



3 POPULATION & ECONOMIC OVERVIEW

POPULATION AND HOUSING

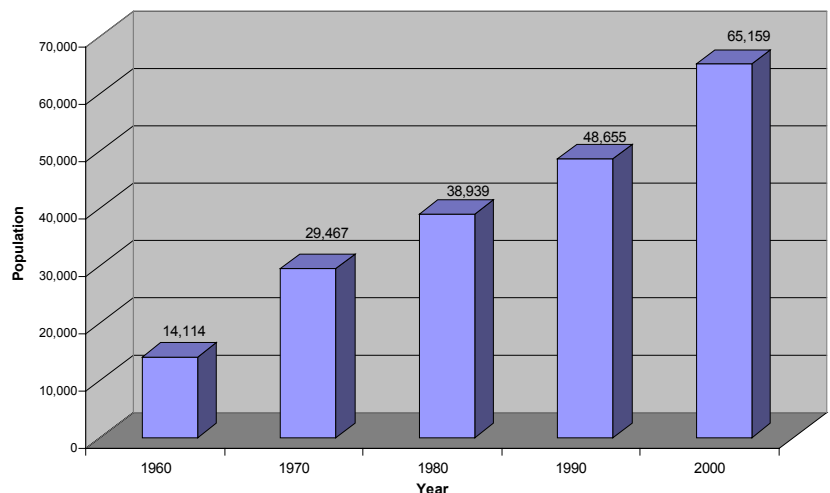
The population of a community, its composition, characteristics such as housing, workforce, income and local market potential is a basic ingredient in planning for the future. Historical and current population trends can be used in various ways to illustrate problem areas of development and provide an indication of probable future needs.

Once a database of existing conditions is compiled, a community can evaluate then use the findings to help set goals and determine implementation strategies.

Figure PE-1 shows population growth in Shelby Township from 1960 to 2000. As indicated, the Township population has grown significantly during the past 40 years. The highest rate of

Figure PE-1
Population Growth, 1960-2000 Shelby Township

Source: 1960-2000 US Census of Population and Housing



growth occurred during the 1960s, when the population increased over 72%. The lowest rate of growth was during the 1980s, which still had a significant population increase of 25%. The Township's greatest numerical growth occurred in the most recent decade from 1990-2000. During that ten-year period, Shelby Township added 16,504 new residents.

Figure PE-2 compares the population growth in Shelby Township with selected neighbors and other large communities in Macomb County. All the municipalities listed experienced some population growth between 1990 and 2000 with the exception of Warren, which actually saw a decline. The central and western Townships, including Shelby Township, saw a significant increase in population, in part because more land was available for development compared with the older, developed cities.

Figure PE-2
Population Trends for Selected Municipalities
 Source: 1990, 2000 US Census of Population and Housing

