

Land Use Requirements

Introduction

Future land use decisions within Redford Township should be based on a sound understanding of potential markets within the community. An examination of these existing and potential markets will assist in forecasting possible demand. The Township can then respond accordingly in the development of the Future Land Use Map. The analysis will be based upon data collected in our 2006 land use survey and other figures and projections provided by various sources.

The following text assesses the market potential for future residential, commercial, office, and industrial uses within the Township based on nationally recognized planning and design standards. This data will be used to determine the amount of each land use which can reasonably be expected to be required in Redford Township 15 to 20 years from now.

Sample Land Use Ratios

A review of existing land use ratio data from other communities may be helpful in determining the appropriate mix and type of land uses that should be encouraged in the future. Using two sources, **Table 24** shows the existing mix of land uses (as a percentage of the developed land) for communities similar in size and character to Redford Township. First, the average existing land use ratio for “small cities” with a population under 100,000 in size is presented. This data was obtained from the Planner’s Advisory Service and is based on a survey of communities across the country with a population less than 100,000. Second, the existing land use ratios for five municipalities in southeast Michigan are presented:

- City of Dearborn Heights
- City of Lincoln Park
- City of St. Clair Shores
- City of Roseville
- City of Royal Oak

These municipalities were selected because they are similar in size to Redford Township, ranging from a population of between 40,000 and 60,000. Additionally, these communities were selected because of their similarity to Redford Township being fully built out and positioned as an “inner-ring” suburb of the City of Detroit. The existing land use data for these communities was obtained from the Southeast Michigan Council of Governments (SEMCOG), which is current through 2000 and was largely derived through aerial photograph interpretation.

Lastly, **Table 24** presents Redford Township’s current distribution of land uses, using two different sources. First, SEMCOG’s calculation for Redford Township’s existing land use distribution was utilized to provide consistency with the comparable communities. The second data source for Redford Township’s existing land use is the one used in the Existing Land Use section of this Master Plan (see Table 20 and Map 4), which is based on SEMCOG data but was updated through a 2006 field survey. The two data sources provide identical numbers for the residential and public/semi-public land use categories but slightly different numbers for the commercial/office and industrial land use categories. The difference can be explained by a more accurate 2006 field survey, where, especially within the Township’s predominantly commercial corridors, the field survey was able to identify scattered industrial uses when the SEMCOG data might show the entire corridor as commercial/office.

Using Redford’s current land use ratios as a baseline, the table provides a framework for the types of land uses that could be developed in the future. In particular, the table shows that Redford Township has a generally similar distribution of land uses when compared to similar commu-

Table 24: Sample Land Use Ratios*

Source/Community	Land Use Category			
	Residential	Commercial & Office	Industrial	Public & Semi-Public
Source: Planner's Advisory Service Small Cities Average (Pop. Under 100,000)	52%	10%	7%	31%
Source: SEMCOG Land Use Change in Southeast Michigan				
City of Dearborn Heights (Wayne Co.) - Pop 58,264	74%	6%	2%	18%
City of Lincoln Park (Wayne Co.) - Pop 40,008	70%	11%	3%	16%
City of St Clair Shores (Macomb Co.) - Pop 63,096	77%	10%	1%	12%
City of Roseville (Macomb Co.) - Pop 48,129	64%	14%	11%	11%
City of Royal Oak (Oakland Co.) - Pop 60,062	69%	7%	4%	20%
Average	70.8%	9.6%	4.2%	15.4%
Source: SEMCOG Land Use Change in Southeast Michigan				
Redford Township - Pop 51,622	67%	8%	7%	18%
Source: Wade Trim 2006 Existing Land Use Survey and Map				
Redford Township - Pop 51,622	67%	6%	9%	18%

*Land use ratios were calculated based as a percentage of the developed land within a community, thus, agricultural and vacant lands were not included.

