Springfield Township Master Plan

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Introduction

This document represents the revision and update of the Springfield Township Master Plan that was adopted in 2002. Since adoption of the previous plan, a number of changes have occurred both within the Township and the surrounding area. To ensure that development policies reflect current conditions in the Township, it is essential that the Master Plan be periodically evaluated and updated.

What is Planning?

Planning is a process which involves the conscious selection of policy choices to guide land use, growth, and development in the community. The Master Plan is the only official Township document which sets forth policies to guide future land use in the community.

The Township derives its authority for the preparation of a Master Plan from the Township Planning Act, P.A. 168 of 1959, as amended. Section 6 of the Act states:

\[
\text{The township planning commission shall make and approve a basic plan as a guide for the development of unincorporated portions of the township. As a basis for the plan, the township planning commission may do any of the following: (a) make inquiries, investigations and surveys of all the resources of the township, and; (b) assemble and analyze data and formulate plans for the proper conservation and uses of all resources, including a determination of the extent of probable future need for the most advantageous designation of lands having various use potentials and for services, facilities and utilities required to equip those lands.}
\]

How is the Plan to be Used?

The Plan serves many functions and is to be used in a variety of ways:

1) The Plan is a general statement of the Township's goals and policies and provides a single, comprehensive view of the community's desires for the future.
2) The Plan serves as an aid in daily decision-making. The goals and policies outlined in the Plan guide the Planning Commission and Township Board in their deliberations on zoning, subdivisions, capital improvements, and other matters relating to land use and development.

The policy orientation of this Plan provides decision-makers with a framework and basis for decisions while recognizing the dynamic character of the community. The variables upon which this Plan is based will likely change over time. However, adherence to the goals and policies will provide a stable, long-term basis for decision-making.

3) The Plan provides the statutory basis upon which zoning decisions are based. The Zoning Enabling Act (P.A. 110 of 2006, as amended) requires that the zoning ordinance be based upon a plan designed to promote the public health, safety, and general welfare. It is important to note that the Master Plan and accompanying maps do not replace other township ordinances, specifically the Zoning Ordinance and Map. Zoning is only one of the many legal devices used to implement the Master Plan.

4) The Plan attempts to coordinate public improvements and private developments. An outcome of the Plan should be that public investments such as road improvements will be located in areas identified in the Plan as having the greatest benefit to the Township and its residents.

5) The Plan is an educational tool and gives citizens, property owners, developers, and adjacent communities a clear indication of the Township's direction for the future.

In summation, the Township Master Plan is the only officially adopted document which sets forth an agenda for the achievement of goals and policies for the entire Township. It is a long-range statement of general goals and policies aimed at the unified and coordinated development of the Township. As such, it provides the basis upon which zoning and land use decisions are made.
How is the Plan Organized?

The Springfield Township Master Plan is comprised of the following sections: History of Planning and Zoning, Background Studies Summary, Public Participation, Goals and Policies, Land Use Plan, Transportation Plan, Natural Areas Plan, and Planning Concepts by Sub-Area. Also included in the plan is a full text of the Background Studies and a Glossary of Terms in the appendices.
History of Planning and Zoning

Springfield Township has had a long-standing commitment to the planning and zoning of its community, dating back to the early 1950's. This section presents a brief history of the planning and zoning activities which have taken place in the Township.

Zoning

As with many communities, implementation of a Zoning Ordinance preceded the adoption of a formal Master Plan. The Springfield Township Board passed a resolution of intent in 1951 to proceed with the Township’s first Zoning Ordinance. Following appointment of a four-member Zoning Board by Oakland County Probate Judge Arthur E. Moore, an interim Zoning Ordinance was passed in early 1952, marking the first time the community became zoned. An interesting feature of the first Zoning Ordinance is that it allowed for a minimum single family residential lot size of 9,000 square feet. This provision was amended in 1953 to increase the lot size to 15,000 square feet. There were five zoning districts in the interim Ordinance including an agricultural district requiring a minimum lot area of ten (10) acres.

The interim Ordinance was replaced in 1954 with a more complete Zoning Ordinance. An Ordinance of even greater detail was passed in 1965 which included thirteen (13) zoning districts. There were provisions for four (4) agricultural districts, four (4) residential districts, one (1) sand and gravel (extractive) district, two (2) industrial districts and two (2) commercial districts. The minimum lot sizes for residential use were 15,000 square feet, 18,000 square feet, 22,000 square feet, and 24,000 square feet. There was a ten (10) acre minimum for agricultural zoning.

It wasn’t until the 1970's that the planning and zoning functions were formally coordinated with the adoption of the first Master Plan, which is discussed in the next section. As a result, the Ordinance which serves as the basis for the current Zoning Ordinance was adopted in 1973. The 1973 Ordinance did not undergo extensive changes until the mid 1980's when various text and map changes were implemented.
Various special purpose Ordinances related to planning and development were passed in the 50's, 60's, and 70's. The first Building Code was adopted in 1955. The first Sign Ordinance became effective in 1963. A Mobile Home Park Ordinance was passed in 1967 in order to accommodate Oak Hill Estates. Multiple family development was also officially recognized in the Ordinance in 1967.

Citizen involvement in Township affairs has always been evident in the Township and the planning and zoning process has not lacked for such public input. Such involvement was highly evident in 1979 when the R-1A zoning category requiring a residential lot minimum of 2 1/2 acres was added through citizen initiative. Petitions submitted by 65% to 70% of the property owners from two sections of the Township requested the Township to institute the R-1A District. The petition included proposed ordinance standards and Zoning map changes. Citizens even paid for all fees associated with the rezoning.

The 1980’s were a decade of study, followed by change. Arising out of concerns for growth and the effects on the Township's natural and environmental base, the Planning Commission embarked on a comprehensive process of revising the Zoning Map on a Township-wide basis.

The Planning Commission incorporated into their decision-making natural resource information prepared by the Southeast Michigan Council of Governments. The Zoning Map adopted in February 1987 was the first to be largely based on natural resource features, soils, topography, and relatively thorough site-specific research on the capability of land to support development.

The Township conducted another comprehensive review and update of the Zoning Map in 1993-1995, following adoption of the revised Master Plan in the early 90's. Zoning was analyzed by sub-area in an effort to bring zoning into greater conformity with the Master Plan. Following extensive study and public input, rezonings were conducted on a Township basis to better reflect adopted Township policy.

As a further commitment to integrate the preservation of natural resources into land development, cluster housing regulations, enacted in the early 1990's, have proven to be an effective technique resulting in the preservation of substantial open space. The Township has continued to implement zoning tools during the 2000’s that help protect
natural features, including a native vegetation and landscaping ordinance, a resource protection overlay district, and a safety path ordinance to encourage non-motorized transportation. A new zoning district for recreation activities – called the Parks and Recreation District – has also been added. This change separates areas used for active recreation from areas used for natural feature preservation and passive recreation. A number of parcels within the Township have been rezoned using the new districts to better reflect the current uses of the properties.

Planning

1970 - 2000

Although formal planning activities started a little later than zoning, it has been pursued with no less fervor. The Planning Commission was established in 1971, providing for the statutory combination of planning and zoning functions. The Planning Commission wasted little time in fulfilling this dual function by preparing and adopting the first Township Master Plan in 1973. As mentioned previously, the Zoning Ordinance was then revised based on the findings of the Master Plan. The Master Plan was completely revised over a two-year period beginning in 1978 and adopted by the Planning Commission in February of 1980.

The decade of the 1980's was a time of research, studies, reports and active attempts by the Township to utilize assistance from County and regional agencies to address specific issues of concern in the community. A few of the important planning projects undertaken include the following: the "Facade Improvement Study for Davisburg"; cooperation with SEMCOG in a pilot program to develop groundwater protection policies for new development, which produced the "Groundwater Protection Information for Residents of Springfield Township" booklet, "Environmental Standards for Site Plan Review in Springfield Township: Information and Guidelines for Developers" and the following new maps: 1) Wetlands Inventory, 2) Groundwater Vulnerability, and 3) Groundwater Flows and Recharge; and the Springfield Township Economic Program (STEP).

The 1990s were also a decade of intense study and growth resulting in several plans, projects, and programs undertaken by the Township. After several years of preparation,
the Township Master Plan was revised and updated. The Planning Commission adopted the revised Master Plan in December of 1991, followed by approval of the Township Board in March, 1992.

In 1994, the Township also conducted a study of Sub-area IX (sub-area map included on page 79), an area bordered by Davisburg Road, Old Pond Road, I-75 and Dixie Hwy. In the early 1990's, the area was experiencing significant pressure for residential growth. The purpose of the study was to coordinate between five (5) development sites, vehicular and pedestrian access, and the location of open space and buffering between the subject site and Dixie Highway and I-75.

In 1997, Springfield Township initiated a systematic approach in making capital improvement decisions designed to meld short-term investments with long-range plans. The process was established to encourage decision making which explored opportunities to combine resources and meet multiple objectives. Nine specific projects were identified, and all were either completed or started by the expiration of the plan in 2003.

The Township revised its Recreation Master Plan in 1999, which is intended to set forth recreational goals and an action program to implement those goals for the Township. The plan is also a necessary document to qualify for Federal Land & Water Conservation funds which are administered by the Michigan Department of Natural Resources. Additionally, several master plans were developed for specific recreation sites including the Shiawassee Basin Preserve in 1991 and the Mill Pond Park in 1997.