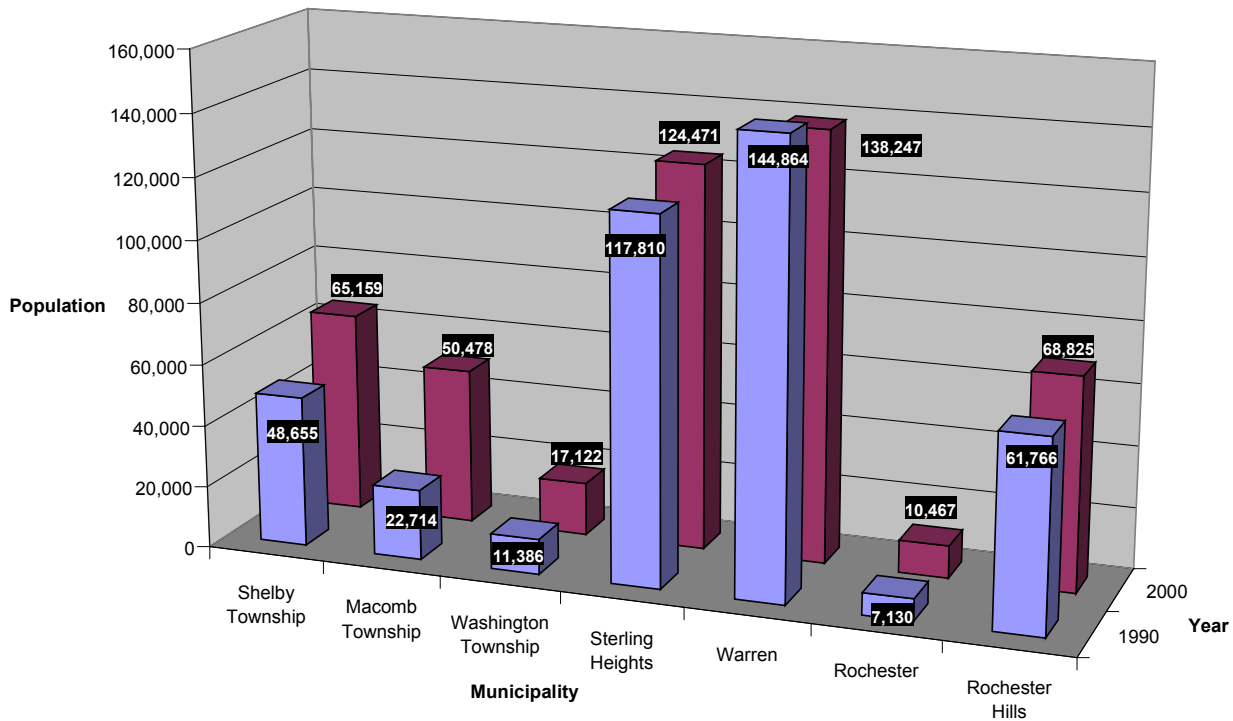


Figure PE-3
% of County Growth Attributable to Municipality

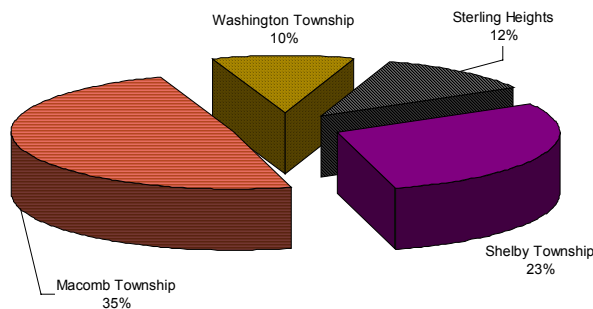
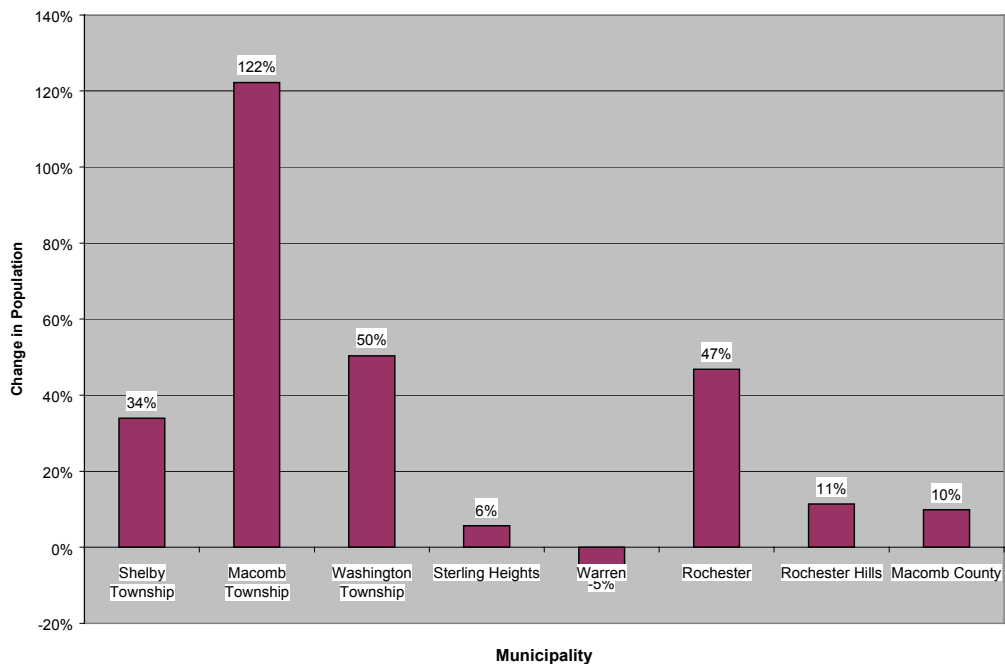


Figure PE-4 indicates that the overall percentage of population growth was greater for the Macomb County Township's of Shelby, Macomb, and Washington compared with the cities of Sterling Heights and Warren. Figure PE-3 shows that the greatest percentage of Macomb County's growth from 1990-2000 was attributable to Macomb Township (35% of the County's 10-year growth). Shelby Township was close behind Macomb, however, contributing 23% of the growth that occurred County-wide in the last decade. This also reinforces the previously mentioned trend in population growth within the less urban Township's of Macomb County as compared to cities.

Figure PE-4
% Change in Population, 1990-2000, for Selected Municipalities



Household Characteristics and Growth

The US Census of Population reports there were 65,159 Township residents in 24,486 households as of April 1, 2000. Between 1990 and 2000 the population in the Township grew by 34% while the number of households within the same time period grew by 45% indicating that household size is decreasing. This decrease in the household size follows the national trend of smaller family size and more non-traditional family structures. Table PE-1 compares the change in the number of households in the 1990's for selected municipalities with the percentage change in population during the 1990's, all communities experienced similar differences between population growth and household growth with the exception of the City of Rochester, which experienced an increase in household size.

