



Chapter 2

POPULATION, EMPLOYMENT, AND HOUSING TRENDS, PROJECTIONS, AND FORECASTS

INTRODUCTION

This chapter examines population, employment, and housing trends, projections, and forecasts for the City of Franklin to the year 2010. The analysis and establishment of reasonable trends, projections, and forecasts in these areas have significant importance in guiding plan development. In fact, these projections, forecasts, and trends will serve as the rationale or basis for the development of selected objectives, principles, and standards presented in Chapter 6. These forecasts, when used in conjunction with the standards presented in Chapter 6, will result in ascertaining the City's land use needs to the year 2010 as described in Chapter 8.

POPULATION GROWTH: THE HISTORIC PERSPECTIVE

Population projections and forecasts are based upon an analysis of historic and current population data in order to project or forecast future population levels. Prior to making population projections and forecasts, it is necessary to have historical data base from which to work. Table 2.1 indicates the actual historic population levels for both Milwaukee County and the City of Franklin geographic area from 1850 through 1980 as well as the Wisconsin Department of Administration's 1989 estimate for both the County and the City. Figure 2.1 graphically illustrates the population trend for the geographic area of the City of Franklin from 1920 to 1989.

As can be noted from Table 2.1, Milwaukee County has declined in population from 1970 to 1989 by about 121,374 persons, or about 11.5 percent. During this same period, however, the City of Franklin has gained 8,682 persons, representing an overall increase of about 70.9 percent. Other far south and southwest Milwaukee metropolitan suburbs--those with a significant supply of vacant land to accommodate development--have also experienced similar rapid population growth during this same period. Therefore, it is important to consider the population growth of Franklin within the perspective of its surrounding growing communities. Within this context, recent population changes and growth trends in the neighboring Milwaukee County communities of the Cities of Greenfield and Oak Creek should be considered, as well as the Cities of Muskego and New

Berlin in Waukesha County. The population growth trends in these neighboring growing areas is shown in Table 2.2. With respect to these communities, between 1980 and 1989, the City of Franklin's population grew at a significantly faster rate. Due to this significant growth rate in the City since 1950, the planning of the City has been an important issue.

Table 2.1

**HISTORIC POPULATION OF MILWAUKEE COUNTY AND
THE CITY OF FRANKLIN: 1850 TO 1989**

<u>Year</u>	<u>Milwaukee County</u>		<u>City of Franklin^a</u>	
	<u>Population</u>	<u>% Change</u>	<u>Population</u>	<u>% Change</u>
1850	31,077	--	1,176	--
1860	62,518	101.1	1,773	50.8
1870	89,930	43.8	2,090	17.9
1880	138,537	54.0	1,819	-13.0
1890	236,101	70.4	1,868	2.7
1900	330,017	39.8	1,738	-7.0
1910	433,187	31.0	1,770	1.8
1920	539,449	24.0	1,712	-3.3
1930	725,263	34.0	2,012	17.5
1940	766,885	5.7	2,304	14.5
1950	871,047	13.0	3,886	68.7
1960	1,036,047	18.9	10,006	157.5
1970	1,054,249	1.8	12,247	22.4
1980	964,988	-8.5	16,871	37.8
1989 ^b	932,875	-3.3	20,929	24.1

^aThe City of Franklin was incorporated in 1956. Prior to that date, the City of Franklin was the unincorporated Town of Franklin.

^bPreliminary estimate from the Wisconsin Department of Administration issued August 10, 1989.

Source: U.S. Bureau of the Census, the Wisconsin Department of Administration, and Lane Kendig, Inc.