Completed in the latter part of 1998, the Springfield Township Tree Preservation Plan recognized the importance of tree-lined road corridors as an essential element of the Township's character. Initial steps included documentation of existing tree cover along rural roadways and the effect of public agency and private utility policies on the maintenance of such tree cover. The end result of the Plan was to identify specific strategies to preserve roadway tree cover.

Springfield Township has continued its strong environmental protection policies by participating in a two and one-half year, multi-jurisdictional study of natural resource preservation funded in part by the U.S. Environmental Protection Agency. The Shiawassee and Huron Headwaters Resource Preservation Project (referred to as "The Headwaters Project") was completed in 2000, and identified and ranked the important
natural resources within the Township and provided tools and techniques for preserving them. From this study, the Township received natural resource data in a Geographic Information System format including location of wetlands, soils, woodlands, floodplains, and other data.

The Headwater’s Project identified many threats and protective mechanisms for the significant natural areas within the Township. One noteworthy threat was the invasion of exotic plants into woodlands, wetlands and other natural areas from home and commercial landscaping. The Headwater’s Project suggested that property owners and developers/landscape professionals be encouraged to use native plant species in landscaping, and eliminate exotic invasive species from their landscapes. To educate people on this subject, the Township sought and received a grant in 1999 from the Environmental Protection Agency for a Native Vegetation Enhancement Project. The main goal of the project was to create a database (a CD ROM) of plants native to Springfield Township, as well as written materials for both homeowners and development professionals that explain the benefits of using natives in landscaping, and how to successfully integrate native plants into home, office and commercial landscapes. While the project planned to reach 1,000 township households with the CD, well over 10,000 have been sent out across Michigan, the United States, and abroad. Many organizations have been given permission to reproduce them for their members. The US EPA has also provided copies to interested parties and has adapted the CD’s content to their web site. In addition, the Township Assessor’s office includes the CD in the Township’s welcome packet to new residents.

2000 to Today

The first eight years of the new century have seen significant emphasis on stormwater management in the Township and the region. Beginning in 2002, the Clean Water Act required communities to begin regulating stormwater runoff from “non-point” sources. Communities of a certain size were required to obtain a stormwater permit through the National Pollutant Discharge Elimination System (NPDES) program. Springfield Township chose to partner with adjoining communities to form a watershed group for the Upper Clinton River watershed, rather than tackle stormwater issues on their own. The Township realized that watershed issues do not know jurisdictional boundaries and that working with communities who contributed to the same watershed made more sense. The group, composed of 10 partner communities, met regularly for five years, developing
a series of documents to meet the requirements of the permit, and to better reduce the quantity of stormwater generated in their communities, as well as reduce the amount of pollutants being transported into surface waters through stormwater runoff. The group produced materials that addressed the following topics: public education on watershed and stormwater issues, public participation in the watershed planning process, illicit discharge elimination to stormwater systems, and watershed planning. In addition, the group committed to a series of actions that each community will take to address stormwater issues in the watershed. While the Township is no longer required to maintain a stormwater permit, it continues to be committed to reducing the impact stormwater runoff has on its water resources. The community is much more aware of how stormwater impacts the natural environment and how new techniques in stormwater management, on both a parcel and community-wide level, can help protect water quality.

Other planning efforts undertaken during the early years of this decade include the Dixie Highway Corridor Study and an updated master plan for the Shiawassee Basin Preserve. The Township recognized the importance of the Dixie Highway corridor as its main commercial artery through the Township and to the economic health of the Township. The Corridor Plan analyzes the current conditions of the corridor, and under the direction of a steering committee composed of local business owners, property owners, and community members, provides the direction for growth and redevelopment along this transportation corridor where much of the planned or available space for commercial and office activity within the Township is located. The plan addresses roadway improvements, access management, the corridor’s visual image, economic development, and pedestrian/non-motorized improvements. The master plan for the Shiawassee Basin is based on a previous plan, which was expanded to include a detailed guide to managing the sensitive ecosystems within the basin, as well as a plan for future improvements to the active recreation facilities at the south end of the preserve.

In 2004, a second capital improvement planning process was initiated. The approach to creating this plan brought representatives from the Township Board, Planning Commission, Parks Commission, Fire Department and Library Board together to review the goals and policies of the plan, and identify priority projects that were most important for the next five years. As in the first Capital Improvements Plan, this revised plan is guided by seven policies to assist in decision making as opportunities arise. The policies stress the cooperative relationship between the different boards and commissions, and
how they can work together to pursue projects that will provide the most benefit for the funds expended.

The 1999 / 2002 update of the Master Plan focused on incorporating much of the significant and thorough studies carried out in the past decade, such as The Headwaters Project. With the extensive economic and population growth experienced during this time in the Township's region, much of the revisions to the plan focused on supporting, preserving, and fostering the unique cultural and natural characteristics of the Township.

This focus has not changed in the most recent update to the Township’s Master Plan. However, this update has also concentrated on evaluating the changes in development activity due to recent economic challenges in the region, and how this may impact the future growth of the community.

**Boards and Commissions**

The Township has a number of official bodies associated with the planning and development of the Township. A description of each body and its function in relation to planning is provided.

*Township Board*

The Township Board is the chief governing body of the Township and consists of the Supervisor, Clerk, Treasurer, and four Trustees. All Board members are elected for four year terms.

The Township Supervisor appoints the Planning Commission with the concurrence of the Township Board, and the Township Board appoints the members of the Zoning Board of Appeals. By Ordinance, the Township Board gives final approval to all special land use requests and certain specified site plans. By State statute, the Board also approves rezoning requests, zoning text and map amendments, and subdivision plats.
Planning Commission

In accordance with zoning and planning enabling statutes, the Township has established a seven (7) member Planning Commission. These members are appointed by the Township Supervisor to serve 3-year staggered terms. One member must be a member of the Township Board. The Planning Commission reviews and makes recommendations to the Township Board on all subdivision plats, special land use requests, zoning ordinance amendments, and zoning map changes. Final approval over certain specified site plans rests with the Planning Commission. The Commission also keeps the Township Master Plan current by making recommendations for changes to the Township Board. The Planning Commission is often requested by the Township Board to study general ordinances and other issues of concern to the planning and development of the Township.

Zoning Board of Appeals

The Zoning Board of Appeals (ZBA) consists of five (5) members appointed by the Township Board for 3-year staggered terms. One member may be a member of the Township Board and one other member must be a member of the Planning Commission. The ZBA members serve to interpret provisions of the zoning ordinance when requested, and determine when variances should be granted if peculiar difficulties with property make it impossible to meet the provisions of the zoning ordinance.

Parks and Recreation Commission

The Parks and Recreation Commission is a self-governing unit with seven (7) members elected to serve four-year terms. The Commission is responsible for planning, developing, and maintaining park and recreation facilities in the Township. The Commission receives most of its funding from the Township general fund, as approved by the Township Board. The annual parks and recreation budget is subject to the approval of the Township Board, as required by State statutes.

Springfield Township Library Board

The Springfield Township Library Board consists of six members who are elected to four year terms. The Library Board is responsible for establishing and maintaining library
personnel, policies, and facilities. The Board also oversees the budget and monthly expenditures. Most of the funding for the library comes from a dedicated millage.

**Administration**

The Township functions pertaining to zoning, planning, and economic development are spread among a number of the elected and appointed officials. Administrative and coordination functions are divided as follows.

*Supervisor:* Responds to general questions from public; represents the Township in various county and regional functions; and coordinates activities on Industrial Tax Abatement, Community Development Block Grant, and other non-Township assistance programs. The Supervisor also oversees building inspection and ordinance enforcement.

*Clerk:* Responds to general questions from public; processes site plans, subdivision plats, rezoning applications, and special land use applications; and keeps official records for Township Board, Zoning Board of Appeals, and Planning Commission.

Inspection and enforcement functions for buildings and ordinances are contracted out. The Township also employs engineering, planning, and legal services on a consulting basis.
Background Studies Summary

The Background Studies portion of the Master Plan inventories past trends, current conditions, and future projections, thereby illustrating the point from which planning must begin. The following summarizes significant findings. The complete text of the Background Studies is included in Appendix I.

Population

The population of Springfield Township in 1990 was 9,927 persons. According to the U.S. Census, the population of the Township in 2000 was 13,338, an increase of 34.4% from 1990. SEMCOG estimates the Township's population to be 14,393 as of October, 2007, an increase of 8% since 2000. SEMCOG forecasts that the population in 2035 will be 16,325, an increase of 22% from the year 2000 population. Springfield Township does not necessarily endorse or agree with SEMCOG’s projections. See the Background Studies – Appendix of this document for more discussion on population projections.
The median age of a Springfield resident is 35.9 years. The U.S. Census from 2000 shows approximately 69% of the population is under the age of 44. Only 9% of the population is over the age of 60. Average household size in 2000 was 2.87 persons, with a total number of households at 4,619. The population's age distribution and median age suggest a community composed of young persons and families with children.