Table PE-1
% of Household Growth Compared with % of Growth in Population

	1990	2000	NUMERICAL CHANGE	% CHANGE IN # OF HOUSEHOLDS	% CHANGE IN POPULATION
Shelby Township	16,836	24,486	7,650	45%	34%
Macomb Township	7,355	16,946	9,591	130%	122%
Washington Township	3,828	6,132	2,304	60%	50%
Sterling Heights	40,835	46,319	5,484	13%	6%
Warren	54,602	55,551	949	2%	-5%
Rochester	3,451	4,667	1,216	35%	47%
Rochester Hills	22,353	26,315	3,962	18%	11%
Macomb County	264,991	309,203	44,212	17%	10%

Source: 1990, 2000 US Census of Population and Housing

Table PE-2 provides information regarding the change in the number of total housing units, households, and specific household characteristics between 1990 and 2000. During this decade, the number of non-family households increased 3 times more than the number of family households. The number of female-headed households grew at a faster pace than population growth. Male-headed households grew at nearly twice the rate of female-headed households. This explosive growth of “non-family” households, coupled with the decrease in family size, may be partially attributable to rising rates of divorce and the resulting increase in single parent household formations.

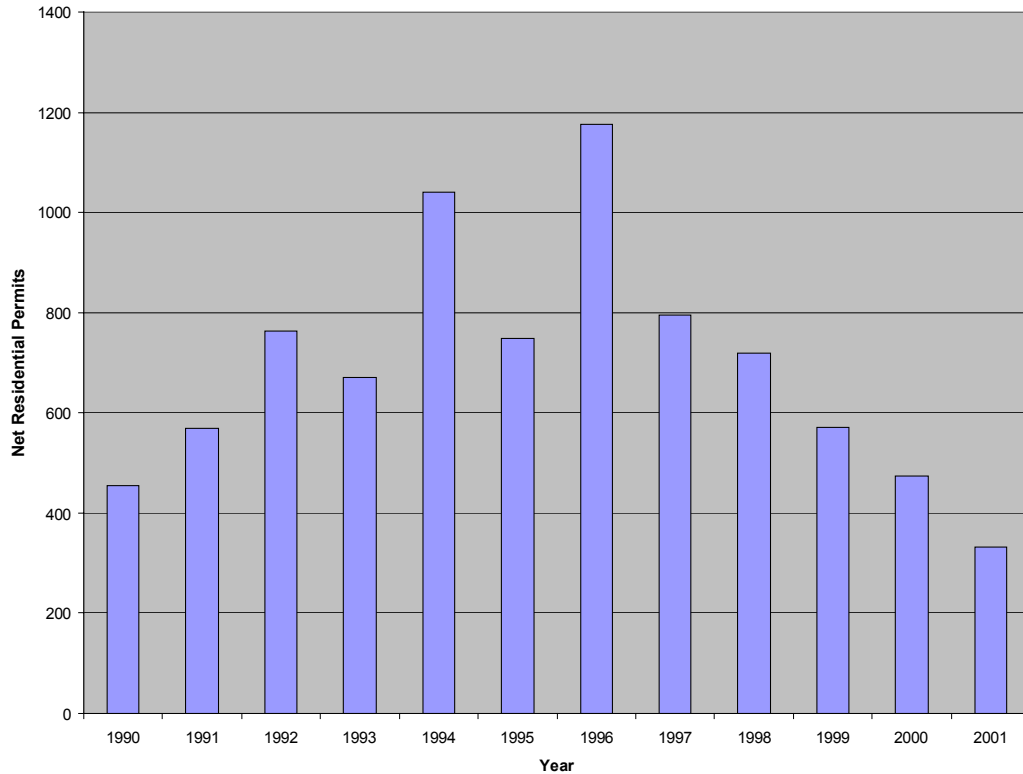
Table PE-2
Shelby Township Household Characteristics, 1990-2000 and SEMCOG Estimates

	1990	2000	1990-2000 # CHANGE	1990-2000 % CHANGE	SEMCOG ESTIMATE (JAN. 2002)
Total Housing Units	17,630	25,265	7635	43.3%	25,978
Number of Households	16,836	24,486	7,650	45.4%	25,137
Family Households	13,457	17,935	4,478	33.3%	-
Non-Family Households	3,379	6,551	3,172	94%	-
Female Headed Households	1,261	1,793	532	42%	-
Male Headed Households	469	811	342	73%	-
Persons Per Household	2.89	2.65	-.24	-8.3%	2.63

Sources: 1990, 2000 US Census of Population and Housing, and SEMCOG

According to SEMCOG, between 1990 and 2001, 8,295 residential building permits were issued in the Township. This represents a 47 percent increase in housing units over the past decade. Figure PE-5 shows the specific trends in residential building activity over the past decade. The height of the residential building boom was between 1992 and 1998, since that time residential development has slowed to 1990 levels.