Figure 2.1

HISTORIC POPULATION GROWTH IN THE CITY OF FRANKLIN
GEOGRAPHIC AREA: 1920 TO 1989

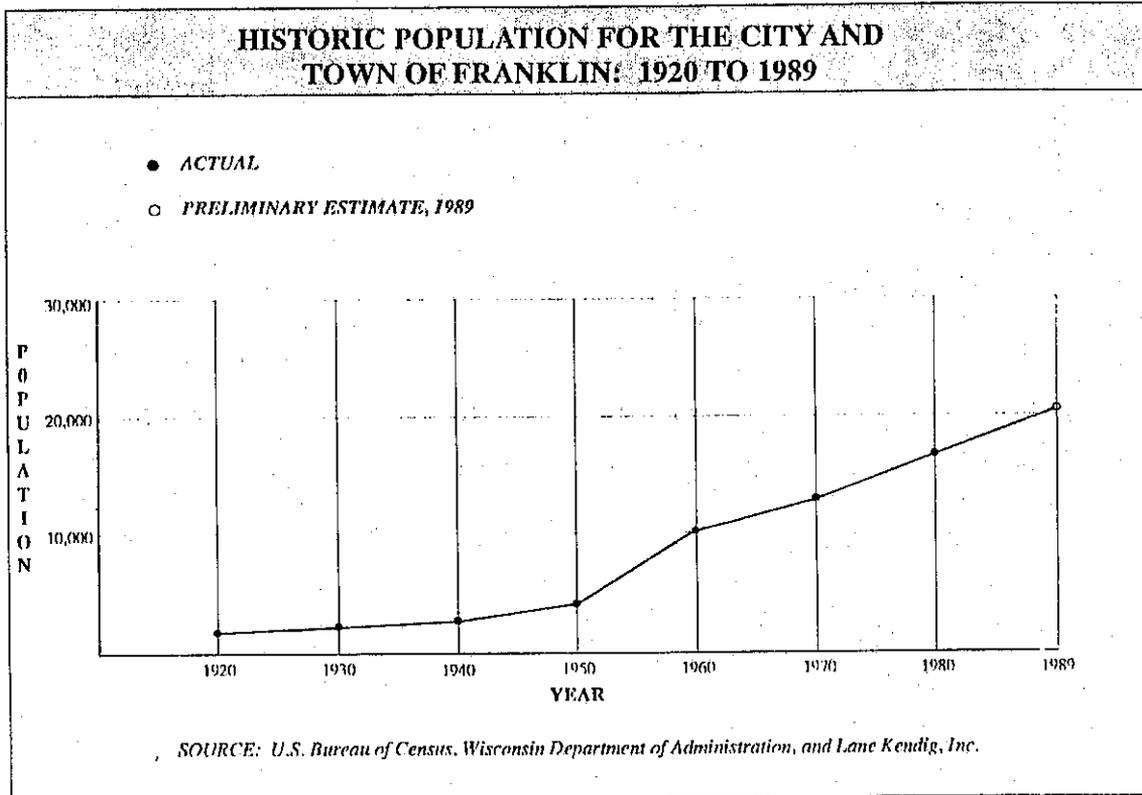


Table 2.2

POPULATION GROWTH TRENDS IN NEIGHBORING MUNICIPALITIES:
1970 to 1989

<u>Community</u>	<u>Year</u>					
	<u>1970</u>		<u>1980</u>		<u>1989^a</u>	
	<u>Pop.</u>	<u>Percent Change</u>	<u>Pop.</u>	<u>Percent Change</u>	<u>Pop.</u>	<u>Percent Change</u>
<i>Milwaukee County:</i>						
Franklin	12,247	22.4	16,871	37.8	20,929	24.1
Greenfield	24,424	38.5	31,353	28.4	32,727	4.4
Oak Creek	13,928	48.6	16,932	21.6	19,140	13.0
<i>Waukesha County:</i>						
Muskego	11,573	30.2	15,277	32.0	16,607	8.7
New Berlin	26,910	70.4	30,529	13.4	33,134	8.5

^aPreliminary Wisconsin Department of Administration estimate issued August 10, 1989.

Source: U.S. Bureau of the Census, Wisconsin Department of Administration, and Lane Kendig, Inc.

POPULATION PROJECTIONS AND FORECASTS

Before presenting and discussing various projections and forecasts for the City of Franklin, it is first important to understand the difference between a "projection" and a "forecast." For the purposes of this Plan, a "projection" is defined as a numerical value determined from a mathematical formula and based upon past trends. On the other hand, a "forecast" is a numerical value determined from a mathematical formula based upon past trends and tempered with judgement. The formulation of projections and forecasts for the City of Franklin is a particularly difficult task fraught with numerous uncertainties. It should be borne in mind that these projections and forecasts only represent trends based upon past conditions and are modified by judgement, when necessary, in order to present the best estimate of a future condition.

Population projections and forecasts have been prepared for the City of Franklin by both the Wisconsin Department of Development and the Southeastern Wisconsin Regional Planning Commission. In addition, other population projections were made for the City by Lane Kendig, Inc. These various projections and forecasts are presented and described here.

Wisconsin Department of Development Projections

In 1986, the Wisconsin Department of Development developed small-area baseline population projections for all Wisconsin counties, townships, and incorporated areas for the years 1985, 1990, 1995, 2000, 2005, and 2010. These projections, as they relate to the City of Franklin, are presented in Table 2.3 within the context of the same projections for Milwaukee and Waukesha Counties, as well as the neighboring and nearby south suburban communities of the Cities of Greenfield, Oak Creek, Muskego, and New Berlin. The projections were based, in simple terms, upon the use of eleven population projection extrapolation models and the averaging of the results of the application of these models to the City of Franklin. These projections indicate that while Milwaukee County is expected to lose 112,861 persons, or about 11.7 percent, of its population during the period 1980 to 2010, the City of Franklin is expected to gain 13,696 persons, or increase in population by about 81.2 percent, over this same period. In the City of Greenfield, the increase is projected to be 6,269 persons, or about 20 percent, for this same period. In the City of Oak Creek, the increase is projected to be 9,046 persons, or about 53.4 percent. Contrary to the declining population expected for Milwaukee County as a whole, Waukesha County is expected to gain 97,540 persons, representing a gain of about 34.8 percent over this same period. In the neighboring City of Muskego, the population is expected to increase by 7,209 persons, or about 47.2 percent. In the nearby City of New Berlin, the population is expected to increase by 10,730 persons, or about 35.1 percent,

during the same period. Based upon these forecasts, the City of Franklin is projected to be the fastest growing metropolitan Milwaukee south suburban community through the year 2010.