Source: Planner's Advisory Service Memo, *Bringing Land Use Ratios into the 1990's*, August 1992; *Land Use in Southeast Michigan, 1990-2000*, SEMCOG, April 2004.

nities in the region. However, compared to the national average for small cities under 100,000, Redford Township features a much higher percentage of residential use and lower percentages of commercial & office and public & semi-public uses.

It should be noted that the table presents the land use ratios as a percentage of the developed land in each community. Therefore, land uses such as agriculture and vacant lands are not included in the computation.

Residential Needs

Housing Unit Projections

Housing unit projections were provided in the Socio Economic Profile section of this Master Plan (see Table 13 and corresponding text). For the year 2020, Redford Township is projected to have a need for 21,336 occupied housing units, an increase of 1,154 units or 5.7 percent from the 20,182 occupied housing units found in Redford as of the year 2000. This projected increase in occupied housing units is primarily fueled by Redford's projected decline in household size through the year 2020.

Vacancy Rates

In addition to estimating the projected need for new occupied housing units, it is crucial to calculate how much of the total housing stock during the planning period will be vacant. According to the Urban Land Institute (ULI), generally five percent of a community's habitable housing stock should remain vacant to provide diversity in housing selection, and allow for housing rehabilitation or replacement activities. Vacancy rates at or near the recommended five percent ensure that asking prices for housing are indicative of actual market conditions, while protecting private investment. Vacancy rates below five percent demonstrate a restricted housing environment, affording little opportunity for potential households to be absorbed by available units. The current vacancy rate for Redford Township reported in the 2000 Census was 2.1 percent or 423 housing units. This low vacancy rate suggests a demand for housing and the need for additional units.

Building Permit Data

Between the year 2000 and 2006, Redford Township experienced a net total of 185 new residential units, according to residential building

permit data cataloged by SEMCOG and listed in **Table 25**. These additional units make up approximately 15 percent of the projected need for 1,154 new occupied units by 2020. Redford Township had been experiencing a modest but increasing demand for new housing until 2006, when the total number of net units sharply declined compared to previous years. Except for 2005, where a total of 18 multi-family housing units were approved, all new housing units in Redford Township were single-family units.

Table 25: Redford Township Building Permit Data, 2000-2006

Year	Single-Family Units	Two-Family Units	Townhouse Attached Condo	Multi-Family Units	Total New Units	Units Demolished	Net Total Units
2000	13	0	0	0	13	3	10
2001	13	0	0	0	13	2	11
2002	19	0	0	0	19	0	19
2003	38	0	0	0	38	6	32
2004	50	0	0	0	50	4	46
2005	51	0	0	18	69	4	65
2006	32	0	0	0	32	30	2
TOTALS	216	0	0	18	234	49	185

Source: SEMCOG Building Permit Database, 2000-2006, accessed March 2007. [Http://www.semco.org/Data/BuildingPermits/index.htm](http://www.semco.org/Data/BuildingPermits/index.htm).

In addition to recent building permits issued, the Plan should also account for ongoing residential projects within Redford Township. At present, one major residential development, Shamrock Village, is under construction. At full build out, this project will consist of a total of 220 single-family detached units and 144 attached condominium units. When these 364 units under construction are added to the 185 new units permitted since 2000, they account for nearly half of the projected need for 1,154 new occupied units by 2020.

Changing Demographics and Housing Preferences

Historically, Redford has provided a housing market for families looking for quality affordable homes of a single-family detached style within established neighborhoods. However, changing demographics within the region, state and nation have transformed the residential housing market. In particular, the dominance of the two-parent, two-child household as the driving force behind the housing market is diminishing due to an increasing diversity of homebuyers. Households today may consist of single persons, empty nesters, childless couples, or single

parents of varying ages, incomes and ethnicities, all with unique needs and preferences for various types of housing.

