

PRELIMINARY CENSUS RESULTS REVIEWED

In June of 1970, the U. S. Census Bureau released the preliminary results of the April 1, 1970, Census of Population and Housing for the State of Wisconsin. The 1970 census, conducted almost entirely by mail, was the most comprehensive, and perhaps the most controversial, census in the history of our nation. Numerous local agencies, including the SEWRPC and many federal agencies, began "tooling up" for the 1970 census as long ago as 1961, immediately after the publication of the results of the 1960 census. The SEWRPC began working with Kenosha and Racine Counties in early 1963 to prepare census tract maps for the 1970 census. In December of 1963, efforts began to create a Census Tract Committee for Ozaukee County in order to have such tracts available for the 1970 census. In March of 1964, with the interests of local communities aroused, efforts were begun to delineate enumeration districts in Walworth and Washington Counties, and by 1969 local census tract committees in each of the seven counties had completed their work preparatory to the conduct of the census. Two important tasks remained. Upon request of the U. S. Census Bureau, the SEWRPC undertook a massive map review program and a street address coding guide preparation program, which together would comprise the basic reference tools for the mail-out-mail-back census.

As indicated in Table 1, the preliminary results of the census indicate the population of the Region increased by 169,263 persons, or by 10.8 percent,

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

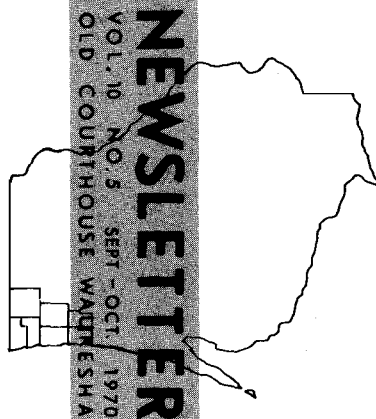


Table 1
POPULATION IN THE SOUTHEASTERN WISCONSIN REGION
BY COUNTY: 1950, 1960, AND PRELIMINARY 1970

County	1950 Population (U. S. Census)	1960 Population (U. S. Census)	1970 Preliminary Population (U. S. Census)	Change			
				1950 - 1960		1960 - 1970	
				Number	Percent	Number	Percent
Kenosha	75,238	100,615	116,734	25,377	33.73	16,119	16.0
Milwaukee.....	871,047	1,036,047	1,046,268	165,000	18.94	10,221	1.0
Ozaukee.....	23,361	38,441	54,308	15,080	64.55	15,867	41.3
Racine	109,585	141,781	171,218	32,196	29.38	29,437	20.8
Walworth.....	41,584	52,368	61,671	10,784	25.93	9,303	17.8
Washington.....	33,902	46,119	63,495	12,217	36.04	17,376	37.7
Waukesha	85,901	158,249	229,189	72,348	84.22	70,940	44.8
Total.....	1,240,618	1,573,620	1,742,883	333,002	26.84	169,263	10.8

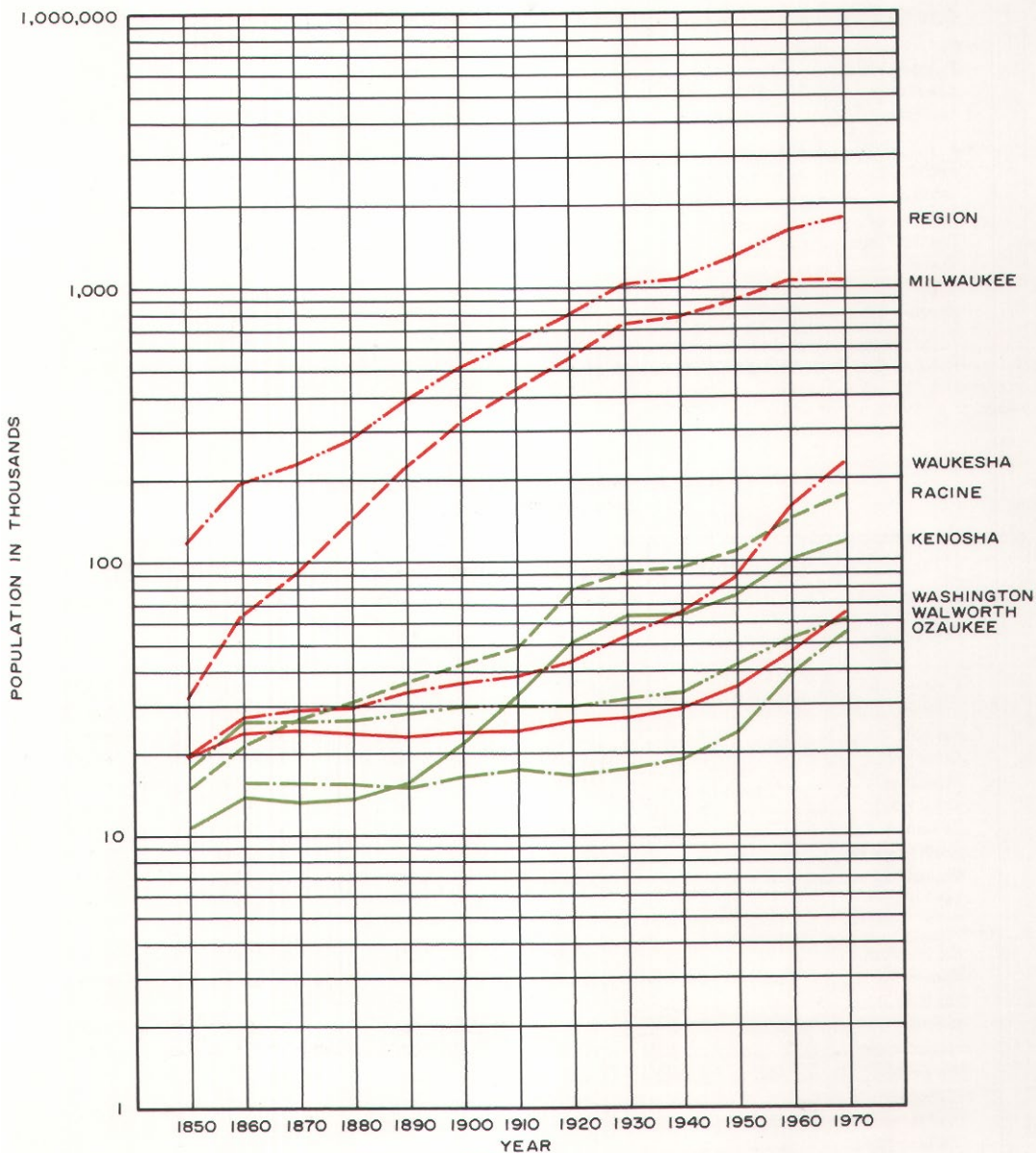
Source: U. S. Bureau of the Census and SEWRPC.