Table 2.3

**WISCONSIN DEPARTMENT OF DEVELOPMENT PREPARED
PROJECTED POPULATIONS FOR THE CITY OF FRANKLIN AND
SELECTED NEIGHBORING SOUTH SUBURBAN COMMUNITIES
IN MILWAUKEE AND WAUKESHA COUNTIES: 1980 TO 2010**

<u>Geographic Area</u>	<u>YEAR</u>			
	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>
<i>Milwaukee County</i>	964,988	912,810	877,301	852,127
City of Franklin	16,871	20,432	24,742	30,567
City of Greenfield	31,353	33,846	36,244	37,622
City of Oak Creek	16,932	19,607	22,762	25,978
<i>Waukesha County</i>	280,203	316,142	353,660	377,743
City of Muskego	15,277	17,482	19,981	22,486
City of New Berlin	30,529	34,845	39,123	41,259

Source: U.S. Bureau of the Census and Applied Population Laboratory, UW-Madison, 1985, for the Demographic Services Center of the Wisconsin Department of Administration.

In June 1988, the Demographic Services Center of the Wisconsin Department of Development issued revised population projections for all Wisconsin counties including Milwaukee County (See Table 2.4). The projections indicate, once again, an overall continuing decline of population levels for Milwaukee County to continue to the year 2010. However, these revised projections were not prepared for small areas in the State. Therefore, those projections shown in Table 2.3 relative to population projections for the City of Franklin are still the most current used by State of Wisconsin officials.

Table 2.4

**REVISED POPULATION PROJECTIONS FOR MILWAUKEE COUNTY:
1980 TO 2020**

<u>Year</u>	<u>Projection</u>	<u>Change^a</u>	<u>Percent Change^a</u>
1980	964,988(Actual)	--	--
1990	913,828	-51,160	-5.3
2000	866,327	-47,501	-5.2
2010	824,945	-41,382	-4.8
2020	788,184	-36,761	-4.5

^aRepresents change from previous period.

*Source: Demographic Services Center of the Wisconsin
Department of Administration and
Lane Kendig, Inc.*

Southeastern Wisconsin Regional Planning Commission (SEWRPC) Forecasts

Preliminary population forecasts prepared by SEWRPC for the City of Franklin and Milwaukee County were based upon an "alternative futures" approach to the preparation of forecasts and plans. This approach is currently being used by SEWRPC for the preparation of its third generation year 2010 regional land use plan for Southeastern Wisconsin. Under this approach, the Regional Plan Commission's alternative plans for the region are not based upon the traditional planning approach (where a single most probable projection or forecast of future conditions in the region is used) but rather upon a number of alternative futures chosen to represent a range of conditions which may reasonably expect to occur over the forecast period.

The preliminary population forecast prepared have been for what SEWRPC terms an "intermediate forecast, centralized land use scenario" and for an "optimistic forecast, decentralized land use scenario." Forecasts for Milwaukee County and the City of Franklin are shown in Table 2.5 for total population, household population, total households, and persons per household.

Table 2.5

SEWRPC PRELIMINARY POPULATION FORECASTS FOR MILWAUKEE COUNTY AND THE CITY OF FRANKLIN: 1985 TO 2010

<u>Geographic Area and Forecast Type</u>	<u>Estimated 1985</u>	<u>Intermediate Forecast-2010^a</u>	<u>Optimistic Forecast-2010^b</u>
<i>Milwaukee County:</i>			
Total Population	939,600	934,000	920,900
Household Pop.	914,700	904,208	883,631
Total Households	368,200	401,010	359,240
Persons/Household	2.5	2.3	2.5
<i>City of Franklin:</i>			
Total Population	19,100	28,500	32,800
Household Pop.	18,590	27,830	31,900
Total Households	6,450	10,790	11,280
Persons/Household	2.9	2.6	2.8

^aBased upon a centralized development land use scenario.

^bBased upon a decentralized development land use scenario.

Source: SEWRPC.

Other Population Projection Models

Due, in part, to the uncertainties which may result from the exclusive use of a single population projection or forecast, as well as the uncertainties involved in projecting future population levels in general, several additional population projections were prepared for the City of Franklin. Five trend-related population models were used with the results obtained through the use of computer programs prepared for these models. Trend-related projections are based, as the term implies, upon the historic population trends which have taken place in the Town and City of Franklin from 1950 through 1980. As such, and with respect to City population projections, they are typically based upon the data gathered from the previous decennial census. The five models which were used were the linear ("straight line" or direct), the linear (regression), the exponential (direct), the exponential (regression), and the modified exponential models. These five models are summarized

in Figure 2.2 and described in some detail below. These models were chosen for the preparation of this third set of City of Franklin population projections since they are based upon currently acceptable planning practice and statistical methodology.

