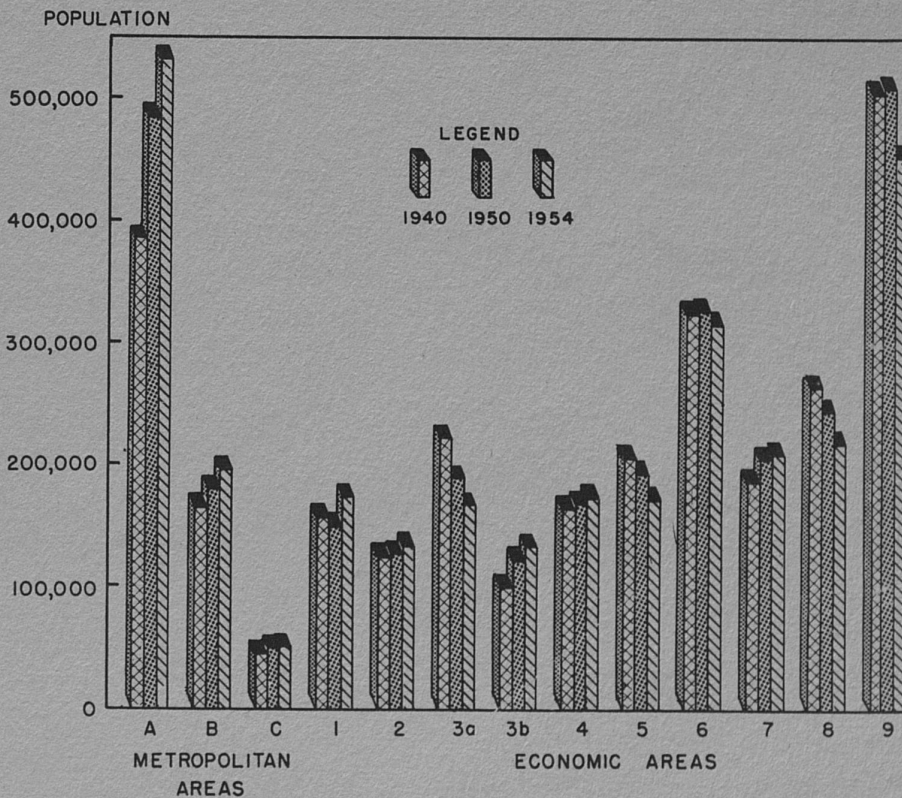


# *Population Estimates* *for Kentucky Counties,* June 30, 1954



(For Economic Area Map and Index of Counties,  
See Pages 13 and 14)

**AGRICULTURAL EXPERIMENT STATION**  
**UNIVERSITY OF KENTUCKY**  
**LEXINGTON**

December, 1954

ESTIMATED POPULATION JUNE 30, 1954, NATURAL INCREASE AND

ESTIMATED NET MIGRATION APRIL 1, 1950, TO

JUNE 30, 1954, KENTUCKY, BY COUNTIES

By Paul D. Richardson

Department of Rural Sociology

Kentucky Agricultural Experiment Station

University of Kentucky

Lexington

### The State

According to an estimate made by the Department of Rural Sociology, Kentucky's total population<sup>1</sup> as of June 30, 1954, was 2,944,000. The estimated population at that time was virtually the same as the 1950 U. S. Census total population figure, 2,944,806. For all practical purposes, since the 1954 figure is based on an estimate, there has been no net change in Kentucky's population since 1950. Annual estimates by the U. S. Census Bureau, however, indicate that there was a decline in Kentucky's population of approximately 60,000 from 1950-1952, but that the loss has now been regained.

The net loss through migration for the period of approximately 4 years, ending June 30, 1954, was 209,000, an annual loss of a little more than 49,000 persons. The net loss through migration, however, was almost completely offset by the gain in population through natural increase. The excess of births over deaths amounted to 208,000<sup>2</sup> for the period, or a little less than 49,000 per year.

- 
1. Includes U. S. Army personnel stationed in Kentucky and excludes military personnel with preservice residence in Kentucky.
  2. The vital statistics data were provided by the Division of Statistical Services, Kentucky State Department of Health, 620 South Third Street, Louisville 2, Kentucky. The data for the first six months of 1954 are from preliminary reports, with adjustments made to allow for incompleteness of these reports. The State Department of Health will publish county estimates later based on complete 1954 vital statistics.

The loss of population through migration is, of course, not a new development in Kentucky; rather it is a continuance of a long-time trend, and is to be explained, for the most part, by familiar factors. There is a continuing movement from farms to cities, from agriculture to industry. Because of Kentucky's relative lack of industrial centers, compared with nearby states, thousands of Kentuckians have moved to business and industrial jobs outside the state.

Population Trend 1940-1950

During the last intercensal period, April 1, 1940 to April 1, 1950, Kentucky's population increased 95,061.<sup>3</sup> In this decade there were 752,440 births and 284,391 deaths--an excess of births over deaths of 468,049. If Kentucky could have held this natural increase, its population in 1950 would have been 3,317,794.<sup>3</sup> However, the net loss of 372,988 through migration during the decade drained off most of the gain through natural increase so that the state's population in 1950 was 2,944,806.<sup>4</sup>

This represents a gain in Kentucky's population during the intercensal decade of 3.3 percent, compared with no change during the past 4 years. The average annual gain through natural increase, 1940-50, was 46,300, while during the past 4 years the annual gain was 49,000. The average annual net loss through migration for the 10 year period was 37,300, and during the past 4 years it was slightly more than 49,000.

---

3. Based on the adjusted 1940 population (2,849,745).

4. Cf. Brown, James S. and Richardson, Paul D., Changes in Kentucky's Population by Counties -- Natural Increase and Net Migration, RS-5, Department of Rural Sociology, University of Kentucky, Lexington, Kentucky.

These comparisons reveal an apparent continuation in the 1940-50 migration trend in the state as a whole.