Figure PE-5
Residential Building Permits, 1990-2000
 Source: SEMCOG

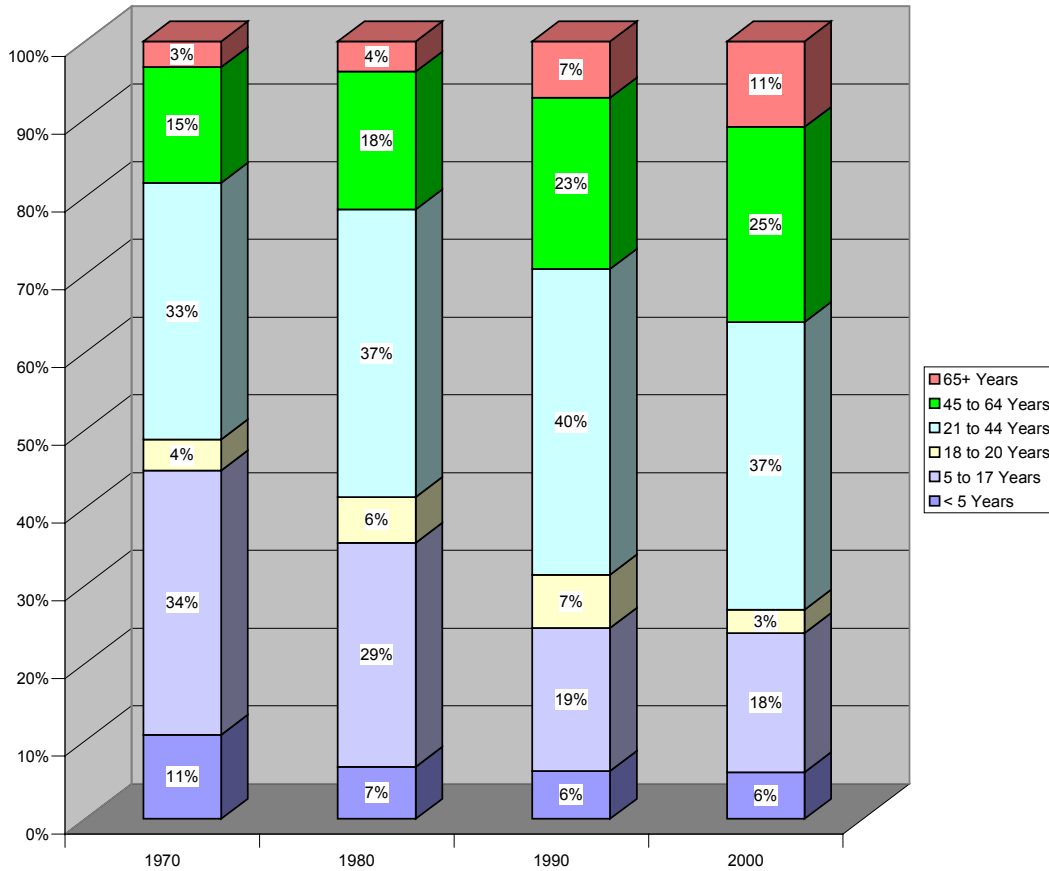


Age

In addition to total population, housing unit and household size, it is also important to examine overall age groupings. The overall age grouping provides figures for the number of school-age children, the size of the workforce, and size of the elderly population. This data can be used for school enrollment projections, planning for recreation facilities, special services for the elderly, and other governmental services. Figure PE-6 provides the overall age distribution of the Township's residents. The Major Age Group Comparison indicates that the age distribution in the Township has notably fluctuated over the past 30 years. There was a significant increase of 8% in the senior citizen population with a comparable decrease for those in the family formation years (20-44 years of age). The number of pre-school and school-age children has decreased by approximately 17% of the entire population (although it grew in total number). Those in their middle years, 45-64 years of age, also grew, further supporting the aging of the Township's population. These

demographics indicate it is critical to plan for the recreational needs of people of all ages, with a particular emphasis needed on programs and facilities for children and older adults.

Figure PE-6
Major Age Comparisons, 1970 through 2000
 1970, 1980, 1990, 2000 US Census of Population and Housing



Gender

The 2000 U.S. Census of Population and Housing indicates that Shelby has nearly an equal number of men and women. The population is 49.9% male and 50.1% female.

Race

Table PE-3 indicates the racial breakdown of Shelby Township residents, per the 2000 U.S. Census of Population and Housing.

Table PE-3
Race, Shelby Township

RACE	NUMBER OF PEOPLE	PERCENTAGE
White	61,870	95.0%
Black or African American	553	0.8%
American Indian and Alaska Native	158	0.2%
Asian	1,374	2.1%
Native Hawaiian and Other Pacific Islander	12	0.02%
Some other race	291	0.4%
Two or more races	901	1.4%

Source: 2000 U.S. Census of Population and Housing

FUTURE POPULATION PROJECTIONS

Shelby Township is a rapidly growing community with ample vacant land. Given the current growth patterns in Shelby and Macomb County in general, the Township is expected to continue to grow, but at a slower pace than its growth over the last several decades.