Linear ("Straight Line" or Direct and Regression) Model

The linear model describes a population which has exhibited a history of very steady growth in terms of absolute numbers. Employing this model for population projections will yield a projection of a direct continuation of a past trend into the future. Although this model is one of the most easiest to understand, it may not yield adequate results if recent events in an area make past data difficult to use in a meaningful manner. Two variations of this model were applied--the "straight line" and the regression.

Exponential (Direct and Regression) Model

Under a population growth scenario, this model describes a population which is growing at an increasing increment each decade. In other words, the population is expanding at a constant rate or percentage. Therefore as the population expands, the constant percentage of growth will yield increasing absolute numbers each decade. This growth model accurately depicts the population of rapidly growing areas. Such trends typically do not continue over long periods of time (exceptions to this are only a few counties in Florida and Texas which have been able to keep these trends over a period of more than thirty years). Two variations of this model were applied--the direct and the regression.

Modified Exponential Model

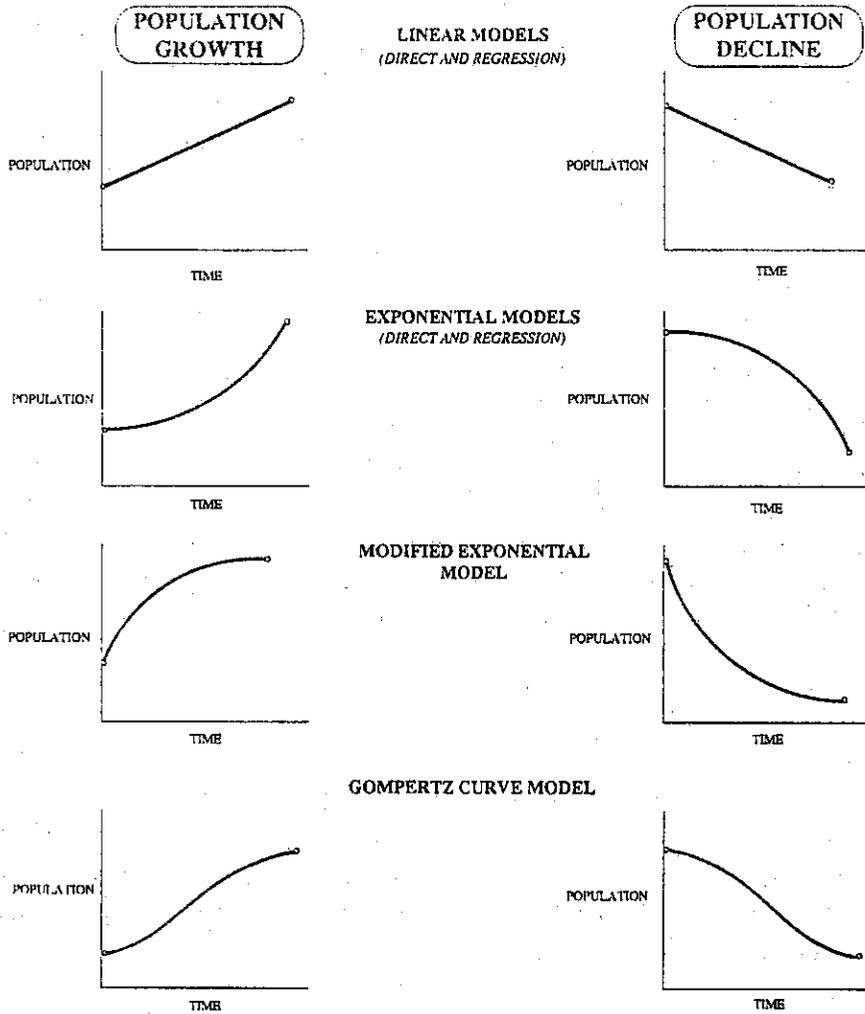
This model is designed to work with the assumption that there is an upper limit to the amount of growth that a jurisdiction or an area of a constant size can accommodate. This model utilizes a declining rate of growth which yields smaller increments of additional population over time. The great majority of jurisdictions with a fixed area typically exhibit this type of growth pattern.

Gompertz Curve Model

Another typical population projection model used commonly is the Gompertz curve model. This model combines the effects of both the exponential and the modified

Figure 2.2

GRAPHIC SUMMARY OF POPULATION PROJECTION MODELS



SOURCE: LANE KENDIG, INC.

exponential models over time. The resulting population levels exhibit an S-shaped pattern with an initial period of rapid growth followed by a period of gradual reduction of this pattern which eventually reaches an upper limit. Many cities and highly urbanized counties (such as Chicago, Cleveland, Milwaukee, and St.Louis) have followed this pattern for a good portion of their existence. Typically the Gompertz curve growth pattern has been followed by a period of population decline which somewhat resembles a negative exponential model. Although Milwaukee County has experienced this type of trend, the City of Franklin does not have similar historic conditions to the types of communities which have experienced growth that reflects this type of population growth curve. Thus, the Gompertz curve model was not used. Also, no such population decline is expected for the City of Franklin during the planning period.