Developments within the state itself have influenced shifts and changes among the various sections. Among these developments are: increasing importance of Louisville as an industrial center, the construction of the AEC plant near Paducah and other industrialization in the Purchase, the decline of employment in coal mining, changes connected with Army camps (Fort Knox, Fort Campbell, Camp Breckinridge), the mechanization of agriculture, other changes in agriculture (such as the shift to grassland farming, development of new crops and increasing or decreasing emphasis on old crops), the higher birth rate and the arrival at school age of the so-called "war babies." The various sections of the state obviously have been differently affected by these developments, and in the discussion below of changes in the areas some of these differences will be noted.

#### Suggestions for Interpreting These Estimates

While these estimates have been prepared as carefully as possible, it must be emphasized that they are only estimates and as such are subject to the limitations of the methods used in reaching them.<sup>5</sup> The basic data for these estimates were school enrollment figures,<sup>6</sup> and the basic

---

<sup>5</sup> The procedure followed in making these estimates is basically Method II as illustrated by Norman Lawrence and Benjamin Greenberg in Current Population Reports, Series P-25, No. 20, "Population Estimates," Bureau of the Census, Washington 25, D. C. For comments on the procedure and a brief summary of the method used in arriving at the state population estimate see page 20.

<sup>6</sup> School enrollment data were provided by the Kentucky State Board of Education, Division of Census and Attendance, Frankfort, Kentucky.

assumption on which these estimates were made is that the proportion of children 7-15 years of age enrolled in grades 1-8 was the same in 1954 as in 1950. This is probably a safe assumption in the case of large areas (such as the United States or Kentucky as a whole), but it is less likely to be true when small populations, such as those of counties, are estimated on that basis because relatively small population shifts of certain kinds greatly affect estimates based on school enrollment figures. For example, if a disproportionate number of single men, single women, or childless couples enter or leave a county such migration is not reflected in school enrollment figures. The estimate of the county's population based on school enrollment, therefore, may well not indicate an increase or decrease as great as there actually has been.

Persons interpreting these county estimates, then, need to ask themselves: Is there anything in the county's situation which might make estimates based on school enrollment figures less valid than in the usual case?

#### Economic Areas of Kentucky<sup>7</sup>

The various sections of Kentucky have been differently affected by shifts in population during the past 4 years, as an analysis of the changes in the 3 metropolitan areas and the 10 economic areas shows

- 
7. "State economic areas are relatively homogeneous subdivisions of States. They consist of single counties or groups of counties which have similar economic and social characteristics .... In the establishment of State economic areas, factors in addition to industrial and commercial activities were taken into account. Demographic climatic, physiographic, and cultural factors, as well as factors pertaining to the production of agricultural and nonagricultural goods, were considered." Donald J. Bogue, State Economic Areas, U. S. Bureau of the Census, Washington, 1951, p. 1.
  8. See Figure 1 on page 13 for the Census Bureau's delineation of the metropolitan areas and non-metropolitan economic areas in Kentucky. Counties are listed according to economic areas on page 14.

(Table 1). All 3 metropolitan areas and 5 of the 10 non-metropolitan economic areas gained in population. The percentage<sup>9</sup> change in all 13 economic areas ranged from a gain of 16 percent to a loss of 11 percent.

a. Metropolitan Economic Areas

Among the metropolitan areas one, Metropolitan Area C (Boyd County), gained but slightly, while the other two made substantial gains. Metropolitan Area A, (Jefferson County) gained at about the same rate from 1950 to 1954 as during the 1940-50 decade. The rate of gain in Metropolitan Area B (Campbell and Kenton Counties), during the past 4 years was about twice that of the preceding decade.

Although Metropolitan Area C shows an increase in population since 1950, it lost more people than it gained through migration. The loss of 3,600, however, was more than offset by the natural increase (excess of births over deaths) of 3,700. The other two metropolitan areas had gains through migration as well as by natural increase.

b. Non-metropolitan Economic Areas

Even though 5 of the 10 non-metropolitan economic areas gained in population during the past 4 years, only 3 of them gained through net migration. Gains of this nature in two of the economic areas (3b and 4) are attributed to changes in military personnel. The only other economic area to gain more than it lost through migration was Economic Area 1. The other seven economic areas lost more persons through migration than they gained.

---

9. Throughout this paper percentages are given in terms of the 1950 population.

Economic Area 1 (The Purchase Area) had a smaller population in 1950 than it had in 1910. Since 1950, however, it has had a gain through net migration of 16,000 in addition to the gain of 8,000 through natural increase. The gains have increased the population in the area to its highest peak, and amount to a 16-percent gain over the 1950 population. This remarkable increase was due primarily to the construction of the AEC plant near Paducah.

Five of the eight counties in Economic Area 1 gained in population from 1950 to 1954. Four of these five counties gained through migration as well as by natural increase. The largest gain in population during the period (58 percent) was made by Ballard County. McCracken County, with a gain of 41 percent over its 1950 population, had the second largest percentage gain. The three counties which decreased in population were those which were the most distant from the AEC development project. Both Fulton and Hickman counties had losses of 11 percent.

Economic Area 2 (the Owensboro-Henderson Area) made a modest gain in population from 1950 to 1954, but only because the natural increase more than offset the net loss of 3,700 through migration. The percentage increase, however, was at a much higher rate than during the 1940's. The gains by the two urban counties, Daviess and Henderson, more than offset the losses of the three rural counties in the Area. Daviess County was the only county in the Area making a gain through migration during the period.

Economic Area 3a (Western Coal Field Area) lost heavily during the 4 year period. The loss in population since 1950 has been at approximately twice the rate of loss during the decade ending in 1950. Not one of the



12 counties in the Area gained in population during the past 4 years. This means that each county in the Area lost more through migration than it gained by natural increase. Seven of the counties lost more than 10 percent in population. The greatest loss in the Area was Ohio County (18.1 percent) and the smallest loss was in Livingston (1.8 percent). The heavy losses in this Area were primarily related to changes in coal mining, although changes in agriculture were also of some importance.