According to Urban Land Institute (ULI) in the book, *Housing for Niche Markets, Capitalizing on Changing Demographics*, America's demographic mosaic creates challenges and opportunities for communities and developers, including opportunities for the offering of niche products suited to a specific market segment. The process of identifying submarkets or segments of a larger market and targeting projects to those segments is called market segmentation. Market segmentation analysis within a community certainly includes an understanding of various demographics (ages, incomes, etc), but must move beyond demographics to include the identification of various life-cycles (first time home buyers, empty nesters, seniors, etc.), geographic preferences (cities versus suburbs, down south versus up north, etc.), generational segments (baby boomers, generation X, etc.), and motivational factors (beliefs, recreational pursuits, etc.).¹

Each of the above market segments have differing preferences and needs with regard to the most desired type of housing. Based on the market segment that is selected for targeting, communities and developers can then offer housing products that are most desirable to those segments, position projects more accurately in the marketplace, and create more effective sales and marketing strategies.²

Clear signs of this transformation are found within Redford Township, where family households are declining, the population is aging, and citizens are becoming more ethnically diverse.³ These demographic trends necessitate a response by Redford Township to accommodate the changing needs of its current citizenry. Furthermore, these trends represent an opportunity for the Township to capitalize on the changing marketplace and attract new citizens by providing housing that is increasingly in demand. Therefore, various "specialty housing" types should be encouraged within Redford Township to meet the needs of seniors, single parent households and young professionals and capture a greater share of their respective housing markets.

Commercial and Office Land Use Needs

Commercial Site Criteria

Commercial uses dictate or significantly impact transportation patterns, residential development patterns, employment levels, and tax base. Commercial development is also an essential element of a township's

economic base. Commercial establishments provide goods and services to consumers, promote economic stability, and generally enhance the quality of life for area residents. However, if commercial districts are not suitably located, and carefully planned, they can become a disruptive element that ultimately detracts from the larger community.

There are many factors that dictate selection of sites for commercial development. In many cases, they respond to preexisting conditions, such as the location of other large retail centers, industrial or residential development, primary transportation corridors, or within central business districts. Communities, however, have an important opportunity through the planning process to direct commercial development and concentrate it in those areas most suited for new development or redevelopment. The following criteria are some of the primary methods by which commercial developers select sites:⁴

- Access (left turns into and out of the site, proximity to traffic lights and/or stop signs);
- Visibility (storefront and store signage from main access routes);
- Traffic volume and traffic character (local versus through traffic);
- Street network characteristics;
- Proximity to demand generators. A demand generator is something that provides a motivation or reason for potential shoppers to be in a particular location;
- Population/household characteristics;
- Economic characteristics;
- Lifestyle trends and purchasing preferences and habits;
- Availability and cost of existing space;
- Availability and character of appropriately zoned land;
- Availability/capacity of infrastructure;
- Local business climate; and,
- Competitive environment (store type, location, quality and pricing of merchandise, sales volume).

Office Site Criteria

The pattern of office development in metropolitan areas has changed dramatically in the last 20 years. It has shifted away from a focus on downtown areas to a regional “multiple-nuclei” structure of competing centers. Today, for example, some of the most successful office centers, attracting the most coveted businesses, are found on the fringes of urban areas. The reasons for this transformation vary. To a certain extent, it has followed the out-migration of population away from the core city centers. Developers also sought less expensive building sites,

which offered regional accessibility and on-site parking convenience for tenants. It also is a reflection of meeting unmet demand, as our local economy continues to change from a manufacturing-base economy to a service oriented economy.

Not unlike commercial development, there is a set of very specific standards that make sites of various sizes and locations desirable to different potential office development. These criteria are provided below.⁵

- Easy access to customers or clients;
- Cost and availability of appropriately experienced/trained labor in the area;
- Cost, functionality, and expandability of available office space (or land suitable for office development);
- State and local business climate;
- Quality of life for employees;
- Access to higher education; and,
- State and local income and property tax costs, and proximity to cultural and entertainment facilities and shopping (for employees).