The 2005 estimated median household income of $83,391 reflects a relatively affluent community. Furthermore, nearly 64% of all Township residents in 2000 had some college education. This reflects an increase in the level of education of Township residents from the 1990 census.
Housing

The 1990 Census tallied 3,459 housing units in the Township. According to the 2000 Census, Springfield Township has a total of 4,794 units, a 39% increase since 1990. Owner-occupied, single-family residential units are the predominant housing type in the Township. Age of the Township's housing stock is relatively new.

The cost of a single-family home in Springfield Township has risen substantially. According to Oakland County Equalization and the Township Assessor’s office, the average sales price in 1990 was $109,899, and by 2000 the average sales price was $243,645, representing a 121% increase in the average sales price of housing over a 10 year period. Since then, average housing prices have risen to $305,945 as of 2005, a 26% increase in five years. However, the average price has dipped since then, being $300,658 in 2007. The increase in sales prices is partially reflective of escalating real estate costs, but perhaps more indicative of the construction of new, more expensive housing. Since 2000, the number of home sales has fallen dramatically. Two-hundred and sixteen homes were sold in 2000, and 125 homes had been sold in 2007 through October of the year. The decrease in home sales reflects the troubled housing market and difficult economic times in the state.

Economic Base

Springfield Township is located twenty minutes from two cities, Pontiac to the south and Flint to the north. Two interchanges to I-75 provide easy access from Springfield Township to major population and employment centers of southeastern Michigan. Most Springfield Township residents are employed outside of the Township. For several decades before the year 2000, Oakland County as a whole experienced strong economic growth, job creation, and an overall healthy economy. However, since 2000, County residents have experienced an economic downturn. This is due in part to national economic factors as well as problems in the auto industry. However, Oakland County continues to be ranked as one of the most prominent county economies in the country, with one of the most promising futures.

The state equalized value (SEV) for real property in Springfield Township has grown by 75% since 2000. Residential property carries the majority of the tax burden with 90% of total SEV. Industrial constitutes 3%, commercial 6%, and other 1%. 
Figure 2
Relative percentages of Real Property Valuation (1999)

Source: Springfield Township Assessor’s Office (2007)

Per the commercial market analysis, included in the complete Background Studies in the Appendix of this report, the Township has a total of 249 acres zoned for commercial use. The market demand for the Township, based upon 2007 estimated income and population, is 81 acres leaving a surplus of 168 acres of land zoned for commercial uses. This surplus is expected to serve the needs of the Township at least until the year 2035.

Community Facilities and Services

In 2002, the Township moved into its new Civic Center on property at the Shiawassee Basin Preserve. Financed in part by a voter-approved bond issue, the center houses all Township administrative departments, the Parks Department, and the library. It also includes a hall to accommodate meetings of all official Township functions.

Fire protection is provided by a paid, on-call fire department. The Township has a full-time Fire Chief, and two full-time fire fighters. Police protection is contracted through the Oakland County Sheriff’s Department.

Central municipal water and/or sewer service within the Township is limited. Only a few developments in the Township are served by central water and/or sanitary treatment systems. One such system is the Softwater Lake Sanitary Treatment Plant, which serves five (5) separate
condominium projects and the Bavarian Village apartment complex, and is located near Dixie Highway and I-75. This system is in the process of being removed and the developments connected to the Independence Township sewer system. These developments are also served by a municipal water system owned and operated by Oakland County. Two mobile home parks, Oak Hill Estates and Springgrove Estates, are also served by community sanitary and water systems. Both parks are located off of Dixie Highway in the northern part of the Township. The systems are not operated by the Township, and do not provide service to areas outside their mobile home park boundaries. There are also several other developments, both residential and commercial, that are served by community sewer systems.

Three school districts serve the residents of Springfield Township: Holly, Clarkston, and Brandon. In addition, two private schools are located in the Township.

Springfield Township enjoys an abundance of public and private recreational facilities. Three park systems are represented within the Township: Springfield Township Parks and Recreation, Oakland County Parks, and Huron-Clinton Metropolitan Authority. Two of these parks contain golf courses: Springfield Oaks and Indian Springs. The Township also contains three private golf courses, open to the public: Shepherd's Hollow at Colombiere, Heather Highlands, and a small par three course called Windmill.

**Transportation and Traffic**

Both private and public roads exist within the Township. Adjacent land owners, usually homeowners associations, are responsible for maintenance of the almost 24 miles of private roads in the community.

The Michigan Department of Transportation and the Road Commission for Oakland County share the responsibility for operating and maintaining all public roads in Springfield Township. In the Township, MDOT is responsible for maintenance and improvement of Interstate 75 and the I-75 interchange at Dixie Highway, including the small portion of Dixie Highway within the interchange area.
The remainder of the Township's public roads, including most of Dixie Highway, come under the jurisdiction of the Road Commission for Oakland County. There is a total of 104.57 miles of primary and local roads in the Township; 23.5 miles are primary roads, and 81.07 miles are local roads. Most roads used as arterials are paved as are all public roads within new developments. Paved roads make up 53.66 miles (or 51%) of the Township’s roadways. The remainder of roads – 50.91 miles or 49% – are unpaved.

**Existing Land Use**

Existing land use patterns are illustrated in Figure 3. Although the Township has experienced significant growth, Springfield remains a relatively low density residential community. Forty-nine (49) percent of Township land is used for single-family residential uses. The next largest categories of land use are recreation, conservation, and privately dedicated open space land, encompassing 20% of total acreage; vacant land at 13%; and agricultural land at 9%. The remaining 9% of the Township’s area includes multiple family residential, mobile home park, commercial/office, industrial, extractive, institutional, and utility/communications.

Note that the amount of land associated with each land use category is different than the previous Master Plan due to more precise parcel data, changes in land uses over time, and modification of how land use categories were assigned to individual parcels. See the Appendix of this document for a more complete description of land use categories.
Natural Resources

Hills, wetlands, drainage systems, and vegetation provide Springfield Township with a highly varied landscape and significant local natural resources. Springfield Township is located within a hilly zone of glacial moraines and gently undulating plains, and enjoys the rivers, lakes, and wetlands that are characteristic of this type of glacially formed landscape. The Township contains the watersheds of four major rivers – the Huron, Shiawassee, Clinton and Flint Rivers – and the headwaters of the first three. Extensive wetland systems, especially associated with river corridors, are also significant features throughout the Township.

The rolling wooded hillsides, lakes, wetlands, and relatively undisturbed areas of the Township have provided the “rural” atmosphere that has drawn many people to Springfield. These same natural resources and their preservation have driven land use policies and decisions in the past, and will provide the foundation for future land use plans, policies, and decisions as to where and when open space acquisition should occur.
The thoughtful way in which land use decisions are made is based on a thorough understanding of the natural features that exist within the Township’s boundaries. This understanding was gained through a number of environmental and natural feature studies carried out by the Township, and by other organizations and agencies that recognized the Township’s unique resources:

- As early as 1968, Oakland County performed an inventory and study of the Shiawassee River headwaters area.

- In 1984, The Township teamed with the Southeast Michigan Council of Governments (SEMCOG) to conduct an environmental planning study. This study actively involved the Planning Commission and developed maps that formed the basis for the Township’s current environmental protection ordinance standards. The study also resulted in two booklets: one for developers that describe the Township’s environmental standards for site plan review, and development design techniques that specifically help protect natural features; the second for residents, which explains how land owners can protect groundwater and their drinking water source.

- In 1988, the Michigan Natural Features Inventory (MNFI) professionals performed an environmental analysis of the Township in partnership with Oakland County.

- In 1997, the University of Michigan School of Natural Resources and Environment conducted an ecological study of the Bridge Valley area.

- In 2000, the Township joined Oakland County in a study called the Shiawassee and Huron Headwaters Resource Preservation Project (Headwaters Project). The purpose of this study was to inventory critical natural resource areas for protection and to guide development decisions in the six participating communities in the project area. One main result of the inventory was the identification of 24 high quality, environmentally sensitive areas in Springfield Township. Three of these areas, the I-75 Woods, Long Lake Natural Area, and Huron Swamp Complex, were studied in detail as part of the Headwaters project and a fourth area, Bridge Valley, had been studied previously. All four areas have been identified as having significant resources worthy of preservation. In particular, the Long Lake Natural Area has been singled out as having state-wide significance. Based on an analysis of 136 prairie fens known in Michigan, the Long Lake Natural Area is ranked as the highest quality occurrence of prairie fen in the state due to its large size, diversity of high quality terrestrial and aquatic habitats, and high species richness, including the presence of several
state-listed plant and animal species. There were additional areas identified as having high resource potential that were deserving of future study. More description is provided in the full text of the Background Studies located in the Appendix. Another result of the project was the Township’s use of the natural resource data gathered to amend and add to several planning and ordinance techniques to better protect environmental resources located in the community.

- Also as a result of the Headwaters Project, the Township received a grant from the US EPA in 2002 to educate residents and the development community about the use of native plants in landscaping. This project, called the Springfield Township Native Vegetation Enhancement Project, created a computer-based interactive CD ROM to provide information about what constitutes a native plant, the importance of using native plants in landscaping and how to do this, among other information. The CD ROM also has detailed information about more than 230 plants native to Springfield Township, and a “plant finder” capability where the user can type in the planting conditions, (soils, amount of sun, etc.) and the plant’s desired characteristics (tree, flowering time, color, etc.) to identify suitable native species.