Economic Area 3b (Eastern Pennyroyal and Knobs Area) had a substantial gain (9 percent) in population between 1950 and 1954. The increase was at about the same rate as that made between 1940 and 1950. A major portion of this gain is due to changes in military personnel stationed in Hardin County. In fact, without the gains through changes in the military personnel Hardin County would have shown a decrease in population. When the military shifts are considered, the county had an increase of 26 percent over its 1950 population. Bullitt County was the only other county in the Area, in addition to Hardin, that gained through migration. All but two of the seven counties, Green and Hart, however, showed gains in population during the period. The population loss in Green and Hart Counties during the 1940's has been even heavier over the past 4 years.

Economic Area 4 (Pennyroyal Area) also made a substantial gain (8 percent) during the past 4 years. This gain was due almost entirely to the spectacular increase of 50 percent in Christian County's population. Barren County held its own, while the other five counties lost in

population. Here, as in Economic Area 3b, changes in military personnel spelled the difference between gain and loss in population in an economic area. Without the gains through military shifts, Christian County would have gained, but not enough to make up for the losses in other counties in the Area. Four of the five counties that decreased in population lost more than 8 percent.

Economic Area 5 (Eastern Highland Rim or South Central Knobs Area), followed closely by Economic Area 9, had the heaviest loss, on a percentage basis, of any economic area in the state. During the 4 year period its loss was 11.4 percent, a loss of 22,000 in population. This is a heavier loss than that between 1940 and 1950. Only Economic Area 9 had a greater numerical loss (58,000) during the period. All 12 counties in Economic Area 5 lost in population. Russell County had the heaviest loss (19 percent) and Lincoln County the smallest (8 percent). The losses of the other counties, with the exception of Clinton (18 percent), ranged from a little less than 9 percent to 13 percent.

Economic Area 6 (Outer Bluegrass Area) declined slightly (3 percent) from 1950 to 1954. During the decade ending in 1950 the population of the Area remained virtually stationary. There was a wide variation in population changes in the 26 counties of this large Area. The changes ranged from a 16-percent gain in Boone County to an 18-percent loss in Washington County. Only six of the counties gained, while 20 lost, in population. All of the counties that gained had urban centers or were located adjacent to metropolitan areas. Eight of the counties lost more than 10 percent in population, while six lost less than 5 percent. The Outer Bluegrass Area as a whole, then, continued its long-time trend of relative stability in

population size, declining slightly in the rural counties and increasing in the urban areas.

Economic Area 7 (Inner Bluegrass Area) continued to gain at approximately the same steady rate as during the 1940's. Three of the eight counties in the Area had approximately the same population at the close of the 4 year period as they had at the beginning. Two counties gained approximately 5 percent, and three lost from 3 to 6 percent. The two counties with the highest percentage loss (4.4 and 5.8 percent) both have urban centers with a population of about 5,000. Obviously the rural areas in these two counties are losing more population than the urban centers are gaining. None of the counties, including Fayette, gained through migration.

Economic Area 8 (Cumberland Plateau Margin Area) which had the heaviest loss among economic areas on a percentage, as well as numerical, basis between 1940 and 1950 lost in population at about the same rate during the past 4 years. Only two of the 17 counties (Elliott and Greenup) in the Area gained in population. Losses in the other 15 counties ranged from 4 percent in Powell and Lewis to 22 percent in Magoffin County. This Area with a great preponderance of families on small farms has lost a steady stream of migrants during the past 14 years. Many of these have probably been lost to the Ashland-Huntington Metropolitan Area, and, more recently, to the AEC development in nearby southern Ohio.

Economic Area 9 (Cumberland Plateau Area) had by far the heaviest loss numerically of any other economic area during the past 4 years. The Area decreased 58,000 in population during that time. This heavy loss in

population occurred in spite of the high rate of natural increase. There was an excess of births over deaths during the period of 48,000. The net out-migration not only cancelled out the gain through natural increase but reduced the 1950 population by another 58,000. In other words, the net out-migration (106,000) was more than twice the amount of natural increase for the Area. Between 1940 and 1950 the population of this Area remained virtually stable with a gain of less than one per cent.

Only one of the 14 counties in this Area gained in population during the past 4 years. Even this county, Leslie, had a net loss of 1,500 through migration, but the natural increase of 2,216 was great enough to more than overcome the loss. Of the 13 counties losing in population during the period only one had a loss of less than 8 percent. Ten of the counties had losses of more than 10 percent. The greatest loss in the Area, 16 percent, was sustained by Bell County.

#### Changes in Population By Counties

The changes in population, including natural increase and net migration, are set forth in Table 2. Thirty of Kentucky's 120 counties, or one-fourth of the counties in the state, showed gains in total population between April 1, 1950 and June 30, 1954.<sup>10</sup> Less than half of these counties (14 counties), however, made net gains through migration. Said another way, only 14 counties made gains through both migration and natural increase.

---

<sup>10</sup>. See Figure 2 (p.19) for map indicating counties in Kentucky showing gain, loss, or no change in population during the past 4 years.

Four counties in the state have gained more than 25 percent since 1950; Ballard County gained 58 percent, Christian gained 50 percent, McCracken gained 41 percent, and Hardin gained 26 percent.<sup>11</sup> Only 7 of the remaining 26 counties making gains during the period had population increases of 10 percent or more.

As would be expected, Jefferson County had the highest numerical gain (49,000) in population during the period. Natural increase, however, accounted for 37,000 (75 percent) of the gain. When increase in population through migration alone is considered both Christian and McCracken Counties made larger numerical gains than Jefferson.

Among the 90 counties with a loss in population since 1950, 45 (one-half) lost 10 percent or more, 28 lost between 5 and 10 percent, and 17 lost less than 5 percent. Magoffin County with a 22-percent loss in population had the highest percentage loss. Harlan County with a loss of 9,700 had the greatest numerical population decrease among the counties.