It is important to have a good estimate of the future population so that planning for infrastructure, municipal services, and administrative capabilities can be well-managed and directed for the growth and development that occurs. Failure to anticipate growth levels renders the community unprepared, while overestimating growth can stretch the Township's financial resources too thin as a result of unused utility extensions, and the like. To properly plan for Shelby Township's future, an accurate estimate of its population for the next twenty years is necessary.

In 1996, the Southeast Michigan Council of Governments (SEMCOG) published its most recent Small Area Forecasts of population, by community, for the seven-county SEMCOG region to the year 2020. Table PE-4 summarizes these estimates of the Township's anticipated growth from the 2000 Census to 2020.

FYI

According to the 1830 U.S. Census Shelby Township had a population of 435, which is 0.7% of today's population. There were 222 males and 213 females. The Census also indicated that there were a total of 74 households in the Township, which is 0.3% of today's household count. This would also mean that the number of persons per household would be about 5.8, which is over twice the 2000 persons per household of 2.65.

Table PE-4
SEMCOG Population Projections

	2000	2010	2020	2000 - 2020 % CHANGE
Shelby Twp.	65,159	73,664	83,218	27.7%

Sources: SEMCOG Community Profiles, and 2000 US Census of Population and Housing

Over the next 20 years, SEMCOG forecasts a growth of 27.7% for Shelby Township. Because all projections have a certain margin of error, it is useful to consider other population projection methodologies.

While SEMCOG uses a complex computer modeling program to forecast population, there are also a variety of less complex mathematical methods that can be used to project the Township's future population. The constant proportion, growth rate, and increasing proportion methods are relatively easy to administer and can lend alternative projections based on historical growth rates.

The constant proportion method assumes that the Township will maintain the same percentage of the County's projected 2010 and 2020 population as it experienced in 2000. Shelby Township housed to 8.3% of the County's 2000 population. Constant proportion for the Township using SEMCOG estimates of the future County population are as follows:

Table PE-5
Constant Proportion

	MACOMB COUNTY	SHELBY TOWNSHIP
2000 Population	788,149	65,159
2010 Projection	830,143	68,901
2020 Projection	876,371	72,738

The constant proportion method assumes that the Township's percentage of County population will remain the same. In the last thirty years this proportion has increased by 3.6% (from 4.7% in 1970 to 8.3% in 2000) indicating that the constant proportion method may result in an appropriate estimate for the Township.

The growth rate method assumes that the 2000-2010 growth rate will be the same as between 1990-2000, and the 2000-2020 growth rate will be the same as between 1980 and 2000. This method of projection results in the following estimates:

Table PE-6
Growth Rate

2000 Population	65,159
1990 – 2000 - % Change	33.9%
1980 - 2000 - % Change	67.3%
2010 Projection	87,248
2020 Projection	109,011

This methodology may be a poor indicator of future population in the Township since it is overly aggressive. Although the Township's population continues to grow each decade, the

rate of growth is slowing as vacant land continues to be developed. Shelby Township's population grew by 72% between 1960 and 1970, which is over twice the rate experienced between 1990 to 2000.

The increasing proportion method takes the constant proportion method a step further and assumes the Township's percentage of the County's population will increase at an elevated rate similar to what has been experienced over the previous 20 years. The data below assumes that Shelby Township percentage proportion of the County's population will increase an average of 1.2% percent between 2000 to 2010 and between 2010 to 2020. The results are as follows:

Table PE-7
Increasing Proportion

	2000	2010	2020
Macomb County	788,149	830,143	876,371
Increasing %	8.3%	9.5%	10.7%
Shelby Township	65,159	78,863	93,772

Table PE-8
Population Projection Summary

METHOD / SOURCE	2000 CENSUS	2010 PROJECTION	2020 PROJECTION
SEMCOG	65,159	73,664	83,218
Constant Proportion	65,159	68,901	72,738
Growth Rate	65,159	87,248	109,011
Increasing Proportion	65,159	78,863	93,772

Based on the above summary, the Township should plan within a reasonable range for the next 20 years. For 2010, 75,000 – 78,000 appears possible without being overly aggressive. Forecasting to 2020 is more difficult, however a range of 85,000 to 90,000 provides a reasonable planning target.

ECONOMIC ANALYSIS

Income

According to the 2000 Census, the median household income in Shelby Township is \$65,291. This compares to the median household income in 1990 of \$64,231 (in 1999 dollars).

Low-Income

According to the 2000 Census of Population and Housing, 3.7% of Shelby Township residents are living below the poverty line compared to the 2.8% 10 years earlier.

Employment Trends

Per the 2000 US Census of Population and Housing, Figure PE-7 includes a breakdown of the general employment by occupational categories for Shelby residents.