between 1960 and 1970. This was a considerably smaller population gain than that experienced during the 1950 to 1960 period, and further examination of historic data revealed that the only other 10-year period which had a slower rate of growth since 1850 occurred in the 1930 to 1940 decade, which witnessed a 6.1 percent growth (see Figure 1). The slowest growth in percentage terms between 1960 and 1970 was experienced by Milwaukee County, which increased by only 1.0 percent, or 10,221 persons. The largest percentage gain occurred in Waukesha County, which increased by 44.8 percent, or 70,940 persons, between 1960 and 1970. Ozaukee County, the state's smallest in geographic area, gained 15,867 persons, which is equal to a 41.3 percent gain between 1960 and 1970. A closer look at Table 1 indicates that every county in the Region except Washington County increased at a slower rate between 1960 and 1970 as compared with the 1950 and 1960 increase. Washington County, however, increased by 36.0 percent, or 12,217 persons, between 1950 and 1960 and by 37.7 percent, or 17,376 persons, between 1960 and 1970. Population changes from 1960 to 1970 for each civil division and county within the Region are presented in Tables 2 through 8. Map 1 shows the percent population change by civil division between 1960 and 1970.

COMPARISON OF 1970 PRELIMINARY CENSUS DATA TO SEWRPC CURRENT ESTIMATES AND FORECASTS

The preliminary census results from the 1970 U. S. Census of Population and Housing indicate a total population of 1,742,883 for the seven-county

Figure 1
POPULATION GROWTH IN THE REGION
BY COUNTY: 1850 TO 1970 (PRELIMINARY)



Source: U.S. Bureau of the Census and SEWRPC.

Table 2
KENOSHA COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	100,615	116,734	+16,119	+16.0
Cities				
Kenosha.....	67,899	78,063	+10,164	+15.0
Villages				
Paddock Lake ¹	---	1,445	---	---
Silver Lake.....	1,077	1,185	+ 108	+10.0
Twin Lakes.....	1,497	2,212	+ 715	+47.8
Towns				
Brighton.....	1,081	1,181	+ 100	+ 9.3
Bristol.....	2,155	2,721	+ 566	+26.3
Paris.....	1,423	1,728	+ 305	+21.4
Pleasant Prairie.....	10,287	11,917	+ 1,630	+15.9
Randall.....	1,013	1,546	+ 533	+52.6
Salem.....	5,541	5,394	- 147	- 2.7
Somers.....	7,139	7,330	+ 191	+ 2.7
Wheatland.....	1,503	2,012	+ 509	+33.9

¹Incorporated in June 1960 from part of the Town of Salem two months after the decennial census. Population at time of incorporation: 912.

Source: U. S. Bureau of the Census and SEWRPC.

Table 3
MILWAUKEE COUNTY POPULATION BY CIVIL DIVISION:
1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	1,036,047	1,046,268	+10,221	+ 1.0
Cities				
Cudahy.....	17,975	22,054	+ 4,079	+ 22.7
Franklin.....	10,006	12,233	+ 2,227	+ 22.3
Glendale.....	9,537	13,415	+ 3,878	+ 40.7
Greenfield.....	17,636	24,412	+ 6,776	+ 38.4
Milwaukee.....	741,324	709,537	-31,787	- 4.3
Oak Creek.....	9,372	14,014	+ 4,642	+ 49.5
St. Francis.....	10,065	10,497	+ 432	+ 4.3
South Milwaukee.....	20,307	23,286	+ 2,979	+ 46.7
Wauwatosa.....	56,923	58,668	+ 1,745	+ 3.1
West Allis.....	68,157	71,511	+ 3,354	+ 4.9
Villages				
Bayside (Part).....	3,078	4,316	+ 1,238	+ 40.2
Brown Deer.....	11,280	12,647	+ 1,367	+ 12.1
Fox Point.....	7,315	7,935	+ 620	+ 8.5
Greendale.....	6,843	15,086	+ 8,243	+120.5
Hales Corners.....	5,549	7,722	+ 2,173	+ 39.2
River Hills.....	1,257	1,558	+ 301	+ 24.0
Shorewood.....	15,990	15,676	- 314	- 2.0
West Milwaukee.....	5,043	4,385	- 658	- 13.1
Whitefish Bay.....	18,390	17,316	- 1,074	- 5.8

Source: U. S. Bureau of the Census and SEWRPC.

Table 4
OZAUKEE COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	38,441	54,308	+15,867	+41.3
Cities				
Cedarburg.....	5,191	7,630	+ 2,439	+47.0
Mequon.....	8,543	12,085	+ 3,542	+41.5
Port Washington.....	5,984	8,742	+ 2,758	+46.1
Villages				
Bayside (Part).....	103	123	+ 20	+19.4
Belgium.....	643	805	+ 162	+25.2
Fredonia.....	710	972	+ 262	+36.9
Grafton.....	3,748	5,980	+ 2,232	+59.6
Saukville.....	1,038	1,350	+ 312	+30.1
Thiensville.....	2,507	3,183	+ 676	+27.0
Towns				
Belgium.....	1,646	1,602	- 44	- 2.7
Cedarburg.....	2,248	3,869	+ 1,621	+72.1
Fredonia.....	1,475	1,702	+ 227	+15.4
Grafton.....	1,996	3,158	+ 1,162	+58.2
Port Washington.....	1,303	1,534	+ 231	+17.7
Saukville.....	1,306	1,573	+ 267	+20.4

Source: U. S. Bureau of the Census and SEWRPC.

Table 5
RACINE COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	141,781	171,218	+29,437	+ 20.8
Cities				
Burlington.....	5,856	7,454	+ 1,598	+ 27.3
Racine.....	89,144	94,720	+ 5,576	+ 6.3
Villages				
Elmwood Park ¹	---	448	---	---
North Bay.....	264	258	- 6	- 2.3
Rochester.....	413	433	+ 20	+ 4.8
Sturtevant.....	1,488	3,338	+ 1,850	+124.3
Union Grove.....	1,970	2,685	+ 715	+ 36.3
Waterford.....	1,500	1,926	+ 426	+ 28.4
Wind Point.....	463	1,238	+ 775	+167.4
Towns				
Burlington.....	3,765	4,846	+ 1,081	+ 28.7
Caledonia.....	9,696	16,663	+ 6,967	+ 71.9
Dover.....	3,503	3,731	+ 228	+ 6.5
Mt. Pleasant.....	12,358	16,303	+ 3,945	+ 31.9
Norway.....	3,341	4,555	+ 1,214	+ 36.3
Raymond.....	2,344	3,704	+ 1,360	+ 58.0
Rochester.....	919	1,013	+ 94	+ 10.2
Waterford.....	2,681	3,087	+ 406	+ 15.1
Yorkville.....	2,076	4,816	+ 2,740	+132.0

¹Incorporated from parts of the Town of Mt. Pleasant in 1960 after the U. S. Census of April 1.