The greatest loss through migration, without considering gains by natural increase was also in Harlan County (16,000). Pike with a loss of 15,000 and Floyd and Bell with a loss of 12,000 each were next. It is interesting to note that three of these four counties had more than 50 percent of employed males, 14 years of age and older, engaged in mining in 1950.<sup>12</sup> Changes in mining undoubtedly accounted for a large part of the heavy losses in these counties.

---

11. The reasons for these gains have been discussed before under Economic Areas 1, 3b, and 4.

12. These counties are Floyd, Harlan, and Pike; Bell County had 34 percent so employed.

The map on page 19 indicates clearly that for the most part the counties that increased in population during the past 4 years either contain or are clustered around large population centers. With the exception of Bell, Hopkins, and Warren, all counties having cities of 10,000 or more persons gained in population<sup>13</sup> during the past 4 years. The trend from rural to urban areas is more evident when the location of the counties that had net gains through migration is considered. These counties are: Ballard, Boone, Bullitt, Campbell, Carlisle, Christian, Daviess, Hardin, Jefferson, Kenton, McCracken, Madison, Marshall, and Oldham. It is evident that the long-time trend of concentration of the state's population in urban areas is continuing.

---

13. The gain in Boyd County was less than 1 percent.

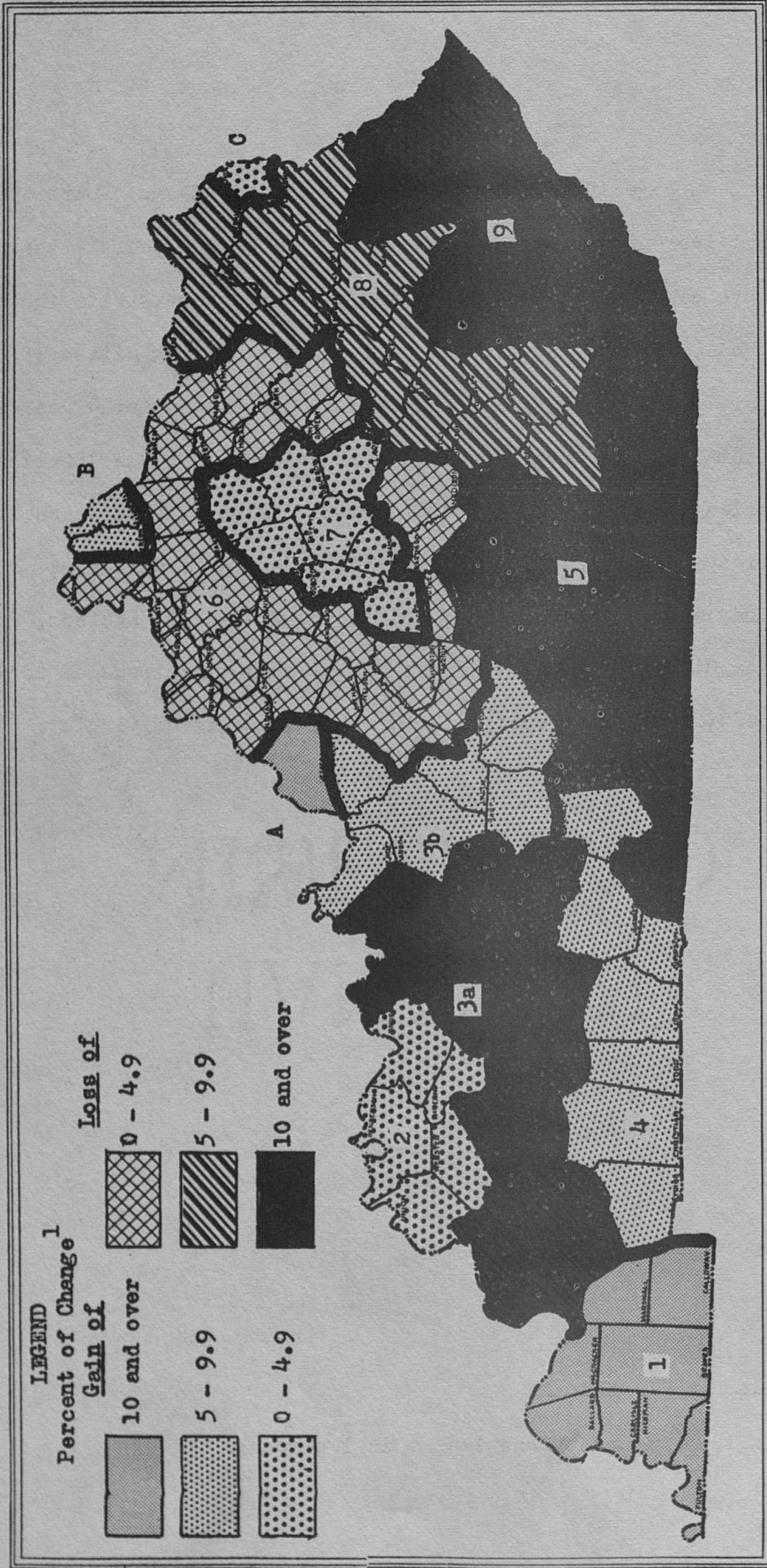


Figure 1.--Percent Change in Population, Kentucky Economic Areas,<sup>1</sup> April 1, 1950 Through June 30, 1954

1. It cannot be assumed that each county in the various economic areas had the same population change as that indicated for the entire economic area. For changes in individual counties see Table 2 and Figure 2.