Shopping Center Standards

A shopping center has been defined by the International Council of Shopping Centers (ICSC) as a group of retail and other commercial establishments that is planned, developed, owned and managed as a single property, with on-site parking provided. A shopping center's size and orientation are generally determined by the market characteristics of the trade area served by the center. The ICSC has defined eight principal shopping center types under the two main headings of malls and open-air centers.⁶ The eight principal shopping center types and their characteristics are detailed in **Table 26**.

It should be noted that the table is meant to be a guideline for understanding the differences between the basic types of shopping centers. Additionally, it is not always possible to precisely classify every shopping center, when some may merge characteristics from a combination of centers. The standards presented in **Table 26** can help to provide insight to the number and hierarchy of commercial shopping centers in Redford Township.

Table 26: ICSC Shopping Center Definitions

Type of Shopping Center	Concept	Square Feet (including Anchors)	Acres	Typical Anchor(s)		Anchor Ratio*	Primary Trade Area**
				Number	Type		
MALLS							
Regional Center	General merchandise; fashion (mall, typically enclosed)	400,000-800,000	40-100	2 or more	Full-line department store; jr. department store; mass merchant; discount department store; fashion apparel	50-70%	5-15 miles
Superregional Center	Similar to regional center but has more variety and assortment	800,000+	60-120	3 or more	Full-line department store; jr. department store; mass merchant; fashion apparel	50-70%	5-25 miles
OPEN-AIR CENTERS							
Neighborhood Center	Convenience	30,000-150,000	3-15	1 or more	Supermarket	30-50%	3 miles
Community Center	General merchandise; convenience	100,000-350,000	10-40	2 or more	Discount department store; supermarket; drug; home improvement; large specialty/discount apparel	40-60%	3-6 miles
Lifestyle Center	Upscale national chain specialty stores; dining and entertainment in outdoor setting	Typically 150,000-500,000, but can be smaller or larger	10-40	0-2	Not usually anchored in the traditional sense but may include book store; other large-format specialty retailers; multi-plex cinema; small department store	0-50%	8-12 miles
Power Center	Category dominant anchors; few small tenants	250,000-600,000	25-80	3 or more	Category killer; home improvement; discount department store; warehouse club; off-price	75-90%	5-10 miles
Theme/Festival Center	Leisure; tourist-oriented; retail and service	80,000-250,000	5-20	N/A	Restaurants; entertainment	N/A	N/A
Outlet Center	Manufacturers' outlet stores	50,000-400,000	10-50	N/A	Manufacturers' outlet stores	N/A	25-75 miles

* The share of a center's total square footage that is attributable to its anchors

** The area from which 60-80% of the center's sales originate.

Source: ICSC Shopping Center Definitions, Basic Configurations and Types for the United States. International Council of Shopping Centers, 2004.

At present, Redford Township does not have any regional or super-regional shopping centers. The closest shopping malls to Redford Township include:

- Livonia Mall - Middlebelt at 7 Mile in Livonia, 1 mile west of Redford;
- Northland Shopping Center – 8 Mile at Lodge Freeway in Southfield, 5 miles east of Redford;
- Fairlane Town Center – Southfield Freeway at Michigan Ave in Dearborn, 5 miles southeast of Redford; and,
- Laurel Park Place Mall – 6 Mile at I-96 in Livonia, 5 miles west of Redford.

Other regional and super-regional shopping centers in the region include Twelve Oaks Mall in Novi, Oakland Mall in Troy and Great Lakes Crossings in Auburn Hills.

In terms of open-air shopping centers, Redford Township has many that would qualify as neighborhood centers. Redford's many neighborhood centers are commonly found at major street intersections, and typically feature a supermarket or drug store with an adjacent strip center featuring several retail tenants.