Source: U. S. Bureau of the Census and SEWRPC.

Table 6
WALWORTH COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	52,368	61,671	+9,303	+17.8
<i>Cities</i>				
Delavan.....	4,846	5,430	+ 584	+12.1
Elkhorn.....	3,586	3,975	+ 389	+10.9
Lake Geneva.....	4,929	4,829	- 100	- 2.0
Whitewater.....	6,380	9,489	+3,109	+48.7
<i>Villages</i>				
Darien.....	805	824	+ 19	+ 2.4
East Troy.....	1,455	1,689	+ 234	+16.1
Fontana.....	1,326	1,433	+ 107	+ 8.1
Genoa City.....	1,005	1,069	+ 64	+ 6.4
Sharon.....	1,167	1,207	+ 40	+ 3.4
Walworth.....	1,494	1,610	+ 116	+ 7.8
Williams Bay.....	1,347	1,492	+ 145	+10.8
<i>Towns</i>				
Bloomfield.....	2,154	2,286	+ 132	+ 6.1
Darien.....	1,119	1,383	+ 264	+23.6
Delavan.....	3,138	3,844	+ 706	+22.5
East Troy.....	2,247	2,727	+ 480	+21.3
Geneva.....	2,253	3,345	+1,092	+48.4
LaFayette.....	899	966	+ 67	+ 7.5
LaGrange.....	1,087	1,303	+ 216	+19.9
Linn.....	1,620	1,812	+ 192	+11.9
Lyons.....	1,878	1,946	+ 68	+ 3.6
Richmond.....	935	1,232	+ 297	+31.8
Sharon.....	1,030	1,042	+ 12	+ 1.2
Spring Prairie.....	1,164	1,178	+ 14	+ 1.2
Sugar Creek.....	1,532	1,787	+ 255	+16.6
Troy.....	1,060	1,270	+ 210	+19.8
Walworth.....	1,064	1,356	+ 292	+27.4
Whitewater.....	848	1,147	+ 299	+35.3

¹Walworth County portion only. Total City of Whitewater population for 1970 is 11,393, with 1,904 persons in Jefferson County portion of City in 1970.

Source: U. S. Bureau of the Census and SEWRPC.

Southeastern Wisconsin Region, or 169,263 more persons than in 1960. Forecasts made by the Regional Planning Commission in 1964 indicated that there could be expected to be approximately 1,870,000 persons in the Region by 1970, or about 296,000 more persons than in 1960. This forecast was based upon the assumptions that birth and in-migration rates for the Region would decrease from the very high levels of the late 1950's and early 1960's; that death rates would remain at about the 1960 level; and that employment would increase significantly.

Table 7
WASHINGTON COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	46,119	63,495	+17,376	+37.7
Cities				
Hartford	5,627	6,502	+ 875	+15.6
West Bend ¹	11,538	16,516	+ 4,978	+43.1
Villages				
Germantown	622	6,961	--- ²	--- ²
Jackson	458	564	+ 106	+23.1
Kewaskum	1,572	1,905	+ 333	+21.2
Slinger.....	1,141	1,036	- 105	- 9.2
Towns				
Addison	2,072	2,355	+ 283	+13.7
Barton	1,204	1,612	+ 408	+33.9
Erin.....	1,133	1,608	+ 475	+41.9
Farmington	1,433	1,728	+ 295	+20.6
Germantown	3,984	414	--- ²	--- ²
Hartford	1,870	2,356	+ 486	+26.0
Jackson	1,576	2,835	+ 1,259	+79.9
Kewaskum	897	1,143	+ 246	+27.4
Polk.....	2,090	3,027	+ 937	+44.8
Richfield.....	3,172	5,855	+ 2,683	+84.6
Trenton.....	2,657	3,171	+ 514	+19.4
Wayne	1,081	1,199	+ 118	+10.9
West Bend	1,992	2,708	+ 716	+35.9

¹Includes the Village of Barton population of 1,569 in 1960. The City of West Bend and the Village of Barton consolidated on November 1, 1961.

²In a series of annexations between 1963 and 1968, about 30 square miles of the Town of Germantown were added to the Village of Germantown, making comparisons for the civil divisions not meaningful. The population for the Town and Village can be added together for a more meaningful comparison of the 1960 to 1970 population change.

Source: U. S. Bureau of the Census and SEWRPC.

A 1969 current population estimate prepared by the Commission indicated a population level of 1,853,000 persons, or approximately 17,000 below the forecast level. The current population estimates were based upon annual tabulations of certain indicators of current population levels and of changes in these levels, such as actual recorded births and deaths, school enrollment, and the number and type of dwelling units authorized for construction and demolition. The 1970 preliminary census count of 1,742,883 persons for the Region is 127,000 persons less than the Commission's forecast and 110,000 persons less than the Commission's current estimate. Table 9 shows a comparison of the results of the preliminary census to the Commission's current population estimates and 1970 forecast for each county within the Region. As