---

METROPOLITAN AREA A	Economic Area 4	Economic Area 7
Jefferson	Barren	Bourbon
	Christian	Clark
METROPOLITAN AREA B	Logan	Fayette
Campbell	Simpson	Harrison
Kenton	Todd	Jessamine
	Trigg	Mercer
METROPOLITAN AREA C	Warren	Scott
Boyd		Woodford
	Economic Area 5	
Economic Area 1	Adair	
Ballard	Allen	
Calloway	Casey	Economic Area 8
Carlisle	Clinton	Carter
Fulton	Cumberland	Clay
Graves	Lincoln	Elliott
Hickman	Metcalfe	Estill
Marshall	Monroe	Greenup
McCracken	Pulaski	Jackson
	Rockcastle	Laurel
Economic Area 2	Russell	Lawrence
Daviess	Wayne	Lee
Henderson	Economic Area 6	Lewis
McLean	Anderson	Magoffin
Union	Bath	Menifee
Webster	Boone	Morgan
	Boyle	Owsley
Economic Area 3a	Bracken	Powell
Breckinridge	Carroll	Rowan
Butler	Fleming	Wolfe
Caldwell	Franklin	
Crittenden	Gallatin	
Edmonson	Garrard	
Grayson	Grant	Economic Area 9
Hancock	Henry	Bell
Hopkins	Madison	Breathitt
Livingston	Marion	Floyd
Lyon	Mason	Harlan
Muhlenberg	Montgomery	Johnson
Ohio	Nelson	Knott
	Nicholas	Knox
Economic Area 3b	Oldham	Leslie
Bullitt	Owen	Letcher
Green	Pendleton	McCreary
Hardin	Robertson	Martin
Hart	Shelby	Perry
Larue	Spencer	Pike
Meade	Trimble	Whitley
Taylor	Washington	

---



Table 1.-- Estimated Population June 30, 1954, and Natural Increase and Estimated Net Migration April 1, 1950 to June 30, 1954, Kentucky Metropolitan and Economic Areas

Area	1950 Total Population	Excess of Births over Deaths 1950-1954	Net Change Through Migration 1950-1954 <sup>a</sup>	Estimated Total Population June 30, 1954 <sup>c</sup>	Change in Population 4/1/50-6/30/54 Num- ber      Per- cent	
State	2,944,806	208,405	209,000 <sup>b</sup>	2,944,000 <sup>b</sup>	-1,000 <sup>b</sup>	*
Metropolitan Area						
A	484,615	36,594	11,985	533,194	48,579	10.0
B	180,450	11,146	5,379	196,975	16,525	9.2
C	49,949	3,683	- 3,593	50,039	90	0.2
Economic Area						
1	150,232	8,279	15,611	174,122	23,890	15.9
2	128,425	8,765	- 3,665	133,525	5,100	4.0
3a	189,495	8,920	-28,997	169,418	-20,077	-10.6
3b	122,024	9,178	1,696	132,898	10,874	8.9
4	170,164	10,423	3,655	184,242	14,078	8.3
5	193,608	13,186	-35,195	171,599	-22,009	-11.4
6	326,191	18,789	-27,966	317,014	- 9,177	- 2.8
7	204,586	11,082	- 6,172	209,496	4,910	2.4
8	234,619	19,863	-35,638	218,844	-15,775	- 6.7
9	510,448	48,497	-106,278	452,670	-57,778	-11.3

<sup>a</sup> Including those away in the Armed Forces and military personnel change in Kentucky.

<sup>b</sup> Rounded to the nearest thousand.

<sup>c</sup> Including military personnel stationed in Kentucky and excluding those in the Armed Forces with pre-service residence in Kentucky.

\* Less than 0.1 percent.

Table 2

ESTIMATED POPULATION JUNE 30, 1954, AND NATURAL INCREASE  
AND ESTIMATED NET MIGRATION, APRIL 1, 1950 TO  
JUNE 30, 1954, KENTUCKY BY COUNTIES

County	1950 Population	Excess of births over deaths, 1950-54	Net change through migration 1950-54	Estimated Total Population June 30, 1954 <sup>c</sup>	Change in Population 4/1/50-6/30/54	
					Number	Percent
State	2,944,806	208,405	-209,000 <sup>b</sup>	2,944,000 <sup>b</sup>	- 1,000 <sup>b</sup>	- 0.03
Adair	17,603	1,070	- 2,667	16,006	- 1,597	- 9.1
Allen	13,787	542	- 1,856	12,473	- 1,314	- 9.5
Anderson	8,984	441	- 1,318	8,107	- 877	- 9.8
Ballard	8,545	614	4,321	13,480	4,935	57.8
Barren	28,461	1,598	- 1,403	28,656	195	0.7
Bath	10,410	772	- 2,176	9,006	- 1,404	- 13.5
Bell	47,602	4,152	- 11,978	39,776	- 7,826	- 16.4
Boone	13,015	888	1,207	15,110	2,095	16.1
Bourbon	17,752	862	- 864	17,750	- 2	- 0.01
Boyd	49,949	3,683	- 3,593	50,039	90	0.2
Boyle	20,532	956	- 23	21,465	933	4.5
Bracken	8,424	284	- 746	7,962	- 462	- 5.5
Breathitt	19,964	1,942	- 4,398	17,508	- 2,456	- 12.3
Breckinridge	15,528	948	- 2,481	13,995	- 1,533	- 9.9
Bullitt	11,349	768	422	12,539	1,190	10.5
Butler	11,309	533	- 1,979	9,863	- 1,446	- 12.8
Caldwell	13,199	504	- 1,365	12,338	- 861	- 6.5
Calloway	20,147	785	- 2,771	18,161	- 1,986	- 9.9
Campbell	76,196	4,355	1,507	82,058	5,862	7.7
Carlisle	6,206	216	487	6,909	703	11.3
Carroll	8,517	290	- 547	8,260	- 257	- 3.0
Carter	22,559	1,878	- 3,384	21,053	- 1,506	- 6.7
Casey	17,446	1,345	- 3,382	15,409	- 2,037	- 11.7
Christian	42,359	3,715	17,592	63,666	21,307	50.3
Clark	18,898	1,213	- 387	19,724	826	4.4
Clay	23,116	2,624	- 3,781	21,959	- 1,157	- 5.0
Clinton	10,605	686	- 2,576	8,715	- 1,890	- 17.8
Crittenden	10,818	351	- 1,549	9,620	- 1,198	- 11.1
Cumberland	9,309	587	- 1,486	8,410	- 899	- 9.7
Daviess	57,241	4,504	1,555	63,300	6,059	10.6
Edmonson	9,376	449	- 1,529	8,296	- 1,080	- 11.5
Elliott	7,085	741	- 186	7,640	555	7.8
Estill	14,677	941	- 2,404	13,214	- 1,463	- 10.0
Fayette	100,746	5,951	- 90	106,607	5,861	5.8
Fleming	11,962	599	- 1,970	10,591	- 1,371	- 11.5
Floyd	53,500	5,557	- 12,025	47,032	- 6,468	- 12.1
Franklin	25,933	1,220	- 364	26,789	856	3.3
Fulton	13,668	797	- 2,327	12,138	- 1,530	- 11.2
Gallatin	3,969	105	- 569	3,505	- 464	- 11.7
Garrard	11,029	568	- 1,909	9,688	- 1,341	- 12.2