For the City of Franklin, the five alternative population projections were prepared utilizing the following models: two versions of the linear model (a "straight line" and regression approach), two versions of the exponential model (a direct and a regression approach), and the modified exponential model. These projections are shown in Table 2.6 and graphically illustrated in Figure 2.2.

Table 2.6

**ALTERNATIVE POPULATION PROJECTIONS FOR THE
CITY OF FRANKLIN: 1980 TO 2010^a**

<u>Year</u>	<u>Linear (Direct)</u>	<u>Linear (Regres.)</u>	<u>Exponen. (Direct)</u>	<u>Exponen. (Regres.)</u>	<u>Modified Exponential</u>
1980 ^b	16,871	16,871	16,871	16,871	16,871
1989 ^c	20,929	20,929	20,929	20,929	20,929
1990	21,199	21,052	29,110	29,950	19,527
2000	25,528	25,171	50,229	47,476	21,646
2010	29,856	29,291	86,669	75,256	23,336

^aTrends based upon actual decennial U.S. Census data for the Town and City of Franklin population since 1950.

^bIndicates existing 1980 population for the City of Franklin.

^cPreliminary estimate prepared by the Wisconsin Department of Administration issued August 10, 1989. This estimate was not used as part of the model used to generate these projections.

Source: Lane Kendig, Inc.

It must be remembered that these population projection models are merely statistical tools which produce mathematically-based population projections. Their usefulness comes from the fact that many areas have a population trend which, typically, conforms to one of these patterns. It should also be noted here that the projections prepared using the linear direct and the linear regression models most clearly represent trends in population growth in the City of Franklin since 1950. The other three models--the exponential direct, exponential regression, and modified exponential--on the other hand, do not represent trends in population growth for the City since 1950 and, therefore, should be discounted.

Summary of City Population Projections and Forecasts

Table 2.7 presents a summary of the reasonable year 2010 population projections and forecasts for the City of Franklin. Based upon this data, the year 2010 population of the City can expect to range between 28,500 to 32,800 persons, representing an increase in the total population of from about 41 to 63 percent over the next two decades. This population range is the same as the two preliminary population forecasts prepared for the City by SEWRPC and presented earlier in Table 2.5.

Recommended Year 2010 Population Forecasts

Since the population projections prepared for the City for the year 2010 by both the Wisconsin Department of Development and Lane Kendig, Inc. fall within the SEWRPC range, it is recommended that the SEWRPC range of forecasts be used during the City's Comprehensive Master Plan preparation process. Figure 2.3 graphically illustrates this range from 1950 to 2010. Table 2.8 further defines the population forecast range in terms of not only total population but also household population, total households, and persons per household. While the average household size was estimated by SEWRPC to be 2.9 persons in 1985, the SEWRPC forecasts show a range of household size from 2.6 to 2.8 persons indicating only a slight decrease in size over the planning period.

HISTORIC AND PROBABLE FUTURE AGE DISTRIBUTION

Based upon the projected year 2010 age and sex cohorts for Milwaukee County prepared by the Demographic Services Center of the Wisconsin Department of Administration and the year 2010 forecast population range for the City presented in Table 2.8, age distribution forecast ranges for the City were prepared for the following age groups: less than 5 years (representing pre-school children), 5 to 9 years (representing elemen-

Table 2.7

**SUMMARY OF REASONABLE
ALTERNATIVE YEAR 2010 POPULATION PROJECTIONS
AND FORECASTS FOR THE CITY OF FRANKLIN**

Source or Method	Projection/Forecast (persons)	Change Since 1989 ^a (persons)	Percent Change
WDD ^b	30,567	9,638	46.1
SEWRPC: ^c			
Intermediate	28,500	8,325	41.3
Optimistic	32,800	12,625	62.6
Population Models: ^d			
Lin. Dir.	29,856	9,681	48.0
Lin. Reg.	29,291	9,116	45.2

^aThe preliminary Wisconsin Department of Administration estimate for 1989 issued on August 10, 1989, for the City of Franklin was 20,929 persons.

^bWisconsin Department of Development projection, 1986.

^cPreliminary forecast prepared in 1989 for the year 2010 regional plan.

^dTrends based upon actual decennial U.S. Census data for the City population since 1950 using linear direct and linear regression projection models. Also see Table 2.6.

Source: Lane Kendig, Inc.