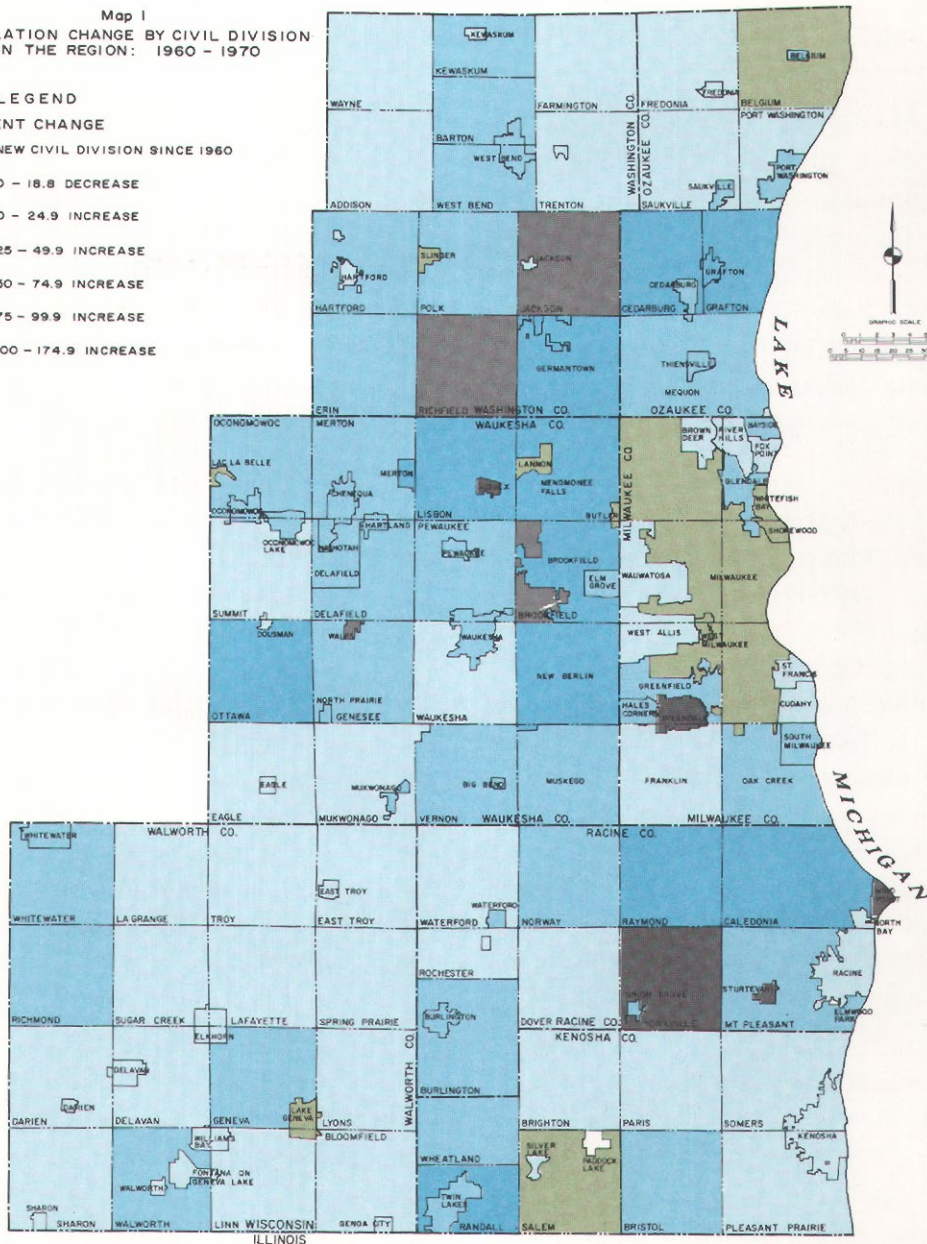
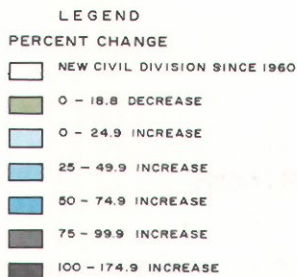
Table 8
WAUKESHA COUNTY POPULATION BY CIVIL DIVISION: 1960 AND PRELIMINARY 1970

	1960 Population (U. S. Census)	1970 Preliminary (U. S. Census)	Change 1960 - 1970	
			Number	Percent
County.....	158,249	229,189	+70,940	+ 44.8
Cities				
Brookfield.....	19,812	31,990	+12,178	+ 61.5
Delafield.....	2,334	3,183	+ 849	+ 36.4
Muskego ¹	8,888	11,507	+ 2,619	+ 29.5
New Berlin.....	15,788	26,831	+11,043	+ 69.9
Oconomowoc.....	6,682	8,615	+ 1,933	+ 28.9
Waukesha.....	30,004	39,645	+ 9,641	+ 32.1
Villages				
Big Bend.....	797	1,136	+ 339	+ 42.5
Butler.....	2,274	2,222	- 52	- 2.3
Chenequa.....	445	624	+ 179	+ 40.2
Dousman.....	410	446	+ 36	+ 8.8
Eagle.....	620	733	+ 113	+ 18.2
Elm Grove.....	4,994	7,149	+ 2,155	+ 43.2
Hartland.....	2,088	2,732	+ 644	+ 30.8
Lac La Belle.....	276	224	- 52	- 18.8
Lannon.....	1,084	1,040	- 44	- 4.1
Menomonee Falls.....	18,276	31,377	+13,101	+ 71.7
Merton.....	407	639	+ 232	+ 57.0
Mukwonago.....	1,877	2,363	+ 486	+ 25.9
Nashotah.....	321	407	+ 86	+ 26.8
North Prairie.....	489	659	+ 170	+ 34.8
Oconomowoc Lake.....	414	588	+ 174	+ 42.0
Pewaukee.....	2,484	3,231	+ 747	+ 30.1
Sussex.....	1,087	2,725	+ 1,638	+150.7
Wales.....	356	679	+ 323	+ 90.7
Towns				
Brookfield.....	1,990	3,944	+ 1,954	+ 98.2
Delafield.....	2,822	3,661	+ 839	+ 29.7
Eagle.....	1,103	1,214	+ 111	+ 10.1
Genesee.....	2,183	3,112	+ 929	+ 42.6
Lisbon.....	2,885	4,604	+ 1,719	+ 59.6
Merton.....	3,077	4,327	+ 1,250	+ 40.6
Mukwonago.....	1,579	1,906	+ 327	+ 20.7
Oconomowoc.....	4,465	5,934	+ 1,469	+ 32.9
Ottawa.....	1,092	1,672	+ 580	+ 53.1
Pewaukee.....	5,797	7,485	+ 1,688	+ 29.1
Summit.....	3,472	3,728	+ 256	+ 7.4
Vernon.....	2,037	2,815	+ 778	+ 38.2
Waukesha.....	3,540	4,042	+ 502	+ 14.2

¹The Town of Muskego incorporated as a fourth class city in 1964.

Source: SEWRPC.

Map I
POPULATION CHANGE BY CIVIL DIVISION
IN THE REGION: 1960 - 1970



NOTE: 1. In a series of annexations between 1963 and 1968, about 30 square miles of the Town of Germantown were added to the Village of Germantown making comparisons of civil division population changes between 1960 and 1970 not meaningful. The 1960 and 1970 population for the Town and Village have been added together for a more meaningful comparison of population change.

2. The population increase between 1960 and 1970 for the portion of the City of Whitewater in Walworth County was 48.7 percent. The total population in the City of Whitewater which lies in both Jefferson County and Walworth County increased by 78.6 percent between 1960 and 1970.

Source: U. S. Bureau of the Census and SEWRPC.