Table 2 (Continued)

County	1950 Population	Excess of births over deaths, 1950-54	Net change through migration <sup>a</sup> 1950-54	Estimated Total Population June 30, 1954 <sup>c</sup>	Change in Population 4/1/50-6/30/54	
					Number	Percent
Grant	9,809	376	- 610	9,575	- 234	- 2.4
Graves	31,364	1,359	- 1,089	31,634	270	0.9
Grayson	17,063	956	- 2,608	15,411	- 1,652	- 9.7
Green	11,261	604	- 2,227	9,638	- 1,623	-14.4
Greenup	24,887	1,907	- 334	26,460	1,573	6.3
Hancock	6,009	266	- 875	5,400	- 609	-10.1
Hardin	50,312	4,434	8,437	63,183	12,871	25.6
Harlan	71,751	6,674	-16,343	62,082	- 9,669	-13.5
Harrison	13,736	330	- 1,123	12,943	- 793	- 5.8
Hart	15,321	909	- 3,779	12,451	- 2,870	-18.7
Henderson	30,715	1,960	- 231	32,444	1,729	5.6
Henry	11,394	530	- 1,716	10,208	- 1,186	-10.4
Hickman	7,778	302	- 1,163	6,917	- 861	-11.1
Hopkins	38,815	1,957	- 4,366	36,406	- 2,409	- 6.2
Jackson	13,101	1,164	- 2,659	11,606	- 1,495	-11.4
Jefferson	484,615	36,594	11,985	533,194	48,579	10.0
Jessamine	12,458	690	- 755	12,393	- 65	- 0.5
Johnson	23,846	1,853	- 3,747	21,952	- 1,894	- 7.9
Kenton	104,254	6,791	3,872	114,917	10,663	10.2
Knott	20,320	1,937	- 4,202	18,055	- 2,265	-11.1
Knox	30,409	2,291	- 5,520	27,180	- 3,229	-10.6
Larue	9,956	598	- 377	10,177	221	2.2
Laurel	25,797	2,074	- 3,181	24,690	- 1,107	- 4.3
Lawrence	14,418	824	- 2,003	13,239	- 1,179	- 8.2
Lee	8,739	805	- 1,408	8,136	- 603	- 6.9
Leslie	15,537	2,216	- 1,546	16,207	670	4.3
Letcher	39,522	3,883	- 9,204	34,201	- 5,321	-13.5
Lewis	13,520	1,115	- 1,679	12,956	- 564	- 4.2
Lincoln	18,668	1,188	- 2,784	17,072	- 1,596	- 8.5
Livingston	7,184	340	- 469	7,055	- 129	- 1.8
Logan	22,335	1,079	- 3,569	19,845	- 2,490	-11.1
Lyon	6,853	123	- 820	6,156	- 697	-10.2
McCracken	49,137	3,305	16,626	69,068	19,931	40.6
McCreary	16,660	1,484	- 3,801	14,343	- 2,317	-13.9
McLean	10,021	583	- 1,261	9,343	- 678	6.8
Madison	31,179	1,942	296	33,417	2,238	7.2
Magoffin	13,839	1,580	- 4,607	10,812	- 3,027	-21.9
Marion	17,212	1,653	- 2,380	16,485	- 727	- 4.2
Marshall	13,387	901	1,527	15,815	2,428	18.1
Martin	11,677	1,248	- 1,594	11,331	- 346	- 3.0
Mason	18,486	1,048	- 1,292	18,242	- 244	- 1.3
Meade	9,422	976	- 303	10,095	673	7.1
Menifee	4,798	300	- 663	4,435	- 363	- 7.6
Mercer	14,643	607	- 539	14,711	68	0.5
Metcalfe	9,851	535	- 1,692	8,694	- 1,157	-11.7
Monroe	13,770	961	- 2,756	11,975	- 1,795	-13.0
Montgomery	13,025	901	- 1,089	12,837	- 188	- 1.4
Morgan	13,624	1,051	- 3,240	11,435	- 2,189	-16.1
Muhlenburg	32,501	1,741	- 6,441	27,801	- 4,700	-14.5

Table 2 (Continued)