Figure 2.3

**HISTORIC AND FORECAST FUTURE POPULATION LEVELS FOR
THE CITY OF FRANKLIN: 1950 TO 2010**

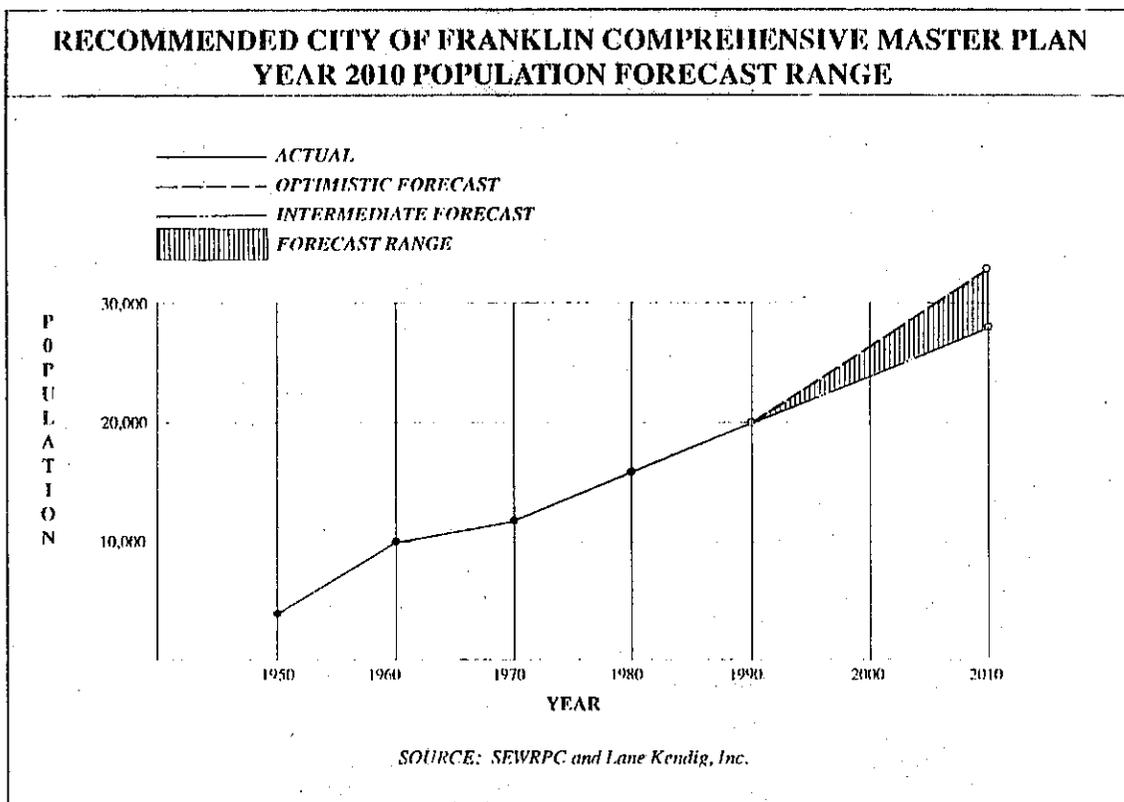


Table 2.8

**RECOMMENDED CITY OF FRANKLIN COMPREHENSIVE MASTER
PLAN YEAR 2010 POPULATION FORECAST RANGE***

Population Category	Estimated 1985	Forecast Range	
		Intermediate	Optimistic
Total Population	19,100	28,500	32,800
Household Population	18,590	27,830	31,900
Total Households	6,450	10,790	11,280
Persons per Household	2.9	2.6	2.8

**Based upon unpublished preliminary year 2010 forecasts prepared by SEWRPC.*

Source: SEWRPC and Lane Kendig, Inc.

ntary school grades K-4), 10 to 14 years (representing school grades 5-9), 15 to 19 years (generally representing high school age population including grades 10-12), 20 to 64 years (representing the working age population), and over 65 years (representing the elderly population). These population forecasts are summarized in Table 2.9.

In 1980, the age group of less than 5 years represented 1,205 persons, or 7.1 percent of the City's total population. In 2010, that group will increase from 1,824 to 2,099 persons, representing about 6.4 percent of the City's total population. The increase of persons in this age group will be from 619 to 894 persons, or from 51 to 74 percent, over the planning period. This increase will result in a corresponding increase in the need for child day-care facilities in the City as well as other associated child care facilities.

In 1980, the age group of 5 to 9 years represented 1,311 persons or 7.8 percent of the City's total population. In 2010, that group will increase from 1,653 to 1,902 persons, representing about 5.8 percent of the City's total population. The increase in persons in this age group will be from 342 to 591, or from 26 to 45 percent, over the planning period. This increase will impact the elementary schools through a proportionate increase in school enrollments for that age group. The impact of this increase upon the need for additional school facilities will be explored in Chapter 8.

In 1980, the age group of 10 to 14 years represented 1,519 persons, or 9.0 percent of the City's total population. In 2010, that group will increase to from 1,653 to 1,902 persons representing about 5.8 percent of the City's total population. The increase in persons in this age group will be from 134 to 383, or from about 9 to 25 percent, over the planning period. As in the age group 5 to 9 years, this increase will impact the elementary schools through a proportionate increase in enrollments for that age group which will be examined further, relative to facility needs, in Chapter 8.

In 1980, the age group of 15 to 19 years represented 1,656 persons, or 9.8 percent of the City's total population. In 2010, that group will increase to from 1,852 to 2,132 persons representing 6.5 percent of the City's total population. The increase in persons in this age group will be from 196 to 476 persons, or from about 12 to 29 percent, over the planning period. As in the previous two age groups, this increase will impact the school facilities through a proportionate increase in school enrollments in that age group. This will also be examined further, relative to facility needs, in Chapter 8.