PRELIMINARY CENSUS RESULTS—Continued

is evident from an examination of Table 9, the largest numeric and percentage difference in county totals between the preliminary census figures and both the Commission's current population estimates and the Commission's 1964 population forecasts occurred in Milwaukee County. For the six counties in the Southeastern Wisconsin Region outside Milwaukee County, the Commission's 1970 forecast was only 0.5 percent higher than the preliminary census counts. The Commission's current estimate for this same area was only 1.4 percent higher than the preliminary census counts.

As already noted, the greatest difference between the preliminary census data and the Commission's population data occurred in Milwaukee County. The preliminary census count for Milwaukee County is 124,132, or 11.9 percent below the expected population distribution, and 100,832, or 9.6 percent below the Commission's current estimate. The Regional Planning Commission staff has carefully reviewed the preliminary census data and could find no single factor which would account for the major difference between the Bureau's preliminary census counts and the Commission's current population estimates in Milwaukee County. Review of the preliminary data indicates that the difference is probably the result of the combined effects of a decrease in the average household size within the County, the net addition of fewer housing units than recorded building and demolition permits would indicate, and, if the experience of past federal censuses applies, a probable underenumeration of black inner-city residents.

The Commission will continue to review the census data as these data become available in final form and in more detail and for smaller geographic areas and to compare such data to births, deaths, and residential building activities which have been recorded since 1960.

COMPARISON OF 1970 PRELIMINARY CENSUS DATA TO RESULTS OF ALTERNATIVE ESTIMATING TECHNIQUES

As implied in the previous discussion, there are several techniques used to prepare current population estimates. One of the principle limitations

Table 9
COMPARISON OF SEWRPC CURRENT POPULATION ESTIMATES AND FORECASTS
WITH PRELIMINARY CENSUS COUNTS BY COUNTY: 1970

County	Population			Percentage Difference	
	Preliminary Census April 1, 1970 (Persons) (1)	SEWRPC Estimate ¹ January 1, 1970 (Persons) (2)	SEWRPC Forecast ² July 1, 1970 (Persons) (3)	Estimate Compared to Preliminary Census (Percent) (2-1)	Forecast Compared to Preliminary Census (Percent) (3-1)
Kenosha.....	116,734	121,500	124,900	+4.1	+ 7.0
Milwaukee.....	1,046,268	1,147,100	1,170,400	+9.6	+11.9
Ozaukee.....	54,308	54,600	53,900	+0.5	- 0.8
Racine.....	171,218	177,700	173,100	+3.8	+ 1.1
Walworth.....	61,671	64,900	62,100	+5.2	+ 0.7
Washington.....	63,495	60,800	57,900	-4.2	- 8.8
Waukesha.....	229,189	226,700	228,000	-1.1	- 0.5
Region.....	1,742,883	1,853,300	1,870,300	+6.3	+ 7.3
Milwaukee.....	1,046,268	1,147,100	1,170,400	+9.6	+11.9
Balance of Region.....	696,615	706,200	699,900	+1.4	+ 0.5
Total Region.....	1,742,883	1,853,300	1,870,300	+6.3	+ 7.3

¹Prepared annually using symptomatic indicators, such as building permits and vital statistics.

²Prepared in 1964 as input requirement for long-range planning programs.

Source: U. S. Bureau of the Census and SEWRPC.

to the effective use of U. S. Census of Population data is the time span between censuses: 10 years. Intelligent public and private development decisions in a rapidly changing society must draw upon the most relevant and current information available. When such decisions involve the present population size, composition, and spatial distribution, an even greater need exists to utilize the best current information available. Consequently, there have been several techniques developed which use historic data which appear to bear a close relationship to population changes to derive estimates of the current population. Most of these techniques entail the application of ratios which adjust the most recent census data forward to the current date. The most common of these techniques are: a method which utilizes the number of recorded births and deaths within a given area over a given time period as an indicator of population change; a method which utilizes the number of building and demolition permits granted within a given area over a given time period as an indicator of population change; and a third method which utilizes

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automobile registrations as an indicator of population change. Other techniques utilizing utility meter connection and disconnection data and school enrollment data hold additional promise as current population indicators, but entail uniform and areawide data collection and coverage problems at the present time.

Net Natural Increase Method

The net natural increase to a base year population within a given area over a specified period of time is obtained by adding the number of live births recorded in the area to the base year population and subtracting the number of recorded deaths in the area. The formula is expressed as: the base year population plus the number of births minus the number of deaths. In southeastern Wisconsin there were 353,659 live births and 129,211 deaths recorded between 1950 and 1960, for a net difference of 224,448 persons. The 1950 population of the Region was 1,240,618 persons. The addition of 224,448 persons over the decade would have resulted in a 1960 population of 1,465,066 persons. In fact, however, the 1960 population level was enumerated at 1,573,620 persons, which indicates that more than 108,000 persons migrated into the Region between 1950 and 1960. Between 1960 and 1970, there were 353,113 resident live births and 149,933 resident deaths recorded in the Region, for a net difference of 203,180 persons. The addition of 203,180 persons to the 1960 population would result in a 1970 population level of 1,776,800 persons. In fact, however, the preliminary census enumeration indicates a 1970 population of only 1,742,883 persons, which indicates a net migration out of the Region of nearly 34,000 persons between 1960 and 1970, a striking reversal of historic trends. As indicated in Table 10, the net natural increase over the 1960 to 1970 decade in every county within the Region except Milwaukee County would have resulted in a 1970 population level lower than the actual census count, and that, based upon net natural increase over the decade, Milwaukee County experienced an out-migration of more than 112,000 persons. This would indicate that many of the out-migrants during the decade left the Region from Milwaukee County. To be sure, many persons left Milwaukee County to reside in other counties within the Region, but the net effect

Table 10
NATURAL INCREASE AND MIGRATION BY COUNTY WITHIN THE REGION: 1960 TO 1970

County	1960 Population	Resident Births 1960-1970	Resident Deaths 1960-1970	Natural Increase 1960-1970	1970 ¹ Population	Net Migration 1960-1970
Kenosha	100,615	24,587	9,462	15,125	116,734	994
Milwaukee	1,036,047	223,705	100,955	122,750	1,046,268	-112,529
Ozaukee	38,441	9,155	3,078	6,077	54,308	9,790
Racine	141,781	33,956	13,309	20,647	171,218	8,790
Walworth	52,368	10,591	5,953	4,638	61,671	4,671
Washington	46,119	12,479	4,286	8,193	63,495	9,183
Waukesha	158,249	38,640	12,890	25,750	229,189	45,190
Region	1,573,620	353,113	149,933	203,180	1,742,883	- 33,917

¹Preliminary 1970 census counts.

Source: Wisconsin Department of Administration, U. S. Bureau of the Census, and SEWRPC.

has caused a significant decline in the rate of population increase of Milwaukee County. As more detailed information becomes available from the 1970 census, a closer examination of the age distribution by geographic area within the Region will provide more insight into this important change in the size and composition of the population of the Region.