Based on the standards of **Table 26**, we estimate that Redford Township has a total of four open-air shopping centers that would qualify as community centers. These community centers are as follows:

1. Grand River Ave. at 7 Mile Road (Redford Oaks Shopping Center)
Sav-A-Lot, ACO Hardware, Big Lots, and numerous smaller tenants on approximately 10 acres of land.
2. Telegraph Road at I-96
Mr. Alan's, Family Dollar, Matick Chevrolet, and numerous smaller establishments including banks and fast food restaurants on approximately 15 acres of land.
3. Telegraph Road at West Chicago Road
Kroger, Burlington Coat Factory, AJ Wright, Pier 1 Imports, numerous smaller tenants on approximately 25 acres of land.
4. Plymouth Road at Inkster Road
Farmer Jack, Home Depot training center, and fast food restaurants on approximately 30 acres of land.

Redford Township does not currently feature shopping centers that would be categorized as a lifestyle center, power center, theme/festival center or outlet center. Existing lifestyle centers within the region include Fountain Walk, located in Novi, and the Village of Rochester Hills, located in Rochester Hills. Existing power centers are found throughout the region, examples of which include Millenium Park, located at Middlebelt Road and I-96 in Livonia, and the Tel-Twelve Center, located at Telegraph Road and 12 Mile Road in Southfield. An example of a theme shopping center within the region is the Olde World Canterbury Village, located north of Pontiac. Several outlet centers are found in the region, including the Tanger Outlets, located outside of Howell.

Commercial businesses are certainly not limited to locating within traditional shopping centers as defined by the ICSC. In fact, most com-

mercial businesses are found within stand-alone buildings located along major roadways or within traditional business districts. This is certainly the case within Redford Township, where commercial businesses are scattered along most of the major road corridors. Additionally, Redford's traditional business district at Beech Daly Road and 5 Mile Road features a considerable number of businesses and total commercial floor space. In fact, Redford's traditional business district would be equivalent to that of a community center in terms of square footage, type and number of anchors and total acreage.

Shopping Center Trends

Similar to the housing market, the commercial shopping center market has undergone a major transformation in recent years. One of the most significant changes is the reduction in demand and popularity of traditional enclosed shopping malls. Throughout the nation, traditional shopping malls have experienced significant declines in business and tenants, and in many cases have closed or have had to undergo major re-configurations to maintain prominence in the market. A relevant example is the former Wonderland Mall on Plymouth Road in Livonia, approximately one mile west of Redford Township. Built in the post-war era, the mall has been closed for several years. To re-establish its place in the market, the former mall is currently in the process of redevelopment as an open-air power center featuring large discount retailers with smaller shops along the road frontage. These types of transformations are becoming more common, as developers rely on attracting customers through the promotion of a unique shopping experience. This is evidenced by shopping center designs such as a themed lifestyle center that evokes a main street setting, or the integration of entertainment destinations such as restaurants or cinemas into shopping centers. Another trend is to make a shopping center more efficient by including several one-stop big box retailers that effectively cover the market. Modern shopping centers also strive for attractiveness, employing unique architectural details and site amenities such as landscaping, fountains, gazebos, benches and sidewalks to make for a pleasurable experience for customers.

One of the established objectives for commercial areas as outlined in this Master Plan is to *“create target areas to serve as regional destinations by accommodating various shopping and entertainment uses.”* Particular locations for these targeted regional destinations will be outlined in the Future Land Use Plan. The design of such regional commercial destinations must embody the characteristics crucial to the success of modern shopping centers including experience, efficiency and attractiveness.

Office Trends

Historically, a central city downtown district, supported by its large population base and proximity to public transportation routes, served as the logical location for large scale office development. However, the suburbanization of the United States beginning in the 1950's led to the movement of office market away from the central city and into the suburbs. In many cases, large corporations moved their offices to suburban edge cities with ample land for development and easy access to major transportation routes. Within the Detroit region, large corporate office hubs were developed in suburban cities such as Southfield, Dearborn and Troy. Major freeway corridors, such as the I-275 corridor in Livonia, became ideal locations for low density office park developments that accommodated a variety of corporate establishments in a campus-like setting.