- In 2004, Oakland County worked with the MNFI staff to inventory the natural areas of the entire County. This information was than mapped and provided to each community, along with assistance from the County on ways the natural features could be better preserved.
Springfield Township has a strong history of active community involvement. The previous Master Plan was developed with a significant amount of public input as described in this chapter. Because this document is considered an update rather than a wholesale revision, much of the 2009 Master Plan is based on input gathered when drafting the previous plan. This update was prepared by the Planning Commission with input from the Township Board. Residents were asked to provide input through the public hearing process.

As part of the 1999 / 2002 revision of the Township's Master Plan, the Planning Commission determined that intensive and sustained involvement from the community was essential to develop a plan which was reflective of the Township’s needs and desires.

The kick-off event for formal citizen participation was the Springfield Township Master Plan Vision Fair which was held on November 7, 1999 at the Heather Highlands Golf Course. With over 175 community members in attendance, the Vision Fair was quite successful for an event of this nature. The purpose of this community gathering was to inform Springfield Township residents about existing conditions within their community and their Master Plan, identify those citizens who were interested in more active involvement with the master planning process, and provide a casual venue in which Township officials could learn the attitudes and opinions of the community regarding the direction of Springfield's future.

The structure of the Vision Fair focused on 10 stations, each headed by at least one Township representative. Topics of the stations included: Purpose of the Master Plan, Natural Resources/Open Space Preservation, Recreation, Community Services, Economic Base, Transportation, Residential, Population, Historic Preservation, and a Kids Corner which had planning activities for children. Each station had boards which listed and graphically illustrated "fast facts" about the Township. Questionnaires were also provided on each topic, allowing participants an opportunity to write down and submit their opinions.

At the Vision Fair, residents were asked to identify a specific area of interest they would like to be more involved in for the master planning process. All participants who signed in were mailed a copy of a summary of the findings of the Vision Fair based upon comments received from Township representatives at the stations and from submitted questionnaires. They were also
invited to participate in the next step in the Master Plan Citizen Participation process, the First Focus Group meeting.

The First Focus Group meeting was held April 5, 2000 at the Oakland Technology Center. The purpose of this meeting was to identify the central issues regarding each Master Plan element. Each Focus Group was facilitated by a Township representative. The people who responded to the invitation for this event received a copy of the updated Background Studies section of the Master Plan and a “talking points” worksheet intended to identify and clarify issues and ideas raised at the Vision Fair. Approximately 40 people attended the First Focus Group meeting.

The Second Focus Group meeting was held in May, 2000, also at the Oakland Technology Center. At this meeting, participants were presented with the Master Plan Goals and Policies, which were revised based upon comments from the Vision Fair and First Focus Group. Approximately 40 people attended the Second Focus Group meeting.

The findings and feedback of the three major public participation events were instrumental in assuring that the revised Master Plan Goals and Policies were representative of public opinion as gained from the events.
Goals and Policies

Goals and policies formulated by the community establish the framework for public and private decision-making. Goals reflect the broadest of human needs and establish the desired outcome or end results of the planning process.

While goals tend to be general in nature, policies set forth a particular approach or position to be taken when resolving a planning issue. Clearly defined statements of policy can go far to minimize arbitrary decisions and substantiate intelligent, objective decisions. Policies broaden the scope of the Master Plan beyond just a series of maps.

Planning Context

During the course of preparing the Master Plan, a number of words and phrases continue to be mentioned by participants in the planning process which best describe Springfield Township. These key words and phrases establish the context, or set of conditions, in which planning takes place in Springfield Township.

The following words and phrases define the character of Springfield Township:

**Rural Community**

- Open Space
- Country
- Peaceful
- Low density
- Gravel roads
- Limited services
- Natural Landscape

**Family Oriented Community**

- Small-town focus
- Neighborly, friendly
- Primarily owner-occupied housing

**Abundance of Open Space/Natural Resources**

- Natural beauty
- Pristine resources
- Diverse, intact ecosystems
- Rare plants and wildlife
- High quality headwaters
- Connected riparian corridors and green space

**Conservative Attitudes**

- Slow, but sure
- Belief in individuality and self-worth

**Committed to Planning**

- Protect the past, guide the present, plan for the future
- Balanced approach to growth, willing to grow with conditions and limitations
- Protect the public health and safety

**Environmentally Conscious**

- Residents are attracted to hills, wetlands, lakes and woodlands
- Loss of significant resources would result in loss of Township character and quality of life

**Availability of Housing Opportunities**

- Balance of age groups and income levels
- Varied housing types and styles
Goals

The following goals set forth the desires and aspirations of the Township:

**Goal 1:** Recognize the inseparable relationship between human activity and land.

**Goal 2:** Recognize the natural capacity and limitation of land to support development.

**Goal 3:** Preserve the natural features and character of Township lands and protect the quality of vital Township air, land, and water resources.

**Goal 4:** Maintain the rural character of the Township and preserve its desirability as a place to live, work and play for individuals of all backgrounds.

**Goal 5:** Improve the conditions which lead to private economic growth in a planned and thoughtful manner which recognizes and is compatible with the needs, characteristics, and capabilities of Springfield Township.

Policies

The following policies set forth a more specific position toward planning issues within the Township.

**Natural Resources**

**Policy 1:** The primary determinant in any land use and development decisions will be the natural capability of the land and physical support systems.

Primary considerations allowing low intensity land use, such as low density residential, open and agricultural land, and recreational or conservation land, shall be natural resource conditions least capable of supporting development, inadequacy of existing roads, existing low density land use patterns, and the need to protect unique and sensitive environmental resources.

Primary considerations allowing medium intensity use, such as medium density residential, neighborhood, commercial, office, and community facilities shall be natural resource conditions moderately capable of supporting development, accessibility to adequate roads, and existing medium density land use patterns.
Primary considerations allowing high intensity use, such as high density residential, office, limited industrial, and general commercial, shall be access to major thoroughfares and expressways, existing medium to high density land use patterns, and natural resource conditions most capable of supporting development.

The Headwaters Project has identified and ranked twenty-four natural resources areas in the Township, has conducted in-depth studies of several of the more important natural areas within the Township, and has developed model natural resource planning guidelines. The findings and recommendations of this project along with other such studies shall be used in part to determine the importance of natural resources within the Township and the impact of development on ecosystems.

**Policy 2:**  Planning decisions shall recognize the interdependence of natural resource features and the importance of ecosystems. It is the intent of this plan to assure the sustainability of ecosystems by preserving systems of open space. Such an open space system may be any combination of natural features such as uplands, grasslands, streams, woodlands, water bodies, and wetlands.

The following lands are not suitable for development, but are suitable for conservation as open space.

1. Lands which are not developable in their natural state, such as flood plains and wetlands.

2. Lands where development would result in substantive environmental degradation of a larger natural system or create hazards to the environment.

The private preservation of open space through conservation easements and dedication shall be encouraged. Dedicated open spaces shall be designed in such a way as to coordinate with and complement adjoining dedicated open spaces in order to form a network or system of open space. Riparian corridors shall whenever possible be incorporated into the open space systems.

Diversity of habitat shall be maintained, and fragmentation of natural features shall be minimized or avoided.
Policy 3: The natural capability of land shall govern the development of individual sites.

Woodlands, grasslands, slopes, wetlands, and groundwater are all natural features which are worthy of preservation. These natural features all operate within an ecosystem, and for appropriate function require each other. The impact of development on adjacent natural resource features shall also be considered.

- Woodlands

The conservation of woodlands is essential to protect water, air, and soil quality, to buffer air and noise pollution, to moderate local climate and storm hazards, to preserve wildlife habitats, and to preserve aesthetic values and community beauty.

The significance of specific woodland areas must be determined at the time of review. Development which is permitted in and around wooded areas, or where significant specimens of individual trees are involved, should be planned, constructed, and maintained so that existing healthy trees and desirable native vegetation are preserved. The objective should be to preserve native trees rather than to rely on removal and subsequent replanting. If replanting is proposed, native species should be used. The diversity of woodland areas should be protected to ensure long-term stability.

- Grassland Communities: Prairies and Savannas

Grassland communities within the Township offer habitat and plant diversity for a host of animals, birds, and insects, and are currently rare natural features as they exist on soils which are ideal for agriculture and building development.

Two types of grassland communities exist within the Township: prairies and savannas. Prairies are grassland communities that thrive in open areas without woody vegetation and are historically dependent on fire for rejuvenation. A savannah, a very rare plant community type in southeastern Michigan, is a grassland community with many of the same plants as in the prairie community except with an open overstory of oak species.

The significance of specific grassland communities must be determined at the time of review. A grassland community's quality is dependent upon the number and type of native grassland species. High quality grassland communities shall be worthy of preservation.
Lower quality grassland communities shall be encouraged to be restored with native species and appropriate maintenance.

- Slopes

Careful planning around slopes is necessary to minimize erosion, to maintain grade and soil stability, to control amounts and velocities of runoff, and to maintain the community's aesthetic resources.

The existing land form shall be made a part of land use planning and design. The primary objective is the preservation of the natural contours, vegetation, and drainage patterns. Grading and site preparation shall be kept to a minimum.

Slopes should be considered in terms of both degree and soil composition. Development where slope and soil conditions would create serious erosion, stability problems, or require mass grading shall be avoided.