Building Permit Method

The building permit method utilizes a residential building and demolition permit series to indicate the net change in the housing stock from a base year, such as 1960, to the present. The net new housing units are, in turn, assigned a factor assumed to reflect the average number of persons per housing unit to compute a population increment. This population increment is then added to the base year population to arrive at a current estimate of the population. In the SEWRPC application, the persons per unit rate was varied by community and by structure type based upon observed occupancy rates. Between 1960 and November 1969, there were 104,952 housing units authorized for construction and 22,262 authorized demolitions, for a net gain of 82,690 housing units within the Region over the period. The 1960 Census of Population and Housing indicated there were 500,761 housing units in the Region; and, with a net increase of 82,690 units over the decade, there were approximately 583,451 units by the end of 1969 (see Table 11). Applying the appropriate population per unit factors described above indicates a net addi-

Table 11
NUMBER OF HOUSING UNITS WITHIN THE REGION BY COUNTY: 1960 AND 1970

County	1960 Housing Units	Net New Housing Units: 1960-1969		Estimated 1970 Housing Units ¹
		Single-Family	Multi-Family	
Kenosha	33,643	5,044	1,281	39,968
Milwaukee.....	327,736	11,837	22,867	362,440
Ozaukee.....	11,128	3,757	731	15,616
Racine	43,895	7,384	3,087	54,366
Walworth	22,539	3,133	782	26,454
Washington	14,519	3,298	682	18,499
Waukesha.....	47,301	15,337	3,470	66,108
Region	500,761	49,790	32,900	583,451

¹It should be noted that the census definition of a housing unit is designed to encompass all private living quarters intended for occupancy; and the net housing units tabulated as a result of building and demolition permits may pertain to structures containing a unit count slightly different than that defined by the census, particularly in the case of a demolition permit for a particular structure. It is possible that a structure demolition permit will list only the street address and be counted as a single unit; but, in fact, the structure may have contained several units by applying the census definition. It is felt that variations due to definitions would affect the housing unit increment and subsequent total unit tally only slightly.

Source: U. S. Bureau of the Census, local building inspectors, and SEWRPC.

tion to the 1960 base year population of 279,680 persons, to bring the estimated year-end regional population level to 1,853,300 persons. The preliminary 1970 census data indicate, however, that the population of the Region is only 1,742,883 persons, or approximately 6.3 percent less than the current estimate. These data by county are compared in Table 9.

Although a complete explanation of such a variance requires review of the more detailed census information to become available later, the following factors are worthy of note. Because of changing life styles of the population, which result in more young unmarried adults maintaining apartments away from home, increased college attendance away from home, older couples remaining in their own home after their children have left, and, as noted earlier, a sharp decline in the number of births, all could play a part in either a reduction in the number of persons per dwelling unit or in an absolute decline in the population of some areas due to out-migration.

Automobile Registration Method

A third data series, that of a historic relationship between population and automobile ownership, has been utilized to prepare current popula-

PRELIMINARY CENSUS RESULTS—Continued

tion estimates. Since owners of automobiles must register their ownership and renew such registration annually, it is possible to maintain a data series on automobile ownership and to develop a ratio between automobile ownership and population, albeit a changing one. Accordingly, a forecast ratio of persons per automobile can be utilized to obtain an annual estimate of the population level in a given area.

By way of illustration, the number of persons per automobile within the Region has decreased from 4.23 in 1950 to 3.41 in 1960. While it is likely that this ratio will continue to decline as more multi-car households are formed, as a practical matter, a lower limit must exist to the ratio of persons per automobile. In the Region this lower limit has been estimated at 1.85 persons per available automobile, and availability is based upon total registration minus 10 percent for junked cars and "used car lot storage" and subtracting 50 percent of municipal vehicle registrations based on the assumption that one-half of such registrations are not automobiles. It should be noted, however, that even the 1.85 persons per automobile ratio may never be reached, since it reflects ownership by every eligible and licensed driver. This phenomenon, in turn, is unlikely to occur, since not all licensed drivers are able to, or inclined to own, an automobile.

As indicated in Table 12, there were 621,372 such automobiles registered within the Region on December 31, 1969. Based upon forecasts of the ratio of persons per automobile prepared in 1965, which indicated a ratio of 2.92 would have been reached by 1970, the population of the Region in 1970 would have been approximately 1,819,150 persons. In fact, however, the preliminary census indicates a population level of 1,742,883 persons, or 4.4 percent less than the current estimate based upon automobile registrations.

Concluding Comments

Based upon the above discussion of the three alternative current population estimating methods, it is imperative that a careful scrutiny of the

Table 12
AUTOMOBILE REGISTRATION BY COUNTY WITHIN THE REGION: 1969

County	Automobile Registration 1969 ¹	Forecast Number of Persons per Automobile 1970 ²	1970 Population Based on Auto Registration
Kenosha.....	42,338	2.74	116,006
Milwaukee.....	362,062	3.14	1,136,875
Ozaukee.....	20,409	2.70	55,104
Racine.....	60,722	2.69	163,342
Walworth.....	24,131	2.56	61,775
Washington.....	23,046	2.64	60,841
Waukesha.....	88,664	2.54	225,207
Region.....	621,372	2.92	1,819,150

¹Based upon year-end registration records.

²Prepared by SEWRPC in 1965 as described in SEWRPC Planning Report No. 7, Volume 2, Forecasts and Alternative Plans--1990.

Source: Wisconsin Department of Transportation and SEWRPC.

1970 census results be undertaken, particularly with regard to the size, composition, and distribution of the population. The preliminary results have indicated that the SEWRPC forecasts of population size, prepared in 1964 and 1965, have fallen short of the actual count of population for the year 1970. It should be noted, however, that, while forecasts of population size are significant to the planning function, the composition and distribution of the population are equally significant. The preliminary census information which has become available so far deals primarily with population size and provides only a crude indicator of population distribution—that is, population by minor civil division—but provides no indication of the population composition. Therefore, it is difficult to assess the changing characteristics of the population, such as age, sex, family size, households, and family formation rates, all of which together form the basic factors affecting changes in population size and distribution.