No large scale corporate office parks are located within Redford Township. Rather, office development occurred mostly in the form of individual establishments in stand alone buildings or smaller scale multi-tenant office buildings. The typical office in Redford Township is a personal service establishment such as a financial institution, real estate firm, law office or medical office. Because of Redford's presence to major medical facilities in the region, particularly Botsford Hospital (located along Grand River Avenue just outside of the Township), there suggests a potential to capture a larger share of the medical office market. Therefore, the Township should explore the identification of strategic locations for office development, potentially along the Grand River Avenue corridor.

Commercial and Office Land Use Needs

The following analysis details the potential commercial and office base, as well as the potential amount of commercial and office land that could be consumed by the end of the planning period according to commercial land use standards.

As shown in **Table 24**, approximately 8.0 percent of developed land in Redford Township is devoted to commercial and office use according to SEMCOG, and 6.0 percent according to the 2006 field survey. Both percentages are below the 9.6 percent commercial and office average of the five comparable communities and the 10 percent average for small cities under 100,000. This indicates that a community such as Redford Township could support a larger commercial and office base than is currently offered. Currently, 333.3 acres of land in Redford

Township are dedicated to commercial and office use according to the 2006 field survey (see Table 20). To reach the benchmark of 10 percent of developed land devoted to commercial and office use, the Township would need to have approximately 525 total acres of commercial and office land, an increase of nearly 200 acres.

Therefore, Redford Township should explore the possibility of expanding its' commercial and office inventory. Because Redford Township is nearly fully developed, strategic locations for commercial and office expansion, including the conversion of selected lands not currently utilized for commercial and office uses, would need to be identified.

Industrial Land Use Needs

Industrial Site Criteria

The quantity of developed industrial land a community will need in the future is dependent upon its current employment base, infrastructure capacity, local political philosophy, availability of desirable sites, as well as a myriad of other factors within the regional market. In terms of the availability of desirable sites, a variety of factors contribute to a site's overall potential for industrial development. The following are some of these criteria:⁷

- Easy access to domestic markets as well as suppliers;
- Availability of sites with existing electricity, water, sewage and roads suitable for year-round truck traffic;
- Cost, availability, and skills of labor in the area, and the extent of labor/management problems for unionized labor force;
- Easy access to raw materials;
- State and local business climate;
- Utility costs and capacities;
- Access to higher education; and,
- State and local income and property tax costs, and proximity to cultural and entertainment facilities and shopping (for employees).

Industrial Land Use Standards

The following information will summarize three methodologies commonly used in estimating future industrial land area needs. They are land use ratios, population, and employment density ratios.

Land Use Ratio Method

Estimating needed acreages of industrial land use can also be accomplished by employing land use ratios. By surveying the amount of land devoted to industrial uses in other communities, an average can be calculated and used as a standard for planning purposes. As shown in **Table 24**, the five comparable communities had an average ratio of 4.2 percent industrial lands while the small city average for industrial lands was 7 percent. Currently, the SEMCOG data source indicates that 7 percent of the developed lands in Redford Township are industrial lands, while the 2006 field survey data source indicates that 9 percent are industrial. This may be an indication that Redford Township has a sufficient amount of industrial land.

At present, Redford Township features a total of 483.5 acres of industrial land according to the 2006 field survey (see Table 20). Based on the land use ratio method, no additional industrial lands would be needed in the Township.

Population Method

The population method represents acreage requirements as a proportion of the total population. Data in **Table 27** indicates that a total of 12 acres of industrial land are required for every 1,000 people. Redford Township is projected to have a population of 48,753 residents by the year 2020.⁸ Using the 12 acres per 1,000 population ratio, a total of 585 acres of industrial land would be necessary. Currently, Redford Township's 483.5 acres of industrial land is approximately 100 acres less than the recommended acreage, meaning that more industrial land should be added. However, because the land use ratios for comparable communities show that Redford Township is above average for industrial land distribution, we suggest that the industrial standards based on total population presented in **Table 27** are not reflective of existing trends for Redford Township and the region.