- Groundwater Protection and Recharge

Groundwater resources are the lifeblood of the Township because of the community's reliance on individual wells for drinking water. Groundwater recharge areas are vital elements in the hydrologic cycle because they restore water levels in underground storage areas and supply water to lakes, rivers and streams.

The retention and protection of groundwater resources in terms of volume and quality is essential to both Springfield Township and surrounding areas for its drinking water, recreation, and continued sustainability.

To maximize the potential of recharge areas to restore underground water supplies, such areas are best kept as open space where feasible, or uses limited to low density, so as to retain as much of the permeable surface as possible. Land grading should be minimized to retain the water holding characteristics of the land. Native vegetation essential to the water holding characteristics should be preserved, or where necessary, enhanced as part of a development program. The balance and integrity of the hydrological system must be maintained in any part of a proposed development.
Recharge areas should be protected from pollution by proper regulation of all uses which handle hazardous materials and discharge wastes. Drain field discharges should not adversely affect the quality of ground water. Stormwater runoff should be controlled so as to eliminate the percolation of pollutants from surface runoff into the underground system. Use of natively vegetated swales, buffers, and infiltration areas provided on-site are encouraged. Sidewalks, roads, and driveways should be designed to minimize impervious surfaces.

- Wetlands, Watersheds, Drainage, and Stream Corridors

The stream corridor and the adjacent watershed and uplands constitute an ecological unit. Protection of slopes, woodlands, grasslands, and wetlands within the watershed and proper management of land use and development are essential to maintaining the quantity and quality of stream flow within the corridor. Consequently, development should be reviewed in the context of not only the stream corridor itself but in relation to the corridor's watershed.

The headwaters of three major river basins, the Huron, Clinton, Shiawassee as well as the watersheds of these, and the Flint, are located in Springfield Township. Due to its strategic location, the Township must be sensitive to the impacts of land use on the watershed systems.

Stream corridors shall be preserved in their natural conditions, and buffers shall be provided. Uses shall be restricted to those which offer no danger of topographical disturbance to the corridor, degradation to water quality, increased runoff, sedimentation, stream channel alterations, or degradation of dependent, non-hydrologic resources (i.e., flora and fauna.)

The conservation of wetlands is essential to preserve water quality, stabilize and filter stormwater runoff, recharge groundwater, provide fish and wildlife habitat, and preserve the natural nutrient cycle.

While the highest priority is for the preservation of wetlands in their natural state, wetlands may be incorporated into the stormwater management system provided the inflow of sediment, pollutants, and nutrients does not damage the value and function of the wetland...
or change its character or makeup. Direct discharge of untreated stormwater and effluent that damages the function and quality of a natural wetland is prohibited.

The significance of specific wetland areas must be determined at the time of review. Three aspects of wetland conservation should be recognized in reviewing proposed developments within and in the vicinity of wetland areas:

1) The wetland area itself,

2) The adjacent fringe or buffer area, and

3) Areas which drain into the wetland, including uplands and transitional areas.

The rate of surface water runoff shall not exceed that which occurs under existing, undeveloped conditions. This policy will prevent overloading of streams receiving the runoff and will help prevent long-term erosion from uncontrolled, high velocity discharges. On-site stormwater management which uses natively vegetated swales, naturally designed detention areas, and other measures to reduce water velocity, promote infiltration, and remove sediments will be encouraged.

Erosion control methods, stormwater management, and drainage plans should recognize the soil types, vegetation and land slopes of the specific site.

Policy 4:    *Landscaping which uses desirable native species of vegetation shall be encouraged.*

The Township recognizes that species native to the local area are generally hardier, offer more wildlife benefit, filter pollutants, are an effective component in stormwater management, and support and complement local ecosystems. Additionally, native species require less maintenance, water and chemicals (including fertilizers and pesticides), and are drought resistant. It is the intent of this plan to encourage the use of desirable native species of plants for all landscaping.
Historic Preservation

Policy 5:  The Township has a unique and important cultural history which is worthy of preservation.

The historic homesteads located throughout the Township are worthy of preservation. While the Township recognizes and supports positive growth, the preservation of elements of these homesteads such as the outbuildings and original home will contribute to the preservation of Springfield's agricultural heritage.

Historic preservation efforts would benefit from an inventory of the historic buildings and sites throughout the Township. Inventory and interpretive information made available to the public would advance an appreciation for and understanding of the heritage of the Township. This shall include the erecting of historical markers, promoting cultural activities dealing with the Township's heritage, and providing historic resources at Township-related offices including the library and civic center.

Given the cultural and economic benefit of historic preservation, the Township, in cooperation with the Springfield Township Historical Society, will encourage the preservation and restoration of historic structures.

Residential Land Use

Policy 6:  A range of residential densities will be provided based on the capability of the land and the suitability of its location so as to minimize public service expenditures and impacts on adjacent uses.

Single Family Residential land use is broken down into six density classifications:

Low Density One Family Residential.  This designation provides for densities of one (1) dwelling unit per two and one half acres (2.5) or greater and is planned for areas compatible with existing development and areas least capable of supporting additional development, due to natural resources, road conditions, soils suitable for septs and distance from public services.  Areas planned for low density may be characterized by floodplain and wetland areas, extensive steeply sloped areas, woodland areas and areas containing soils with poor suitability for septic systems.  It is unlikely that such areas will be served by improved roads in the near future which would allow for more dense development.  In addition, the
maintenance of low densities in certain areas is intended to provide for the continued preservation of open space, natural areas and the rural atmosphere of the Township.

**Medium Density Single Family Residential.** This designation provides for one (1) dwelling unit per one (1) to two (2) acres and is planned for areas with existing medium density development and areas with soils, road conditions, and natural resources moderately capable of supporting additional development. Some areas designated as Medium Density Residential may contain natural resource features worthy of preservation or be accessed by a moderately adequate road system. These items should be reviewed and taken into consideration at the time when specific development decisions are being made on any particular piece of property.

**High Density Single Family Residential.** This designation provides for more than one (1) dwelling unit per acre, but anticipates no more than one (1) dwelling unit per one-half (0.5) acre and is planned for areas compatible with or containing existing high density development. High Density Residential is planned for areas with adequate roads and natural resource conditions most capable of supporting additional development.

**Traditional Lakefront Residential.** This reflects the traditional pattern of residential development that occurred predominantly in the 1930's characterized by smaller lots less than currently required. These lots were originally platted for recreational cottages, but many houses have been enlarged and lots combined to accommodate permanent residences. These areas do not reflect the low density patterns that are more characteristic of current development patterns in the areas that surround lakes, but are intended to recognize existing development patterns established during a period of time pre-dating zoning regulations.

**Multiple Family Residential.** This designation is intended to provide for single family, two-family or multiple family dwelling units at a density ranging from four (4) to eight (8) units per acre depending upon site conditions and unit size. Multiple Family Residential is planned for areas compatible with existing multiple family development, existing or planned adjacent uses and direct access to adequate paved roads. Appropriate multiple family residential areas are encouraged to be utilized for assisted living facilities for the elderly and nursing homes given that the proposed uses are compatible with existing land use conditions and services are available.
Mobile Home Parks. There are existing areas designated for Mobile Home Parks. It is anticipated that future proposals for mobile home parks may be compatible with certain areas designated for high density single family or multiple family residential, which are neighboring existing high density or multiple family development.

**Policy 7:** Encourage alternatives to traditional residential land development patterns that result in more efficient and better arranged land uses, increased open space and the preservation of natural resources.

Springfield Township has been highly successful in encouraging the use of residential open space development. The Township should continue this approach and strive to provide clear directions to developers regarding the purpose, intent and benefits of open space development.

Residential open space development will also serve as a primary tool in implementing many of the concepts of the Headwaters Project and will be particularly useful in areas identified through the Michigan Natural Features Inventory (MNFI) and other studies as requiring special attention and protection.

While current open space development requirements are generally applied to large projects and pieces of property, a rural open space development option should also be explored. Such an option would be applied to land divisions and would attempt to encourage the protection of important natural resources and maintain the appearance of rural, tree-canopied roadways. A simple lot averaging technique with larger setbacks from rural roads may be sufficient to achieve this concept.

**Policy 8:** Encourage housing types that meet a variety of needs, while remaining consistent with the character and planned densities of the Township.

Due to reliance on on-site water and wastewater systems, the Township will remain predominantly a single family residential community. However, the Township recognizes that a balance of housing types and styles meeting a variety of social and economic needs, age groups, and lifestyles is important to maintain a dynamic and diverse community.
**Policy 9:** Recognize the importance and viability of existing neighborhoods and residential areas and protect their character, safety and welfare.

Springfield Township has many existing neighborhoods and residential areas that need to be considered when planning decisions are made. Such areas shall be protected from the intrusion of incompatible land uses.

When development in proximity to existing neighborhoods does occur, care shall be taken to provide for an orderly transition and adequate landscape buffers between residential and non-residential uses and, where appropriate, between adjacent residential uses. The intent is to minimize the impact upon existing neighborhoods and resources caused by new development.

While the interconnection of neighboring subdivisions is desirable, road patterns that encourage excessive through traffic or have a detrimental effect on neighborhoods shall be prevented. Effort shall also be made to institute traffic calming measures in the design of residential streets, especially those which connect to existing neighborhoods.