The detailed census information required to thoroughly reappraise changing population levels within the Region is expected to become available toward the end of 1970 and into the early summer of 1971. Some preliminary conclusions, however, can be drawn from the discus-

PRELIMINARY CENSUS RESULTS—Continued

sion provided above. These are: that the 1970 forecast level of population has ranged approximately 7 percent higher than the actual population count, but that the majority of the variance occurred in Milwaukee County; that the continuing surveillance function of the Commission's work programs had indicated a population level for 1970 which was approximately 6 percent higher than the actual census count, but that the majority of this variance also was attributable to Milwaukee County; that the net natural increase indicators of population change, when compared with the 1970 census count, reveal a net out-migration from the Region during the 1960 to 1970 decade of nearly 34,000 persons, a significant and unprecedented exodus; that the building permit method of population estimation, in order to be more adequately evaluated, will require a housing unit count of a comparable nature to both the 1960 household count and the residential construction and demolition data; and that the automobile registration method of population estimation will similarly require reevaluation, since the ratio forecast indicates a higher population level than the actual count.

The most basic indicator, however, is the abrupt slowing down of overall population growth within the Region; and this phenomenon will require a careful and meticulous evaluation of both the current population estimating techniques and the assumptions underlying the population forecasts. These assumptions draw heavily upon an assumed birth rate and an assumed migration rate, which, in turn, are based upon observation of historic trends. The 1970 components of both of these rates are presently being tabulated for release by the U. S. Census Bureau and are expected to become available in the near future. When these data become available, the Commission will reevaluate the forecast population levels, as well as the assumptions underlying these forecasts, and, armed with such reevaluation findings, perform a corresponding reevaluation of any affected plan proposals. Such plan evaluation may range from the setting forward of the plan design year for certain proposals to the scaling back of the proposals themselves. Such conclusions, however, can only be drawn from a reevaluation of the total array of any new data after it is

PRELIMINARY CENSUS RESULTS—Continued

placed into an analytical framework comparable to the data upon which the initial recommendations were based. Such reevaluation, more properly labeled "plan reappraisal," is an on-going function of the Commission. The plan reappraisal process is carried on at three levels. The first level will consist of a routine annual review and analysis of the results of the surveillance program in order to determine whether or not actual development within the Region is occurring in accordance with the forecasts on which the regional plans are based. If this first level of reappraisal indicates that development is generally occurring in accordance with the forecasts and plans, the reappraisal process will be terminated at this level. If not, the second level of reappraisal will be undertaken, consisting of a review of the forecasts on which the plans are based. In any event, major review of certain forecasts and plan elements will be undertaken at regular 5- and 10-year intervals, regardless of the annual findings of the surveillance program. Again, if no significant changes are found, the reappraisal process will be terminated at this level. If significant changes in the forecasts and plan elements are indicated by the second level of reappraisal, a complete reexamination of the regional land use and transportation plans will be undertaken at the third level of reappraisal. At the present time, it appears as if the second and third reappraisal levels may be warranted on the basis of preliminary 1970 census of population counts.

SEWRPC NOTES

FLOODLAND-SHORELAND ZONING ACTIVITY

Acting in accordance with its statutory responsibilities, the Wisconsin Department of Natural Resources has recently begun formal action to secure full compliance by local units of government with the floodland and shoreland zoning and related regulatory requirements of the State Water Resources Act of 1965 and the administrative rules growing out of the Act. The Department has issued formal orders to all cities and villages in the Root and Fox River watersheds that have not as yet com-

SEWRPC NOTES—Continued

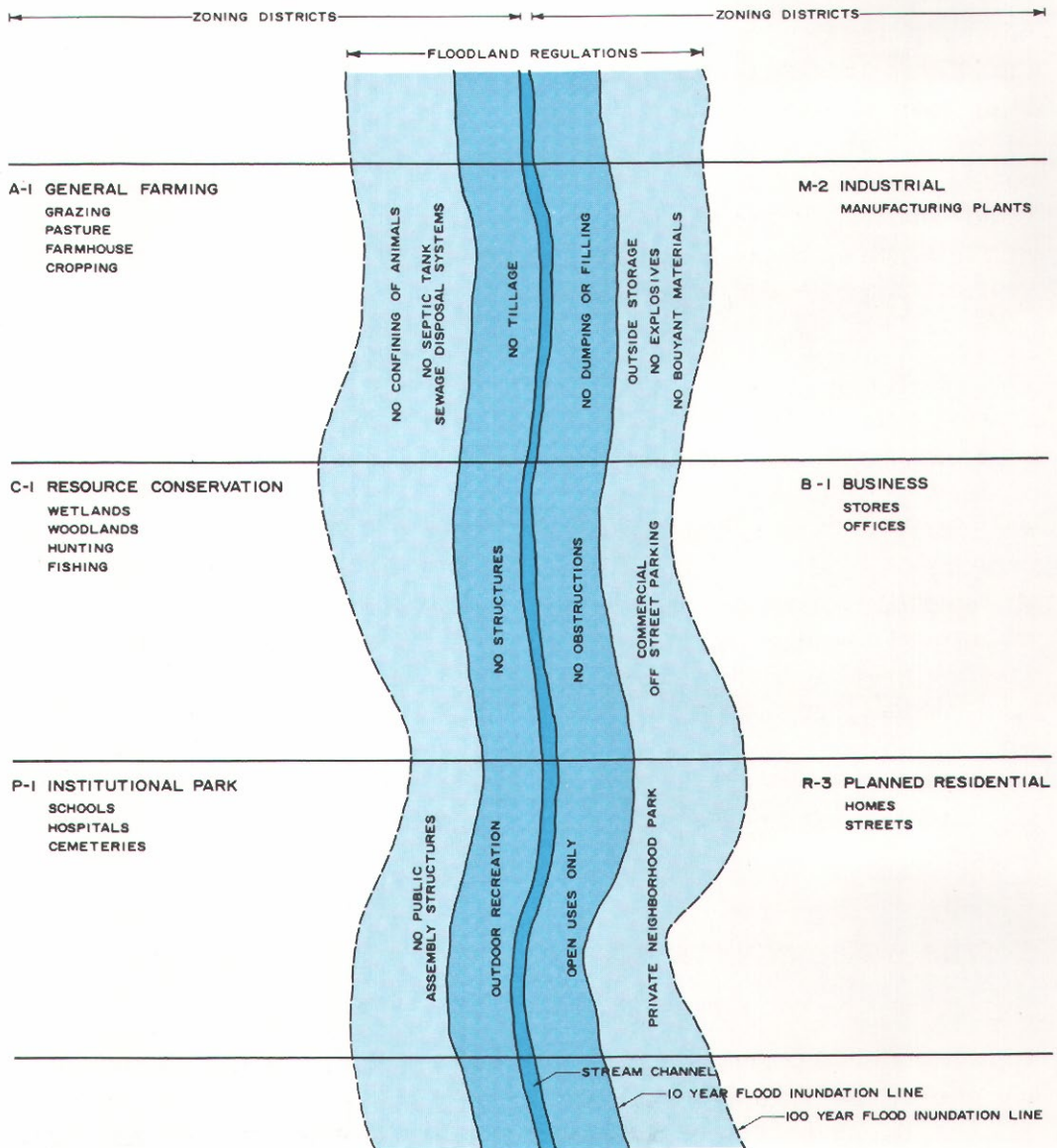
plied with the floodland zoning requirements set forth in Section 87.30 of the Wisconsin Statutes, ordering those cities and villages to comply no later than March 1, 1971, or face potential legal action by the State Attorney General. Similarly, those counties in the Region that have not as yet fully complied with the floodland and shoreland regulatory requirements set forth in Chapters NR 115 and NR 116 of the Wisconsin Administrative Code have been ordered to comply by the end of this year or face potential legal action.