County	1950 Population	Excess of births over deaths, 1950-54	Net change through migration 1950-54 <sup>a</sup>	Estimated Total Population June 30, 1954 <sup>c</sup>	Change in Population 4/1/50-6/30/54	
					Number	Percent
Nelson	19,521	1,895	- 3,967	17,449	-2,072	-10.6
Nicholas	7,532	268	- 655	7,145	- 387	- 5.1
Ohio	20,840	752	- 4,515	17,077	-3,763	-18.1
Oldham	11,018	653	194	11,865	847	7.7
Owen	9,755	408	2,028	8,135	-1,620	-16.6
Owsley	7,324	718	- 1,845	6,197	-1,127	-15.4
Pendleton	9,610	372	- 79	9,903	293	3.0
Perry	46,566	5,301	-10,786	41,081	-5,485	-11.8
Pike	81,154	8,139	-14,972	74,321	-6,833	- 8.4
Powell	6,812	546	- 829	6,529	- 283	- 4.2
Pulaski	38,452	2,701	- 6,754	34,399	-4,053	-10.5
Robertson	2,881	70	- 282	2,669	- 212	- 7.4
Rockcastle	13,925	1,116	- 2,340	12,701	-1,224	- 8.8
Rowan	12,708	933	- 2,194	11,447	-1,261	- 9.9
Russell	13,717	845	- 3,446	11,116	-2,601	-19.0
Scott	15,141	748	- 1,420	14,469	- 672	- 4.4
Shelby	17,912	883	- 1,009	17,786	- 126	- 0.7
Simpson	11,678	505	- 1,451	10,732	- 946	- 8.1
Spencer	6,157	454	- 1,051	5,560	- 597	- 9.7
Taylor	14,403	889	- 477	14,815	412	2.9
Todd	12,890	665	- 2,016	11,539	-1,351	-10.5
Trigg	9,683	516	- 1,797	8,402	-1,281	-13.2
Trimble	5,148	331	- 702	4,777	- 371	- 7.2
Union	14,893	1,204	- 1,580	14,517	- 376	- 2.5
Warren	42,758	2,345	- 3,701	41,402	-1,356	- 3.2
Washington	12,777	882	- 3,181	10,478	-2,299	-18.0
Wayne	16,475	1,610	- 3,456	14,629	-1,846	-11.2
Webster	15,555	514	- 2,148	13,921	-1,634	-10.5
Whitley	31,940	1,820	- 6,159	27,601	-4,339	-13.6
Wolfe	7,615	662	- 1,241	7,036	- 579	- 7.6
Woodford	11,212	681	- 994	10,899	- 313	- 2.8

a. Including those away in the Armed Forces and military personnel changes in Kentucky.

b. Rounded to nearest thousand.

c. Including military personnel stationed in Kentucky and excluding those in the Armed Forces with pre-service residence in Kentucky.

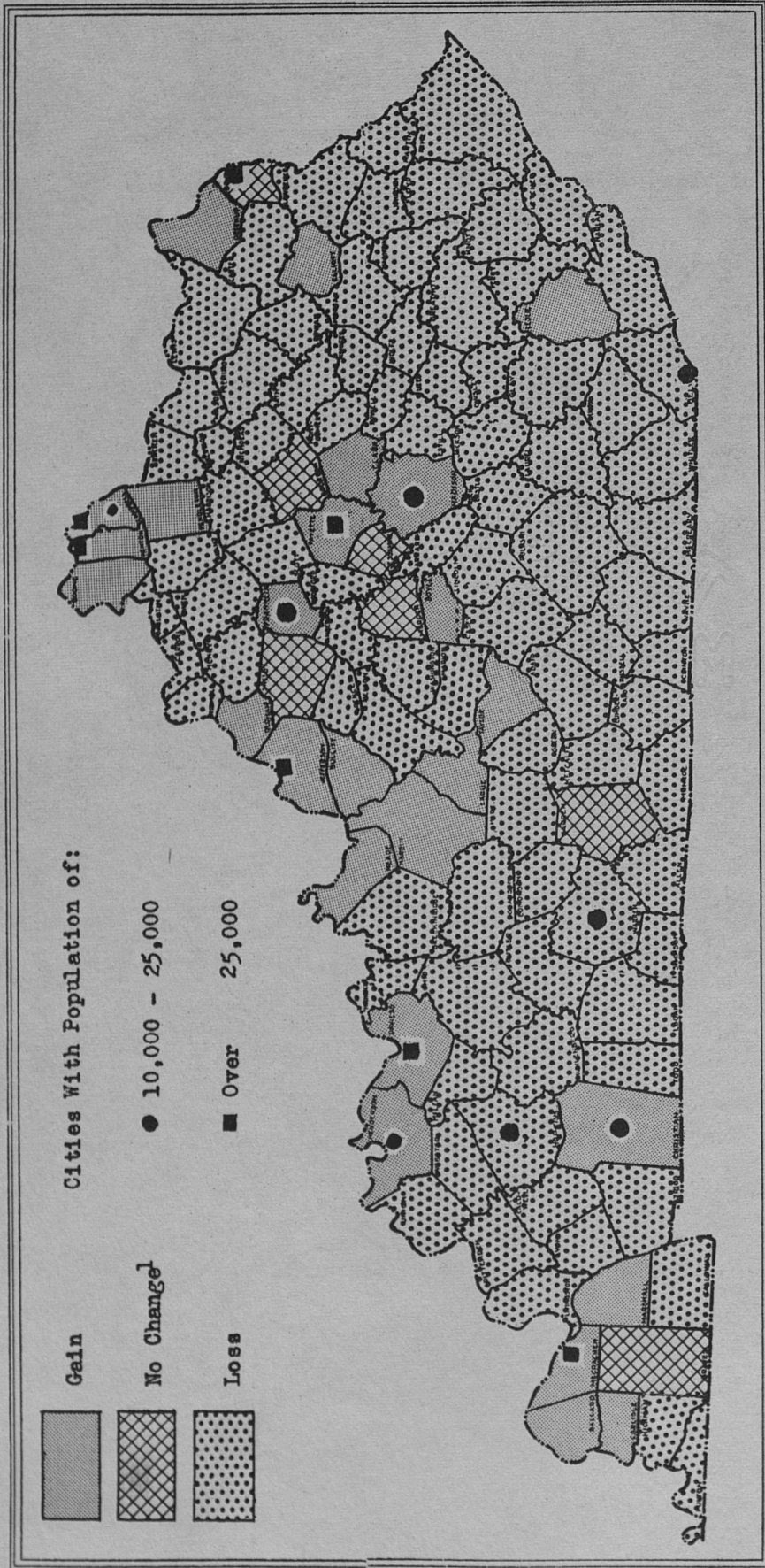


Figure 2.--Counties in Kentucky Showing Gain, Loss, or No Change<sup>1</sup> in Population, April 1, 1950 Through June 30, 1954

1. Gain or loss of less than one percent.

NOTES ON COMPUTING NET MIGRATION APRIL 1, 1950 TO  
JUNE 30, 1954, AND ESTIMATING POPULATION AS OF  
JUNE 30, 1954 FOR COUNTIES AND ECONOMIC  
AREAS OF KENTUCKY

1. Net Migration Estimate

As mentioned in footnote 5 (page 3) the procedure followed is basically that published by the Census Bureau.