**Community Services**

**Policy 10:** In order to meet the needs of the Township residents and make effective use of resources, an ongoing Capital Improvement Planning process is necessary. Such a process should include an annual review and a revised Capital Improvement Plan adopted every five years.

In Springfield Township, capital improvement decisions are made by the Township Board, Library Board and the Park Commission. It is particularly important that a regular procedure is followed to communicate, integrate and coordinate decisions. In support of an ongoing Capital Improvement Planning process, the following principles are essential:

- A cooperative working relationship and ongoing communication process will be established between all boards, commissions, and departments related to capital improvement decisions.

- All groups will be committed to pursuing projects that meet multiple objectives, where possible.
• Reliable sources of funding will be pursued in order to support capital improvement needs.

• Township government will be strengthened by a central location for all governmental functions.

• Capital Improvement decisions and capital projects should be reflective of and supportive of the character of Springfield Township.

• All commissions, boards, and departments need to be aware of the needs and expectations of the community as a whole.

• Operating, equipment, and maintenance costs must be a consideration in making capital improvement decisions.

**Policy 11:** To minimize the potential degradation of surface and ground waters, encourage innovative on-site community wastewater treatment systems where existing or proposed population densities and natural resource conditions warrant consideration of such systems. The intent of this policy is to address potential environmental benefits and not induce increased density and development as a result of allowing common on-site systems.

Alternative systems such as package treatment systems or other innovative systems may be given consideration, where it can be demonstrated that there is a benefit to protecting natural resources, reducing tree removal, and improving water quality. Individual systems for high density development shall not be considered unless soil conditions are ideal. Allowing for alternative systems recognizes there is a need to provide for ongoing maintenance of such systems. Cost of maintenance should be borne by benefiting property owners.

**Policy 12:** Due to a lack of central public water supply, the Township should develop a plan to provide public sources of water for fire suppression to serve both existing and new development.

Priority shall be given to single family subdivisions, high density residential developments, commercial, and industrial developments in providing a source of water supply for fire fighting purposes.
Policy 13: Coordination with other governmental and private entities shall be encouraged in order to allow for the most efficient provision of services.

The Township recognizes that coordinating and cooperating with other governmental units and private entities can enhance its ability to provide services to its residents. Services that the Township may consider providing in cooperation with other organizations may include but not be limited to the following: fire protection, EMS service, Tornado Warning System, Library, cable community programming and communications, and waste disposal including composting and recycling.

The Township also intends to coordinate efforts with local schools to combine resources and maximize services to residents. Opportunities for coordination of efforts between the Township and schools include the following: school transportation, school yards and playgrounds, and the Township library and school curriculum.

Recreation

Policy 14: A significant asset of Springfield Township is the availability of quality parks and recreation facilities, as well as an abundance of open space. Every effort shall be made to protect and enhance the system of open space and recreation.

The Township Planning Commission and Township Board should consider the goals and strategies of the currently adopted Springfield Township Recreation Master Plan when making a decision or providing recommendations that may impact Township parks and recreation services.

Intergovernmental cooperation between the Townships, Villages, County, Regional, State, and Federal authorities are essential to the development of a system which balances the preservation of open space and environmental amenities and the provision of active recreation programs and facilities.

Higher real incomes, better educational opportunities, greater amounts of leisure time, and continued population growth will lead to greater and greater demands for recreational facilities. To meet these needs, open space programs should be made an integral consideration of all land use and zoning decisions in the Township.
**Policy 15:** In recognition of the increased utilization of non-motorized transportation, and the need to provide a safe way for residents to walk or bicycle through the Township, the Township will plan for a Pathway System. The pathway system will link local recreational and open spaces areas, as well as residential areas, schools and other community facilities, and shopping areas within the Township.

Where appropriate, it will be the intent of the Township to plan the Pathway System to coordinate and complement the Headwaters Trail System proposed for the northwest portion of Oakland County.

It shall be the preference of the Township to have multi-purpose pathways which accommodate pedestrians, bicyclists, rollerbladers, and other forms of non-motorized transportation within the same path that is separated from the road surface area. Where it is not possible to have separate pathways, the Township would support alternative pathways which reserve an area within the road surface for bicyclists.

Pathways will be of adequate design and construction to accommodate multi-purpose non-motorized circulation.

Local developers are encouraged to develop those portions of their land which lie adjacent to such a pathway in a manner which contributes to the function and/or aesthetics of the Pathway System. The Township will also actively explore funding mechanisms to implement the pathway system.

**Transportation**

**Policy 16:** The road network within the Township which consists of I-75, Dixie Highway, County, primary, and local roads present both opportunities and constraints for development. The capability of the road network will be emphasized as a primary consideration in land use planning decisions, especially in density considerations. The Township will maintain a close relationship with the Road Commission for Oakland County, and the Michigan Department of Transportation to work toward implementing priority projects as identified by both the Township and the county.
Road improvement priorities are based upon a hierarchy established by the function each road serves. The allocation of improvement dollars shall give priority towards roads and road intersections which function to benefit the greatest number of Township residents or provide the greatest economic and safety benefit to the Township. The Township shall provide substantial and primary input in location and type of improvements.

Based upon the classification of roads within Springfield Township as per the National Transportation Functional Classification, funding and maintenance priorities are more appropriately directed towards minor arterials and major collectors. Additional description is provided in the Transportation Plan of this document.

The improvement of Dixie Highway is a high priority. It is the Township's intent to encourage physical improvements to Dixie Highway roadway in such a way as to facilitate the smooth and safe flow of traffic, improve vehicular and pedestrian safety, and help to promote the image of Dixie Highway as an entryway into the Township. Specific measures include:

- Work with the Road Commission for Oakland County and MDOT to improve roads, intersections, especially the intersections of Dixie Highway and Davisburg Road and Dixie Highway and I-75, and safety in the corridor.

- Provide a boulevard entryway beginning near the I-75 intersection and ending in the area of Bavarian Way.

**Policy 17:** Many primary and local roads remain unpaved by choice. In addition, many of these roads retain a tree-canopy. It is the intention of this plan to manage these tree-canopied roads as set forth in the Springfield Township Tree Preservation Program.

It is the intention of the Township to retain the rural tree-lined character of roadway corridors by pursing the following additional measures:

- Develop a management program to include an inventory and continuous assessment of the trees along targeted corridors as well as a specific action plan.

- Maintain a liaison with the Road Commission for Oakland County and utility companies and help carry out roadway maintenance and improvements projects.
• Raise public awareness and support for tree preservation and/or replanting along targeted corridors through various means.

• Support resident efforts in seeking Natural Beauty Road designation.

• Oversee a tree replacement/planting program.

• Develop planting options which use native plant materials and attempt to recreate natural conditions.

• Establish a Township nursery to provide for tree and shrub replacement materials after road construction project.

• Encourage "plant rescue" on sites that are slated for development to provide transplanting materials.

• Encourage a program of systematic and regular plantings along roadways to create tree corridors where none exist, replace tree corridors removed by development, and to create a new secondary corridor behind existing but endangered tree corridors.

Policy 18: The enhancement of traffic safety will guide road improvement priorities, the design of improvements, and the manner in which adjacent uses access roadways.

Capacity and road conditions will be a determination in making land use decisions. Improvements to the roadway systems are necessary for the safe movement of vehicular traffic associated with land development activities and may include but are not limited to:

• Acceleration/deceleration lanes.

• Passing lanes.

• Intersection improvements.

The Township will also require safe access to roadways from adjacent land uses. Access management techniques will be employed so that the effect of accessing roadways from adjacent land uses is accomplished in the least disruptive and safest way. Access management measures may include, but are not limited to:
Policy 19: Positive roadway aesthetics will guide the design of roadway improvement and features within the right-of-way, and the adjacent land uses’ site design.

The Township acknowledges that attractive physical features of roadways create a more pleasant experience for all viewers, encourage economic development, contribute to the creation of community, and instill pride in an area.

Aesthetics are influenced by a number of factors, but such items as appropriate signage, right-of-way landscaping, preservation of attractive natural views, and site design including parking lot layout will promote the most aesthetically pleasing representation of roadway corridors. The Township requires that all developments make an attractive contribution to a roadway corridor.

Zoning enforcement and the redevelopment of non-conforming sites to meet the requirements of the Ordinance are needed to achieve a positive and attractive appearance along roadways.

As the most visible corridor in the Township, Dixie Highway rates a high priority. It is the intent of the Township to enhance the visual appearance of the corridor by preserving natural views and coordinating design of buildings, site arrangement and landscaping, signs, and other elements. Specific measures include:

- Encourage the use of coordinated parking lots, and locate parking to the rear or side of buildings.

- Create unified landscape standards that help promote a high quality image of the corridor. Require street trees along road frontages, and increase buffering, greenbelts, and landscape planting within the corridor.

- Promote consistent sign design within the corridor. Work to eliminate existing non-conforming signage.

- Encourage quality building architecture.
• Encourage site design which preserves natural views from the roadway and pedestrian corridor.

• Provide unifying streetscape design elements such as street lights, benches, and other site furniture.

• Support efforts to bury utilities underground. Where underground utilities are not possible, encourage utilities companies to maintain utility poles.

**Commercial, Industrial, Office, and Mixed-Use Development**

**Policy 20:** Provide for commercial, office and mixed use development that recognizes and is compatible with the residential character of the Township. Commercial, office and service uses should be primarily confined to meeting the needs of the Township residents.