In 1980, the age group of 20 to 64 years represented 10,349 persons, or about 61.4 percent of the City's total population. In 2010, that group is expected to increase to from 17,386 to 20,009 persons continuing to represent about 61.0 percent of the City's total population. The increase in persons in this age group will be significant from 7,037 to 9,660 persons, representing a 68 to 93 percent increase over the planning period.

Table 2.9

**FORECAST POPULATION RANGE OF THE CITY OF FRANKLIN
BY AGE GROUP: 2010**

Age Group (Years)	Total Number (Range)	Percent ^a
<5	1,824 - 2,099	6.4
5 - 9	1,653 - 1,902	5.8
10 - 14	1,653 - 1,902	5.8
15 - 19	1,852 - 2,132	6.5
20 - 64	17,386 - 20,009	61.0
>65	4,132 - 4,756	14.5
Total^b	28,500 - 32,800	100.0

^aBased on projected year 2010 age cohorts for Milwaukee County by the Wisconsin Department of Administration (1988).

^bBased upon unpublished preliminary year 2010 forecasts prepared by SEWRPC.

Source: Lane Kendig, Inc.

This increase will have a substantial demand for new housing in order to accommodate this age group adequately.

In 1980, the age group of 65 years or older represented only 831 persons, or about 4.9 percent of the City's total population. By 2010, that group is expected to significantly increase to from about 4,132 to 4,756 persons representing about 14.5 percent of the City's total population. The increase in persons in this age group will be significant from about 3,301 to 3,925 persons, representing a 397 to 472 percent increase over the planning period. This quite dramatic increase in the elderly age group will also have a corresponding dramatic increase for the need for special housing for the elderly and the provision of elderly-related services.

These potential forecast changes in both the population and age composition of the population of the City have important implications for the sound planning of growth within the City. The forecasts for school age populations will assist in guiding the planning of the number of school facilities serving the City area. While the working age population--or work force--percentage of the population will not change significantly over the planning period, the total work force will increase significantly due to increased population levels. Thus, the provision of an adequate number of jobs in the City over the planning period is a significant issue for the Plan to contend with, since the location of those jobs is a land use issue. Finally, the dramatic increase of the elderly population from only about 831 in 1980 to from about 4,132 to 4,756 by the year 2010 will dramatically affect the current demand for elderly housing opportunities, special transportation systems, specialized recreational facilities, and health care provision.

More detailed historic (1980) and alternative projected and forecast (2010) age distributions are shown in Appendix A of this Plan. Appendix A presents age and sex data in five year cohorts for Milwaukee County, neighboring Waukesha County, and the City of Franklin.

FORECAST HOUSEHOLD SIZE

Table 2.8 also indicates the estimated 1985 and forecast year 2010 range of household sizes expected for the City. Table 2.8 indicates a slight decline in the number of persons per household from about 2.9 in 1985 to from 2.6 to 2.8 in the year 2010. This type of data, along with the total forecast population range for the City in the year 2010, will assist in forecasting the total number of dwelling units which will be needed in order to house the residents of the City in 2010. These housing forecasts and trends will be discussed later in this chapter.

EMPLOYMENT FORECASTS

Table 2.10 sets forth the forecast employment range for the City of Franklin to the year 2010 based upon both the intermediate and optimistic population forecasts described earlier. Employment forecasts are listed for six employment categories: agriculture; industrial; retail trade; transportation, communication, and utilities; government; and service. Each of these categories is related to various types of land use. These forecast ranges will be used later in Chapter 8 of this Plan, in combination with the land use standards set forth in Chapter 6, in order to assist in determining the required amount of land use in various categories for the year 2010.

Overall employment for the City may expect to increase from an estimated 3,960 jobs in 1985 to from 7,040 to 10,490 jobs by the year 2010, representing an increase ranging from about 78 to 165 percent. Significant increases in jobs in the City are forecast in the industrial, retail trade, and service categories.

The largest job increases are forecast in the industrial-related jobs category. This category is expected to increase from an estimated 1,100 jobs in 1985 to from 2,600 to 5,500 jobs in the year 2010, representing an increase ranging from about 136 to 400 percent. It should be noted here that the increase in industrial jobs in the City is predicated upon a continuation of the efforts which the City has made in recent years with the development of Phase II of the Franklin Industrial Park Neighborhood. It should also be noted that industrial development activity will also have to take place in other key planned locations of the City in order for that large forecast to be realized. Necessary industrial-related lands will have to be set aside and planned for in order for these forecasts to be fully accommodated and ultimately realized.

Another large increase in jobs is also forecast for the retail trade and service employment categories. Cumulatively, these two categories are expected to increase from an estimated 1,370 jobs in 1985 to from 2,520 to 3,000 in the year 2010, which represents an increase ranging from about 84 to 119 percent. As in the case of the industrial job forecasts, necessary commercial-related lands will also have to be set aside and planned for in order to accommodate this forecast job growth.