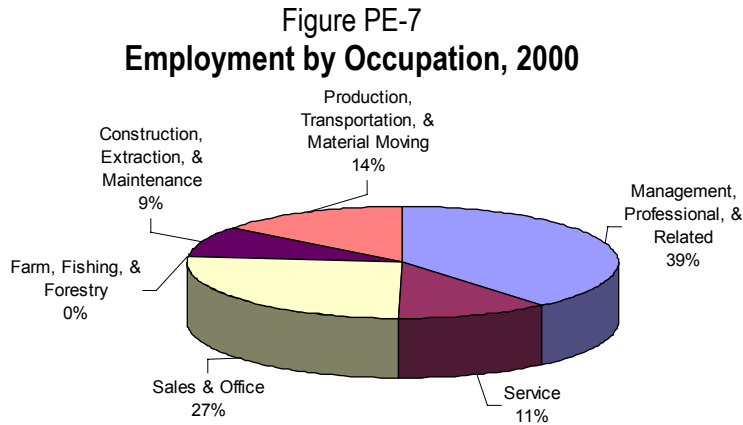
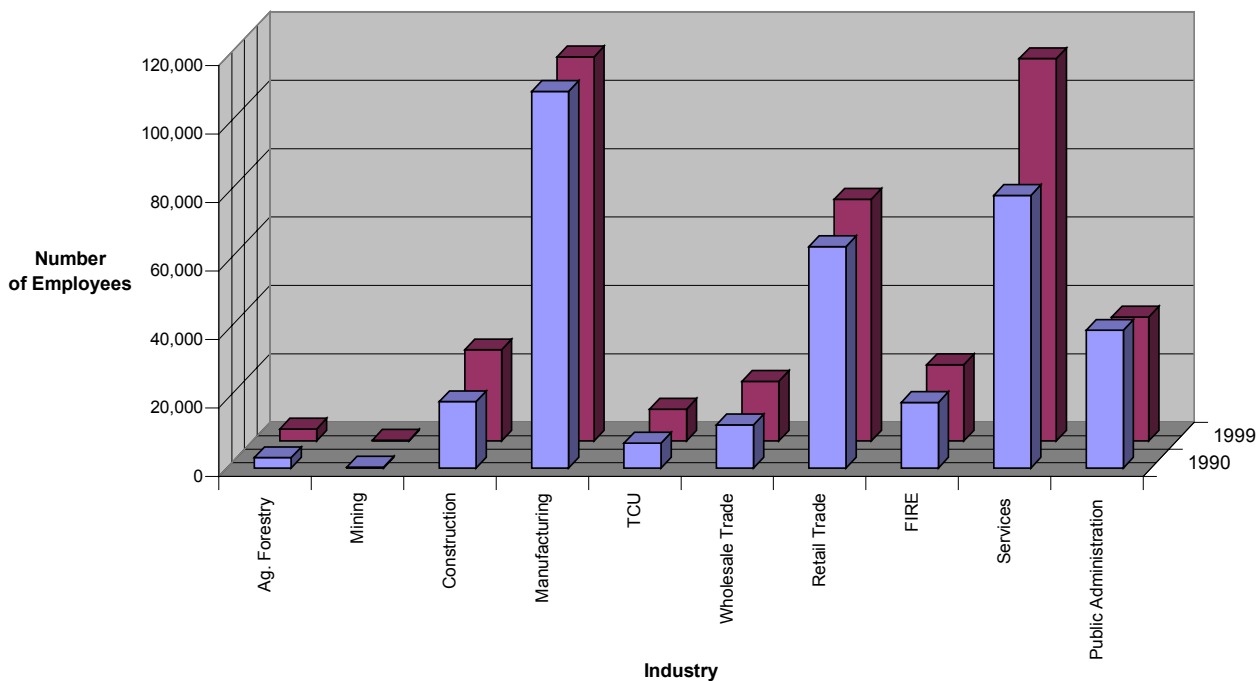


Figure PE-8 includes a listing of full and part time employment by industries located in Macomb County as indicated from the Bureau of Economic Analysis for 1990 compared with 1999. PE-8 indicates that employment within the industries of Construction, Wholesale Trade, Transportation & Pub. Utilities, and Services experienced the largest growth from 1990 to 1999. The areas of Public Administration experienced a decrease in the number of jobs. Employment opportunities in Shelby Township and for residents are clearly dominant in the fields of management, administration, service, and technical specialties.

Figure PE-8
Employment by Industry, 1990-1999 BEA



NONRESIDENTIAL LAND USE MARKET POTENTIAL

An important part of the existing conditions analysis is an examination of demand or market potential for non-residential land uses. A balanced supply of commercial, office and industrial development is critical to a community for a number of reasons. If there are fewer acres available than the market can support, a community could lose potential tax base, employment opportunities and decrease the quality of life for residents who need the goods and services that such uses provide. If there is an over abundance of commercial, office and industrial land, marginal businesses may develop and/or building vacancy rates may increase creating the potential for blight.

Commercial Development

In order to determine how much commercial land Shelby Township could support, an analysis of the community's spending potential is required. This approach will identify a base level of retail that Township residents could support. The analysis provides general statistics for the Township's consideration during the Master Plan process. It is based on information that is currently available and is not a statement of need.