Dixie Highway will remain the focus of commercial, office and mixed use development in the Township. The Township intends to encourage economic health and redevelopment through the following measures:

• Develop a future land use plan for the corridor that calls for the type of uses that are desired, protects the character of the corridor, and encourages redevelopment.

• Encourage small, service-oriented office/service businesses to locate within the corridor and businesses that may complement existing businesses. Mixed-uses with an emphasis on commercial uses will continue to be the land uses of the corridor.

• Actively seek redevelopment of targeted "brownfield" properties through the support of available grants and other incentives. A brownfield is real property which the redevelopment or reuse of may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

• Explore the opportunity to develop a sanitary sewer, package sewer, or shared septic to stimulate development activity and address problems associated with small, non-conforming lots.

• Explore the opportunity of a shared stormwater management system.
• Encourage the coordinated and continuing involvement of property owners with the formation of an active corridor association.

The Township has distinct areas which have retained much of their historic character. One such area is the downtown hamlet of Davisburg with its concentration of historic structures. It is the intent of the Township to preserve these unique architectural characteristics and to encourage improvements (including exterior alterations and signage) that respect and enhance their historic character.

The hamlet of Davisburg is the closest thing that Springfield Township has to an identifiable core. While development will be largely confined to existing buildings since available land area is constrained and there is a lack of adequate area for on-site septic tanks coupled with a high water table, Davisburg can serve an important function as a hub of activity.

The Township will discourage large retail development which is incompatible with the character of the community and strip or linear commercial development and encourage clustered commercial, mixed use and office-service development. Cluster commercial is recommended as the primary development concept for new commercial land use in the Township. Cluster commercial would take the form of either a shopping center or groups of buildings sharing common access, architectural style and design elements.

In addition to encouraging a cluster form of commercial development, the Township will also encourage centrally-located, concentrated clusters of multi-use development to provide necessary goods and services, and energize the community around identifiable focal points.

The concept of mixed use development is to create a planned concentration of private and public uses that form an identifiable "core" of development. A mixture of uses is proposed to create a dynamic environment in which activities may be mutually supportive. The types of uses envisioned may include residential, commercial, office, business support services, industrial, research, public, and open space uses.

A mixed use development approach is appropriate for certain strategic areas of the Township, such as the Dixie Highway/Davisburg Road area, because it may be used as a means to organize growth within centralized, well-planned areas as opposed to fragmented, scattered development. A mixed use approach allows market forces to determine the particular uses of land within the parameters established by community standards.
While a mixed use development approach may allow flexibility in use, strict performance oriented standards must be established which dictate quality in design. Further, it is the intent that where significant environmental features exist – such as areas of the Township identified by the Michigan Natural Features Inventory (MFNI) – these environmental features be protected by and integrated into the mixed use design.

Such mixed use and commercial clusters should have the following characteristics:

• A unified development concept with central design themes and features.

• An internal circulation system that is not entirely dependent upon major roads and highways.

• Accessibility from all areas of Springfield Township and surrounding communities by way of major roads and highways.

• Significant functional and physical integration of project components (i.e., off-street parking areas, pedestrian walkways, etc.)

**Policy 21:** *Encourage clean industrial and research/office land use in park settings with access to major highway systems and discourage scattered site development.*

The absence of public water and sewer makes Springfield Township a less desirable location for industrial development than some other communities within Oakland County. Therefore, extensive new industrial development in the Township is not anticipated over the next twenty years.

However, there is potential for the expansion of existing industry within the Township and the creation of new enterprises from entrepreneurs located within or in close proximity to the Township. New industrial development will come from firms which do not require central water and sewer.

**Policy 22:** *Improving the visual quality of the physical environment within the Township must be viewed as a partnership between the public and private sectors.*

The visual image of many commercial and industrial properties in the Township is a reflection upon both the business itself and the community as a whole. A good visual image connotes a
business that cares about its customers and the community in which it resides. A good visual image of businesses within the community also reflects conscientious government which has offered both the proper incentives for property maintenance, as well as the appropriate penalties for property deterioration. The physical improvement of the Township is best achieved through cooperative efforts.

The objectives pertaining to improving the quality of design and visual attractiveness within the Township are as follows:

- To create a physical and visual atmosphere which is an asset to existing businesses.
- To create a physical and visual atmosphere which is attractive to new investment activities.
- To reduce the non-conforming characteristics of properties.
- To promote building facades which are architecturally attractive from roadways, and the use of construction materials, details and finishes which complement and enhance surrounding uses and the community's character.
- To promote the use of building architectural elements and materials to ensure long term value to the community.

**Policy 23:** *Provide for land uses related to or ancillary to mineral mining, sand and gravel, and extraction and development that assures the protection of the Township’s rural character, open space, natural resources and compatibility with existing residential, commercial and industrial areas.*

As depicted in Map #6 Existing Land Use, two locations within Springfield Township are shown as extractive. These two locations are long standing extractive operations that occupy approximately 378 acres or 2% of the total land area of the Township. While these existing locations and operations provide an important resource, it is recognized that the Township does not have comprehensive soil data available that would identify areas most appropriate for additional or new operations. Therefore new mineral mining, sand and gravel extraction and development shall meet the objectives noted in this policy.

It shall be the objective to consider extractive land uses including mineral, sand and gravel extraction, and development with the following considerations:
• Compatibility with adjacent land uses including consideration of buffering, traffic, vibration, noise, dust, hours of operation and other similar concerns.

• As a part of this policy, evaluate potential effects of mineral, sand and gravel, and development, on the public health, safety, and welfare; and to review existing zoning and other police power ordinances to ensure they balance the need for those uses with their effects on other existing and planned uses in a manner that furthers and protects community goals and priorities, including land use, land preservation and the protection of natural resources and water quality, transportation and safety and community facilities and services.
The Future Land Use Plan serves as a general guide to the Township's desired future land use patterns and as a graphic representation of the Township's goals and policies. In general, this Plan was developed after careful consideration of the following features in each area and the surrounding properties:

- Natural features, including streams, ponds, lakes, wetlands, woodlands, unique plant communities and species, steep slopes, soils, wildlife habitats, and other features that help define the natural capability of the land to support various land use densities;
- Existing development patterns and trends in the Township;
- Capacity of the Township’s roadway system;
- Oakland County Health Department’s current density policy for septic systems;
- Residents’ needs; and
- Desired future land use and character.

The Future Land Use Plan map is not a zoning map, but rather it is a generalized guide to the Township's desired land use patterns for the next ten to twenty years. The Future Land Use Plan not only reflects the goals and policies of this Master Plan, but also assumes that land will be developed and redeveloped using the other regulatory tools the Township has at its disposal. Tools such as the Zoning Ordinance and Design and Construction Standards provide guidance for many elements of a development. Springfield Township has led the region in ecologically-sensitive design standards for stormwater management, roadway systems that are designed around the number of users and site features, and the use of community septic systems, to name a few examples. The provisions in these documents were also considered when determining the future use of properties.

Because the Future Land Use Plan map is a representation of the future, readers are cautioned to review other elements of the Master Plan, such as changes which may have occurred since the Master Plan was developed, and the conditions which existed at the time the Future Land Use Plan map and other elements of the Master Plan were prepared.

**Planned Land Use Categories**

The following briefly defines and describes the intent of each category depicted on the Future Land Use Map and within this Future Land Use Plan.
Single Family Residential

Single Family Residential land use is broken down into four gross density classifications:

- **Low Density Single Family Residential.** This designation provides for one (1) dwelling unit per two and one-half acres (2.5) or greater. Low Density Single Family Residential development is planned for areas with natural features which are least capable of supporting new or additional development, and which are compatible with existing development. Some areas designated as Low Density Single Family Residential may also contain natural resource features worthy of preservation. The maintenance of Low Density Single Family Residential uses in certain areas is intended to provide for the continued preservation of open space, natural areas, and the Township's rural atmosphere. Areas planned for Low Density Single Family development are characterized by floodplain and wetland areas, extensive steep slope areas, woodland areas, areas of soils with poor suitability for septic systems and areas which will not be served by improved roads in the near future.

- **Medium Density Single Family Residential.** This designation provides for one (1) dwelling unit per one (1) to two (2) acres. Medium Density Single Family Residential is planned for areas with existing medium density residential development and areas where soils and other natural resources, and road conditions are moderately capable of supporting additional development. Some areas designated as Medium Density Single Family Residential also may contain natural resource features worthy of preservation.

- **High Density Single Family Residential.** This designation provides for one (1) dwelling unit on less than one (1) acre. High Density Single Family Residential development is planned for areas compatible with or near existing high density development. This land use is planned for areas with adequate roads and where natural resource conditions are most capable of supporting development. The designation of an extensive amount of new high density development will likely require the construction of new community sewer and water service. Therefore, most areas designated under this category are existing high density residential developments that are served by limited existing sewer and water service. Where new areas are designated, the determining factor regarding density will be on-site septic system capability.
• **Traditional Lakefront Residential.** This reflects the traditional pattern of residential development that occurred predominantly in the 1930's, characterized by lots smaller than currently required. These lots were originally platted for recreational cottages, but many houses have been enlarged and lots combined to create permanent residences. These areas do not reflect the low density patterns that are more characteristic of current development patterns in the areas that surround lakes, but are intended to recognize existing development patterns established during a period of time pre-dating zoning regulations.