Table 27: Population Ratios for Estimating Industrial Land Use

Category	Ratio
Total gross land requirement for all industry	12 acres per 1,000 population
Land requirements for light industry	2 acres per 1,000 population
Land requirements for heavy industry	10 acres per 1,000 population

Source: Joseph DeChiara and Lee Koppleman, Planning Design Criteria, 1969

Employment Density Ratio Method

A third method of determining future industrial land use need is achieved through the application of employment/density ratios. This method calculates future industrial acreage based on the projected number of manufacturing jobs multiplied by the existing employment density (manufacturing jobs per acre) in the community. The results of this method are displayed in **Table 28**. The manufacturing job projections for 2005 and 2025 are provided by SEMCOG’s 2030 regional development forecast for Redford Township.

As shown in the table, Redford Township’s current manufacturing jobs per acre ratio is 7.719. Because SEMCOG projects that the total manufacturing employment in Redford Township will decline from 3,732 in 2005 to 2,744 in 2020, it is expected that the total necessary industrial acreage would decline as well. Specifically, a total of 355.5 acres of industrial land are estimated to be needed, a decline of 128 acres from the Township’s current industrial acreage.

Table 28: Employment/Density Ratios for Estimating Industrial Land Use

Total Manufacturing Jobs 2005*	2006 Existing Industrial Acreage**	Employment Density: Manufacturing Jobs Per Acre	Total Manufacturing Jobs 2025*	2025 Estimated Industrial Acreage
3,732	483.5	7.719	2,744	355.5

*SEMCOG Forecast

**Redford Township Existing Land Use - See Table 20

Source: SEMCOG 2030 Regional Development Forecast Community Detail Report, December, 2003; Redford Township Existing Land Use, Table 20.

However, this estimated reduction in industrial acreage based on employment density is somewhat counteracted by a national trend toward increasing floor space requirements for each manufacturing employee. According to the Planner’s Estimating Guide to Projecting Land Use and Facility Needs, the total square footage required for each manufacturing employee has increased from 389 sq. ft. in 1961 to 546 sq. ft. in 2000, representing an approximately 40 percent increase over the 40 year time span.⁹ If trends continue, this square footage requirement per manufacturing employee will continue to rise to the year 2025. Because square footage requirements for each manufacturing employee are increasing, it can be assumed that the total acreage will also need to increase. Based this assumption, a community that is projected to have the same number of manufacturing jobs over the course of a certain time period will need to provide additional industrial acreage during that time period. Therefore, we estimate that Redford’s projected loss of

128 industrial acres, as determined by the employment density ratio method, would be generally counteracted by the increasing need for industrial acreage based on rising floor space requirements per employee.

Footnotes:

1. Housing for Niche Markets, Capitalizing on Changing Demographics. Urban Land Institute, 2005.
2. Ibid.
3. Comparison of 1990 and 2000 U.S. Census Reports for Redford Township.
4. Derived from Real Estate Development Research, LLC. 2002.
5. Louis Harris & Associates, Business American Real Estate Monitor, Cushman & Wakefield, Inc. 1988.
6. ICSC Shopping Center Definitions, Basic Configurations and Types for the United States. International Council of Shopping Centers, 2004.
7. Louis Harris & Associates, Business American Real Estate Monitor. Cushman & Wakefield, Inc. 1988.
8. Projected population of 48,753 is the average value of the three population projections derived from Woods & Poole and SEMCOG. See Table 2, Population Projections, and the corresponding text in the Socio Economic Profile of this Master Plan.
9. Planner's Estimating Guide, Projecting Land-Use and Facility Needs. Arthur C. Nelson. 2004.