisville's low ranking in earnings per job in the service sector. But there are signs of recent improvement, particularly for young adult women, and largely due to the in-migration of more educated persons.

What can business and civic leaders do to enhance the quality of the regional workforce? Certainly, many factors are beyond local influence. Louisville will never be able to offer the year-round perfect weather of many of California's cities, the skiing and hiking opportunities of Colorado and Utah cities, nor the beaches and winter sun of Florida cities. These natural endowments have caused parts of the United States to boom with young educated and affluent workers, despite other impediments they may have. Indeed, it seems that Louisville and many other mid-continent cities only attract people when they have industrial spurts that lure workers from smaller communities with even less natural advantages.

Louisville also suffers relative to many of its competitors due to manmade factors. Indianapolis, Nashville, Columbus, Raleigh, and Richmond are state capitals. This not only gets them special attention when state policies are designed, but also a large built-in core of professional jobs, downtown office space, and a driver for their hospitality industries. Furthermore, Louisville competes with several grown-up college towns, like Columbus and Raleigh, home to major league research universities that attract a continual flow of the most educated people in the world. Indianapolis is well served by adjacent Indiana University and Purdue University. Nashville has Vanderbilt. Louisville leaders would do well to accelerate efforts to turn the University of Louisville into more of an economic development asset. They should also consider ways to move some state government operations to Louisville. There is no longer any economic, technical or political reason to keep thousands of state workers within a few miles of the governor's mansion. In fact, a strong case can be made that state government would be more effective if its workforce could benefit from an interaction with the insurance, health care, engineering, financial, and legal communities that exist in Louisville.

> Louisville needs to increase college enrollments by twenty percent just to move towards the middle of the rankings in postsecondary participations rates.

While Louisville leaders cannot control the weather or topography, they can influence the local quality of life. Manmade amenities - like parks, public art, local schools, bike paths, architecture and landscaping, and transportation infrastructure – can greatly enhance the attractiveness of Louisville to mobile residents and businesses. The new riverfront park, the sports venues, the museum district on Main, and the coming Cordish plan for downtown all help Louisville compete with Indianapolis, Nashville and Cincinnati in the perpetual hunt for human capital around the middle of America. But other cities are moving ahead quickly in the same dimensions, and Louisville needs to do much more. Spaghetti junction should be fixed immediately. More bridges over the Ohio River should be built right away. Other bold transportation initiatives should be considered, like removing sections of interstate highways downtown, a light rail connection between the Convention Center and the Kentucky Fair and Exposition Center, bike lanes along major arteries and across the river, and continued improvements at Louisville's special Olmstead parks.

Louisville leaders should also convert state laws and practices to match modern urban realities. Current state government structures and policies largely reflect economic realities of the 1950s, when agriculture and mining were major employers, and when much of the state was without transportation and education infrastructure. High state taxes should now be phased out, replaced by more local option taxes. State redistribution formulas for education and transportation should be overhauled, to remove their strong and expensive rural biases. A new bi-state regional planning authority should be created in Louisville, one that encompasses the de facto labor, housing, retail, hospitality and transportation markets. There are so many overlapping local and state jurisdictions that really no agency is concerned with high quality growth in land use or regional amenities.

Finally, Louisville needs to mount a major push in the education arena, and at all levels. Over the past decade, Louisville's taxpayers have probably spent more additional money on education in the rest of the state than in their own community. With all the attention given to education and its economic importance during the last decade, it is sobering to see the mediocre results for Louisville in the last census. College enrollments actually fell. Louisville (barely) moved up from last to second-to-last among the fifteen comparison metros in the college attainment rate for adults. Local K-12 schools are crowded, and the urban core has special challenges with students from weak families, students from foreign countries, and court-required busing to achieve elusive desegregation goals. A major push is needed to redirect the significant educational resources at the state level to Louisville's very real needs. Another push is needed to turn Louisville into more of a postsecondary learning community. Louisville needs to increase college enrollments by twenty percent just to move towards the middle of the rankings in postsecondary participation rates. And we need to keep up the political and cultural pressure to move the University of Louisville into a different league for research, graduate programs, and its overall national reputation.

These efforts, if aggressively pursued, will have great results for our workforce and our regional economy. Not only will more talented people be attracted to Louisville, more home grown talent will decide to stay in Louisville. More graduate students will choose to launch their businesses and careers here. Better job opportunities will emerge in corporate headquarters that want to cite here. Air service will improve, as professional people choose to live and work out of Louisville. Political leadership at the state level will emerge from its largest urbanized area. Louisville's downtown will thrive with residents, who will then support grocery stores, bookstores, repair shops and the whole array of urban retail life that has been lost over the past half century. And the whole region will develop a renewed sense of pride in its hometown.

Louisville needs to mount a major push in the education arena, and at all levels.

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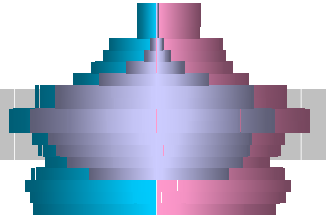

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