In 1989 the per capita income of Shelby Township residents was \$19,285. The Bureau of Economic Analysis reported that by 2000, the per capita income of Macomb County increased to \$31,175 (adjusted to US Census formula figures, the PCI would be approximately \$24,712), a 52 percent increase since 1989. By applying a similar increase in Shelby Township, the 2000 per capita income is estimated at \$29,407. Based on this income level, the tables below estimate Shelby Township's 2000 ("current") retail expenditures and projected 2010 retail expenditures.

Once the amount of retail spending within a community is estimated, the amount of supportable retail space (in square feet) can be estimated. This can be determined by looking at two factors: retail spending and supporting population. There are three shopping center classifications used for this analysis: neighborhood convenience, community comparison, and regional comparison.

Retail Spending

Table PE-9
Forecast Neighborhood Expenditures
Shelby, 2000 & 2010

TOTAL YEAR 2000 INCOME	CURRENT ('00) RETAIL EXPENDITURES	CURRENT ('00) NEIGHBORHOOD EXPENDITURES	FORECAST 2010 INCOME	FORECAST 2010 RETAIL EXPENDITURES	FORECAST 2010 NEIGHBORHOOD EXPENDITURES
\$1,916,130,713 ¹	\$1,053,871,892 ²	\$260,833,293 ^{3,5}	\$ 3,111,110,831 ⁴	\$1,711,110,957	\$423,499,961 ^{3,5}

1. \$29,407 x 65,159 people (2000 Census population)
2. Assumes 55% of total income is spent on retail purchases (PAS Report #358, *Analyzing Neighborhood Retail Opportunities*, Published by American Planning Association)
3. Assumes 33% of total retail expenditures is spent in convenience goods stores, 40% spent in comparison goods stores (PAS Report #358, Published by American Planning Association)
4. \$41,481 x 75,000 people (2010 population estimate with income adjusted for 3.5% inflation)
5. Assumes 75% of Convenience goods spending will be made within Neighborhood Shopping Center categories.

Table PE-10
**Forecast Community and Regional Expenditures
 Shelby, 2000 & 2010**

Current ('00) Retail Expenditures	Current ('00) Community Expenditures	Current ('00) Regional Expenditures	Forecast 2010 Retail Expenditures	Forecast 2010 Community Expenditures	Forecast 2010 Regional Expenditures
\$1,053,871,892	\$297,718,809 ^{1 2}	\$210,774,378 ³	\$1,711,110,957 ⁴	\$483,388,845 ^{1 2}	\$342,222,191 ^{1 3}

1. Assumes 40% spent in comparison goods stores (PAS Report #358, Published by American Planning Association)
2. Birchler Arroyo Associates, Inc. estimates that 25% of Convenience goods and 50% of Comparison goods spending will be made within Community Shopping Center categories.
3. Birchler Arroyo Associates, Inc. estimates that 50% of comparison item purchases made by Township residents could take place within the Township and 50% of Comparison goods spending will be made within Regional Shopping Center categories.
4. \$41,481 x 75,000 people (2010 population estimate with income adjusted for 3.5% inflation)

According to the latest retail data published in the Dollars & Cents of Shopping Centers: 2002 (Urban Land Institute) the average annual sales per square foot of gross leasable area for neighborhood shopping centers is \$271.53. Community Centers had an average annual sales per square foot of GLA of \$229.84 and Regional Centers had an average of \$218.77. Based on the previous retail spending analysis, Shelby Township could support the following square footages in commercial centers.

Table PE-11
**Shopping Center Classifications
 Commercial Square Footage based on 2010 Population**

Type	Forecasted 2010 Sales per Square Foot	Forecasted 2010 Township Resident Expenditures	Expenditures made within Township	Sq. Ft. Based on Shelby Township 2010 Retail Spending
Neighborhood (Convenience)	\$358 ¹	\$423,499,961	\$338,799,968 ²	946,368
Community (Minor Comparison)	\$303 ¹	\$483,388,845	\$241,694,422 ²	797,671
Regional (Major Comparison)	\$287 ¹	\$342,222,191	\$171,111,095 ²	596,205

1. ULI - 2002 data with 3.5% annual inflation for 2010 forecast.
2. Birchler Arroyo Associates, Inc. estimates that 80% of neighborhood purchases and 50% of major and minor comparison purchases made by Township residents could take place within the Township.

Supporting Population

A general comparison with the results of the retail spending analysis can be made using an analysis of the supporting population in the Township. As the table below illustrates, neighborhood retail centers are the smallest and serve the daily needs of nearby residents by providing basic goods and services, such as groceries, hardware, dry cleaning, banking, etc. A population of 5,000 - 10,000 people living within a five to ten minute drive is generally required to support such a development.