According to this method, the amount of net migration is determined on the basis of school enrollment in grades 1-8. The age group 7-15 was used in the present estimates as most accurately reflecting the age range of those in grades 1-8 in Kentucky. A decrease in enrollment in these grades between April 1, 1950 and June 30, 1954 would indicate a net out-migration of youth in the 7-15 age group. On the other hand, an increased enrollment would indicate a net gain in migration in this age range. The estimates are based on the assumption that the total population migrated at the same rate and in the same direction as the 7-15 year age group.

Briefly the method involves the ratio of those 7-15 years of age to those enrolled in grades 1-8 as of April 1, 1950. Assuming that this ratio was the same in 1954, the population 7-15 years of age was estimated by applying the ratio to the number enrolled in school as of June 30, 1954.

The next step was to estimate the population, as of June 30, 1954, by survival factors. Life tables are available that give a reliable estimate of the average number of a particular age that are expected to survive for a given number of years. Survival rates vary among whites and nonwhites, males and

females, and also in rural, urban, and metropolitan areas. All of these variations were included in the calculation of the present estimates. The various survival rates were applied to those in the age group in the 1950 Census (2-3/4-10-3/4 years of age) who would be 7-15 years of age June 30, 1954. The resulting figure gave an estimate, assuming no migration, of the 7-15 year age group.

The estimate based on school enrollment reveals the actual estimated size of the 7-15 year age group. The estimate based on survival factors reveals what the size of the group would have been with no loss or gain through migration. The amount of migration was then determined by subtracting the estimate based on survival factors from the estimate based on school enrollment. The rate of migration for the 7-15 year age group was calculated by dividing the gain or loss through migration by the size of the group.

The migration rate was then applied to the total population subject to migration.<sup>14</sup> The assumption was made, as mentioned before, that the rate of migration for the total population was the same as that for the 7-15 year age group.

Following is the computation of the net migration estimate for the state:

---

14. The total population subject to migration was estimated by adding half the births during the period to the civilian population and subtracting those segments of population, such as college enrollment, and the number in resident institutions that remained constant during the 4 year period.

Population 7-15 years of age, 4/1/50	493,198
Enrolled in grades 1-8, 4/1/50	466,588
Ratio of those 7-15 to those enrolled in grades 1-8 (493,198 ÷ 466,588)	1.05703
Enrolled in grades 1-8, 6/30/54	477,457
Estimated population 7-15 years, 6/30/54 (1.05703 X 477,457)	504,686
Survivors of those 2-3/4 - 10-3/4 as of 4/1/50	545,143
Net migration in this age group (504,686 - 545,143)	-40,457
Size of cohort (2-3/4 - 10-3/4 age group)	548,088
Migration factor (-40,457 ÷ 548,088)	-.073814
Population subject to migration	2,836,427
Net migration at all ages (-.073814 X 2,836,427)	-209,368

## II. Population Estimate

The civilian population, as of June 30, 1954, was estimated by adding to the 1950 civilian population, according to the U. S. Census, the natural increase and subtracting the loss through net migration during the period. From this number the net loss to the armed forces was subtracted leaving the estimated civilian population. The total population was estimated by simply adding to the civilian population the military personnel stationed in the various counties.

## III. Comparability with U. S. Census Estimates and with the 1953 Estimate

According to a provisional estimate published by the Bureau of the Census<sup>15</sup> the estimated civilian population of Kentucky as of July 1, 1954 was 2,928,000. This is 49,000 above the estimate

15. Current Population Reports, Series P-25, No. 104, "Population Estimates," Bureau of the Census, Washington 25, D. C., October, 1954.



set forth in this paper. The difference may be due to additional refinements used by the Census Bureau or it may be due to the variation in school enrollment data. The Census Bureau's provisional estimate is based on 1953 school data,<sup>16</sup> with certain adjustments, while the estimate in this paper is based on 1954 data.

The county estimates in Table 2 (with the exception of Christian and Hardin Counties) can easily be converted to agree with the Census Bureau's state total by multiplying the 1954 estimated population in each county by 1.017. A rough approximation can be had by adding 17 for each thousand of population. Because of heavy concentration of military personnel, Christian and Hardin Counties have to be adjusted differently. The population of Christian County on this basis would be increased approximately 600, and Hardin County approximately 350.

The main difference between the method used by the Rural Sociology Department in estimating the 1953 population by counties and the method used for the 1954 estimates is the basis for estimating migration. The 1953 estimates are based on the School Census, using the age range 6-17. The 1954 estimates are based on school enrollment, using the age range 7-15. Other refinements have been made in this year's estimates that have led to a greater reliability. The two estimates, however,

---

16. The Census Bureau will publish revised population estimates for the states, based on 1954 school data, in August, 1955.

are in the main comparable. As pointed out earlier,<sup>17</sup> the estimates of larger segments of population are more dependable than estimates of smaller segments. For the same reasons, estimates of changes in population are more dependable when the annual population estimates are compared with the 1950 population than when the estimates are compared on a year-to-year basis.

---

17. See page 4.