The enactment of sound floodland regulatory ordinances depends, of course, upon the availability of sound flood hazard data. Such data are being secured by the Regional Planning Commission in a series of comprehensive watershed planning programs. Flood hazard data for the Milwaukee River watershed are currently being finalized and are expected to be made available for use early in 1971. Cities and villages in the Milwaukee River watershed can expect to receive floodland zoning orders from the Wisconsin Department of Natural Resources shortly after such data are made available. The Commission staff stands ready to assist, upon request, any local unit of government in the Region in complying with the state requirements and, more importantly, in achieving sound floodland and shoreland regulation. A schematic drawing of the floodland area and its relationship to zoning regulations and districts is shown in Figure 2.

CENSUS USERS CONFERENCE HELD

Approximately 230 persons attended a one-day seminar on the availability and use of the 1970 census data, held at the Holiday Inn-Central, on October 22, 1970. Registrants at the Census Users Conference included representatives from state and local governments, research organizations, private welfare and planning organizations, and a broad spectrum of private commercial and industrial enterprises. U. S. Bureau of the

Figure 2
RELATIONSHIP BETWEEN ZONING DISTRICTS AND FLOODLAND REGULATIONS



Source: SEWRPC

SEWRPC NOTES—Continued

Census representatives indicated that this southeastern Wisconsin conference was one of the largest conferences of this type held to date throughout the country.

The morning session of the Conference was devoted to an explanation by Census Bureau representatives of the 1970 census data collection and editing program and to a detailed discussion concerning the ultimate availability of the 1970 census data, both as to timing and to the cost of the various census data end products. The afternoon session was devoted largely to discussions concerning the potential utilization of 1970 census data at the local level and included a detailed explanation of the role of the Regional Planning Commission, as discussed earlier in this Newsletter.

AROUND THE REGION

CITY OF WAUKESHA

The Common Council of the City of Waukesha created, on October 20, 1970, a City Housing Authority pursuant to Section 66.40 of the Wisconsin Statutes. The creation of such an authority was recommended by the Waukesha Housing Task Force Committee as a necessary step toward initiating action programs designed to resolve housing problems and, in particular, housing problems for the elderly.

TOWN OF WHEATLAND

The Town Board of the Town of Wheatland adopted, on September 14, 1970, a new ordinance governing mobile home parks. The ordinance provides for the installation of sanitary sewers, paved streets, street lighting, and playground equipment, as well as establishing minimum lot sizes and widths.

QUESTION BOX

HOW CAN SEWRPC BE OF ASSISTANCE TO POTENTIAL USERS OF THE 1970 CENSUS DATA?

By way of background, it should be noted that the Commission has, over the past eight years, expended a considerable amount of time and effort in preparing for the 1970 census so that the results of the census would be more readily available to potential users within the Region. To this end the Commission has participated in the creation of five local census tract committees within the Region; has assisted these committees in the delineation of census tracts and enumeration districts; has served as the local coordinating agency for preparation of the maps and address coding guide used to conduct the 1970 census; and has cooperated with the U. S. Census Bureau in the preparation of the metropolitan maps, address coding guide, and geographic reference system required to both conduct, and effectively utilize the results of, the census. All potential census users within the Region, whether public agencies or private organizations, should now be able to capitalize on this preparation.

As in the past, the Commission will analyze and publish selected data from the multitude of statistics to become available from the census. For example, in 1962 the Commission published a report entitled The Population of Southeastern Wisconsin. This report will be reissued to include an in-depth analysis of the 1970 census data. The Commission will also publish community profiles containing census data for each of the 153 local units of government in the Region as these data are retrieved from the various summary tapes provided by the U. S. Census Bureau.

In addition, the Commission will assist potential census data users in relating the census data to almost any desired geographic area, such as a watershed, a market area, a traffic analysis zone, or a neighborhood. Through the use of an automated street address coding guide and computer-generated "X" and "Y" coordinate grid-values, data series which are maintained by street address can be readily cross-referenced to certain common geographic units, such as the U. S. Public Land Survey quarter section, or to any area the boundaries of which can be described by the use of Wisconsin State Plane Coordinates. These geographic

QUESTION BOX—continued

cross reference tools can, in turn, be used to relate much of the census data to the same bases for analytical comparisons. For example, the street address of each neighborhood library user might be tabulated and assigned its respective quarter section code. By transferring the residence locations to a map, a library service area can be defined to the nearest whole quarter section. The census data can then be tabulated for the entire service area to obtain an economic or demographic "profile" of the service area population, a valuable information source for library program administration. Moreover, the availability of the "X" and "Y" grid values can facilitate the preparation of computer-printed maps, which can, in many instances, be used to display a variety of information more economically and faster than the manual preparation of such graphic displays.

By serving as a local coordinator of census data users, the Commission will be able to provide such users with the cost savings which result from common or similar requests. For example, it is likely that the data needs for a health official in the City of West Allis are similar to those of a health official in the City of Waukesha or the City of West Bend. Consequently, it is expected that the costs of data retrieval programs can be spread over a much greater base and thus made lower on a per-user basis. The census data coordination role carries the additional advantages of centralizing census computer tape storage for the communities within the Region and thus reduces or eliminates the need to purchase the tapes themselves or to develop staff capabilities in machine processing of census data and facilitates the assimilation of census data and the correlation of such data with other planning data already stored in the Commission's files. These files presently number in excess of 700, consisting of more than 560 reels of magnetic tape, over 1 million punched cards, and well over 100 million individual items of planning information.

Finally, it should be noted that the Commission staff will, upon request, assist local census users in identifying their specific data needs and in formulating requests for cost estimates.

QUOTABLE QUOTE.....

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way...."

Charles Dickens
A Tale of Two Cities

SOUTHEASTERN WISCONSIN REGIONAL
PLANNING COMMISSION

Old Courthouse
P. O. Box 769
Waukesha, Wisconsin

Phone: (414) 547-6721

Kurt W. Bauer
Executive Director

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