Table PE-12
Shopping Center Classifications
Square Footage Based on Supporting Population

TYPE	LEADING TENANT	GENERAL RANGE (TYPICAL GLA)	MINIMUM SITE	SUPPORTING POPULATION	COMMERCIAL SQ. FT. BASED ON SHELBY TOWNSHIP 2010 POPULATION
Neighborhood (Convenience)	Supermarket	30,000 - 100,000 sq. ft. (50,000 sq. ft.)	3 - 10 ac.	5,000 - 10,000	450,000 – 750,000 sq. ft. (500,000)
Community (Minor Comparison)	Junior Department or Discount Store	100,000 - 300,000 sq. ft. (150,000 sq. ft.)	10 - 30 ac.	20,000 - 60,000	375,000 sq. ft. (281,250)
Regional (Major Comparison)	1 or more Full Line Department Store	300,000 - 900,000 sq. ft. (400,000 sq. ft.)	30 - 60 ac.	60,000 - 100,000	375,000 sq. ft.

Source: Shopping Center Development Handbook, 2nd edition, Urban Land Institute

Based on the previous analysis, Shelby Township's projected 2010 population of 75,000 could support between 450,000 sq. ft. and 750,000 sq. ft. of convenience commercial or neighborhood commercial development. Community Commercial development that could be accommodated could be as much as 375,000 sq. ft. with a typical size of 281,250. Regional Commercial Development could be as much as 375,000 sq. ft.. Considering the locational characteristics, anticipated population, and infrastructure capabilities within Shelby Township the supporting population analysis likely results in average floor area figures that are too low. The true commercial market potential will be closer to that reflected in the retail spending analysis or the upper levels within the supporting population range.

Table PE-13
Summary of Commercial Development Forecast Methods, 2010

SUMMARY	SQ. FT. BASED ON RETAIL SPENDING ANALYSIS	SQ. FT. BASED ON SHELBY TOWNSHIP SUPPORT POPULATION ANALYSIS
Neighborhood (Convenience)	946,368	450,000 – 750,000 sq. ft. (500,000)
Community (Minor Comparison)	797,671	375,000 sq. ft. (281,250)
Regional (Major Comparison)	596,205	375,000 sq. ft.

According to *Urban Planning and Design Criteria*, neighborhood commercial developments typically need approximately one acre per 12,500 square feet of space, community commercial developments typically need approximately one acre per 15,000 square feet, and regional centers need approximately one acre per 13,300 square feet. Based on the summary table above, in order to provide for neighborhood convenience shopping within Shelby, 70 to 80 acres of land would be needed, 50 to 60 acres is needed for community commercial development, and 42 to 50 acres for regional shopping. The total amount of land area planned for retail may need to be larger than these numbers due to a number of factors including location, amount of parking needed, landscaping and screening requirements, and site topography. There are also market characteristics that influence commercial and retail demand such as consumer spending that occurs outside the Township by residents (*consumer spending leakage*) or sales attributable to consumers driving through the Township (*pass-by sales*).

Industrial Development

The demand for industrial land is related to many factors including materials, labor, transportation, energy, and public policy. Industrial developers examine the availability of utilities, affordable housing for the work force, suitable characteristics of the land, and good transportation access.

There are two common methods of forecasting future industrial needs for an area: 1) based on total population, and 2) based on total land area. According to *Urban Planning and Design Criteria*, a typical planning standard for industry is 12 acres per 1,000 population. Based on an estimated 2010 population of about 75,000 for Shelby Township, approximately 900 acres of industrial land can be supported within the community. The total land area method forecasts that industrial land typically consumes 2-5 percent of total land area within the community. Two percent of the 22,260 acres of land area within the community equals up to 1,113 acres.

Both the total population and total land area methods estimate similar acreage for development. Shelby Township, therefore, could support between 900 and 1,100 acres of land for industrial development

Office Development

There are two types of office buildings: single-tenant and multi-tenant. Single tenant buildings can be placed in almost any location satisfactory to the tenant, who may also be the building owner. Multi-tenant office buildings, which are often built on the speculation that tenants will be found, are much more tied to market factors. Multi-tenant office developers look at access, proximity to professional and clerical labor, parking, transit opportunities, proximity to professional and personal services and the overall “image” of the community.

In 1990, more than 74% of the employed residents of Shelby Township worked in professions that typically occur within an office setting (i.e. managerial, technical, sales, service, etc.) and this figure is not anticipated to change with the 2000 Census information. The estimated 2010 population for the Township is 75,000. Based on the percentage of workers who traveled less than 30 minutes to work in 1990, an estimated 23,760 Township residents would travel less than 30 minutes to work in 2010. 74 percent of these workers or 17,582 Township residents are expected to be employed in an office setting.

The Urban Land Institute estimates that approximately 202 square feet of office space is needed per employee. Based on this projection and the estimate of office employees within close proximity to Shelby Township, approximately 3,551,564 square feet of office space could be supported within the Township. However, it is not reasonable to assume that all of these positions would be within stand alone office complexes. Much of this office space would be a part of the office components of commercial, industrial and high-tech office research developments such as the Visteon plant and the like. If 50% of this space is within stand alone office buildings then 1.7 million square feet of office space would be needed in the Township.

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