Table 2.10

**RECOMMENDED CITY OF FRANKLIN COMPREHENSIVE MASTER
PLAN YEAR 2010 EMPLOYMENT FORECAST RANGE***

Employment Category	Estimated No. Jobs (1985)	Forecast Range No. Jobs: Intermediate Optimistic	
Agriculture	130	130	130
Industrial	1,100	2,600	5,500
Retail Trade	440	990	1,250
Transportation, Communication, and Utilities	250	280	330
Government	1,110	1,510	1,530
Service	930	1,530	1,750
Total	3,960	7,040	10,490

**Based upon unpublished preliminary forecasts prepared by SEWRPC.*

Source: SEWRPC and Lane Kendig, Inc.

HOUSING FORECASTS AND TRENDS

Year 2010 City Housing Forecast Needs

Based upon both the City forecast population and the persons per household ranges presented earlier in Table 2.8 for the year 2010, an overall vacancy rate of three percent, and the assumption that no housing units will be demolished during the planning period, the City forecast of total housing units for the year 2010 is from 11,291 to 12,066. Based upon the U.S. Bureau of the Census data, in 1980 there were 5,539 housing units in the City. Building permit data from the City's Office of the Building Inspector indicates that from 1980 through 1988, 2,064 additional dwelling units were constructed. This brings the total number of dwelling units in the City up to about 7,603 at the end of 1988. Therefore, in order to meet the forecast housing needs in the City for the year 2010, an additional 3,688 to 4,463 dwelling units will need to be constructed. This forecast need for additional housing units averages to a range of from about 176 to 213 dwelling units to be constructed each year during the next 21-year period.

Recent and Projected City Housing Trends

Table 2.11 indicates recent dwelling unit construction by type in the City from 1970 through 1988. Data from Table 2.11 was used to determine the current as well as projected housing trends in the City relative to the type and percentage of total dwelling units constructed. The type of dwelling units constructed are broken down, by type, into single-family, duplex, and multi-family units. Table 2.12 presents the results of a trend analysis of new housing construction by type and percentage of total units constructed in the City from 1975 to 2010. Figure 2.4 graphically presents the results of this trend analysis and the content of Table 2.12. Both linear direct and linear regression models were used to compute these housing trends. Table 2.12 and Figure 2.4 indicate that if the recent (i.e. 1975 through 1988) trends of housing construction in the City continue, the number of new multiple family dwelling units constructed in the City will begin to exceed the number of new single-family dwelling units constructed; this will occur sometime between 1990 and 1995 unless there is a new City policy put into place regarding the setting of limitations on the number and types of dwelling units constructed. Chapter 6 presents the City's housing objectives, principles, and standards.

Table 2.11

RECENT DWELLING UNIT CONSTRUCTION BY TYPE IN THE CITY OF FRANKLIN: 1970 to 1988

<u>Period</u>	<u>Dwelling Unit Type</u>						<u>Total Units</u>
	<u>Single-Family</u>		<u>Duplex</u>		<u>Multifamily</u>		
	<u>Units</u>	<u>%Total</u>	<u>Units</u>	<u>%Total</u>	<u>Units</u>	<u>%Total</u>	
1970-75	453	38.9	0	0.0	711	61.1	1,164
1975-80	866	56.0	112	7.3	566	36.7	1,544
1980-85	544	54.3	70	7.0	388	38.7	1,002
<u>1985-88</u>	<u>526</u>	<u>49.5</u>	<u>98</u>	<u>9.2</u>	<u>438</u>	<u>41.2</u>	<u>1,062</u>
Total	2,389	50.1	280	5.8	2,103	44.1	4,772

Source: City of Franklin (Office of the Building Inspector) and Lane Kendig, Inc.

Table 2.12

**TREND ANALYSIS OF NEW HOUSING CONSTRUCTION
BY TYPE AND PERCENTAGE OF TOTAL UNITS CONSTRUCTED
FOR THE CITY OF FRANKLIN: 1975 to 2010^a**

<u>Period</u>	<u>Single-Family % Total Units</u>	<u>Duplex % Total Units</u>	<u>Multifamily % Total Units</u>	<u>Total %</u>
Actual:				
1975-80	56.0	7.3	36.7	100.0
1980-85	54.3	7.0	38.7	100.0
1985-88	49.95	9.2	41.2	100.0
Projected: ^b				
1990-95	47.0	10.0	43.0	100.0
1995-2000	44.0	11.0	46.0	101.0
2000-05	40.0	12.0	48.0	100.0
2005-10	37.0	13.0	50.0	100.0

^aAssuming a continuation of construction trends typical of the period 1975-1988 through the year 2010.

^bThese projections were based upon a linear regression projection model. For the single-family projection, the correlation coefficient was -0.964; for the duplex projection, it was 0.796; and for the multi-family projection, it was 0.997.

Source: Lane Kendig, Inc.

Figure 2.4

**TREND ANALYSIS OF NEW HOUSING CONSTRUCTION BY TYPE
AND PERCENTAGE OF TOTAL UNITS CONSTRUCTED
FOR THE CITY OF FRANKLIN:
1975 TO 2010**