**Multiple Family Residential**

Land designated Multiple Family Residential is intended to provide areas for single family, two-family or multiple family dwelling units at a density ranging from four (4) to eight (8) units per acre depending upon site conditions and unit size. Multiple Family Residential is planned for areas with existing multiple family development, or compatible existing or planned adjacent uses, and direct access to adequate paved roads. As with the High Density Single Family Residential category, community sewer and water systems are necessary to support such density, and would need to be constructed for new multiple family developments. Therefore, most areas designated under this category are existing multiple family residential developments that are served by limited existing sewer and water service.

**Mobile Home Park Residential**

Land designated Mobile Home Park Residential is intended to provide for mobile home parks within existing locations in the Township.

**Office / Service**

Land designated Office / Service is intended to provide locations for low intensity business uses such as offices, and business and personal service uses which are dependent on and supportive of an office environment. Office / Service is labeled as a transitional land use category because it provides a smooth transition between higher intensity uses and lower intensity uses. Office / Service is characterized by uses which generally operate during normal business hours, produce a low volume of traffic, are a compatible transitional use between commercial and residential areas and/or between thoroughfares and residential areas, and are located in buildings which are architecturally compatible with a residential neighborhood. Where it is not possible to establish an office / service transition, alternative
land uses which are similar in character may be considered, as well as extensive buffering measures.

*Local Commercial*

Land designated Local Commercial is intended to provide locations for retail commercial and service uses, and to serve a market area confined to areas within close proximity of the designated parcel(s). The Local Commercial designation is designed to accommodate uses that cater to the convenience needs of Township residents.

*General Cluster Commercial*

The General Cluster Commercial designation provides suitable locations for retail commercial, service, and office establishments that serve a market area much larger than the Local Commercial areas. General Cluster Commercial is intended as a clustered form of development along the Dixie Highway corridor to reduce the potential for commercial "strip" development, reduce the number and frequency of curb cuts, reduce signage and visual clutter, and provide more focused areas of commercial development. Cluster commercial would take the form of either a shopping center or groups of buildings sharing common access, architectural style, and design elements.

*Planned Mixed Use*

The concept of a Planned Mixed Use is to create a compatible mixture of uses that form an identifiable "core" of development. This category is proposed to create a dynamic environment in which activities may be mutually supportive. It is anticipated that the mix of permissible uses will include residential, commercial, office, business support services, industrial, research, and public, as appropriate to the individual site. As in other future land use designations, conservation and protection of existing natural features and their functioning will also be a main concern within Planned Mixed Use areas.

Such Planned Mixed Development should have the following characteristics:

- A unified development concept with a cohesive design theme and features.
- Significant functional and physical integration of project components (i.e., off-street parking areas, pedestrian walkways, etc.).
• An internal circulation system that is not entirely dependent upon major roads or highways.

• Accessibility from all areas of Springfield Township and surrounding communities by way of major roads and highways, and wherever possible, bicycle and pedestrian access.

*Limited Industrial*

Limited Industrial is intended to accommodate warehouse, research, laboratory, and light industrial uses. Such uses are intended to be enclosed within a building, and external effects are not to be experienced beyond the property boundaries. Outdoor storage is intended to be minimal.

*Public / Semi-Public*

Land designated for Public / Semi-Public uses includes state or local government buildings and grounds, and school buildings and grounds. Semi-Public refers to land uses which are public in nature but which may be under non-public ownership, such as churches and cemeteries.

*Recreation / Conservation*

Land designated for Recreation / Conservation is intended to protect, preserve and enhance unique and vital natural features and provide areas for parks and recreation, and open spaces which preserve and enhance the rural character of the Township while, at the same time, broadening recreation and conservation opportunities in appropriate areas. Both public and private recreational / conservation lands are included in this category.

*Privately Dedicated Open Space*

Privately dedicated open space, while not available for general public use, is intended to protect, preserve and enhance the Township’s vital and unique natural features while anticipating some limited but appropriate use of the land.
Utility Corridor

This category represents lands that contain above-ground utility facilities, including electric generating plants, gas pressure regulating and valving facilities, transmission lines, booster and transformer stations, related storage yards, etc.

Mineral Mining, Sand and Gravel

The use of mineral mining, sand and gravel extraction, and other related uses are recognized by this master plan, but by their natural location do not easily conform to typical mapped designations. As noted in Policy 23 above it is recognized that the Township does not have comprehensive soils data available that would identify areas most appropriate for additional or new operations. It is the intention to allow these uses within the Township where it is demonstrated that the resource is present, needed, and the use will be compatible with both the natural and built environment and where no very serious consequence to either will occur.
Planned Land Use Patterns

The overall distribution of planned land use is provided in Table 1. Low and medium density single family residential uses are the predominate planned land uses in the Township, comprising 14,910 acres or 68% of planned land uses. Recreation / conservation and privately dedicated open space total 4,833 acres or 22% of planned land use.

Table 1
Planned Land Use

<table>
<thead>
<tr>
<th>Category</th>
<th>Acres</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Density Single Family Residential</td>
<td>8,946</td>
<td>40.7</td>
</tr>
<tr>
<td>Medium Density Single Family Residential</td>
<td>5,964</td>
<td>27.1</td>
</tr>
<tr>
<td>Recreation / Conservation</td>
<td>3,727</td>
<td>17.0</td>
</tr>
<tr>
<td>Privately Dedicated Open Space</td>
<td>1,106</td>
<td>5.0</td>
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<tr>
<td>Traditional Lakefront Residential</td>
<td>529</td>
<td>2.4</td>
</tr>
<tr>
<td>Planned Mixed Use</td>
<td>468</td>
<td>2.1</td>
</tr>
<tr>
<td>Limited Industrial</td>
<td>269</td>
<td>1.2</td>
</tr>
<tr>
<td>Public / Semi-Public</td>
<td>218</td>
<td>1.0</td>
</tr>
<tr>
<td>High Density Single Family Residential</td>
<td>184</td>
<td>0.8</td>
</tr>
<tr>
<td>Utility Corridor</td>
<td>168</td>
<td>0.8</td>
</tr>
<tr>
<td>General Cluster Commercial</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>Mobile Home Park</td>
<td>115</td>
<td>0.5</td>
</tr>
<tr>
<td>Local Commercial</td>
<td>91</td>
<td>0.4</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>84</td>
<td>0.3</td>
</tr>
<tr>
<td>Office / Service</td>
<td>66</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Residential Land Use

The predominant residential categories are low density and medium density single family residential. Low density residential is the primary land use designation in the northwest, southwest, central and extreme northeast portions of the Township. Such a designation for these areas is compatible with the existing low density residential patterns and reflects areas that are characterized by floodplains, wetlands and sensitive natural features, as well as soil conditions that are not well suited for septic systems.
The medium density residential classification is primarily found northeast of the I-75 corridor, on both sides of Dixie Highway, and the southeast portion of the Township. These areas are designated in a manner which is compatible with existing land use patterns and where soil conditions provide a moderate capability supporting additional development.

High density single family residential and multiple family residential are very limited due to the need to support such areas with community water and sewer service, which is not available within the Township. The traditional lakefront residential designation is confined to areas that historically have represented a higher density development pattern which pre-dates current zoning regulations and planning policies. The mobile home park residential designation is confined to existing mobile home parks within the Township.

**Commercial, Office and Planned Mixed Use Land Use**

The primary location for commercial and office land uses is located along the Dixie Highway corridor. A modest amount of land has been designated for local commercial in several locations along Dixie Highway. A small area is designated along Big Lake Road, in close proximity to the Dixie Highway / I-75 interchange. The general cluster commercial designation has also been located on Dixie Highway and at the I-75 / Holly Road interchange. The office / service designation has also been largely confined to Dixie Highway, although a portion of a larger planned unit development project near Davisburg hamlet was constructed for office / service use.

Recognizing a trend to provide areas for a compatible mixture of uses, several significant areas have been designated for planned mixed use. One area is located along both sides of Dixie Highway just south of Davisburg Road, which is centrally located to the major transportation routes within the Township. A second area is located along the north side of Dixie Highway from Cobblestone Lane south to the I-75 interchange. Another planned mixed use area along Dixie Highway is on the south side of the road encompassing the Dixie Baptist Church and one other parcel. Designated at the northeast quadrant of the I-75 / Holly Road interchange is a planned mixed use area which is the site of a current extractive operation. The planned mixed use designation is seen as an opportunity to encourage creative re-use of this site. Lastly, the existing commercial portions of the hamlet of Davisburg have also been designated planned mixed use to encourage revitalization of this unique Township feature.
**Industrial Land Use**

A single industrial designation called "Limited Industrial" is provided in three (3) locations in the Township. An area of significant size is provided in the extreme southeast corner of the Township, serviced by Andersonville Road and White Lake Road.

Also located along Andersonville Road is the existing Valentine's Industrial Park, which is largely developed. One (1) other industrial area is provided along Dixie Highway, called Holly Greens Industrial Park. This park is located on the west side of Dixie Highway and north of RattleLee Lake Road.

**Recreation / Conservation**

There is an abundance of land set aside for recreation / conservation within the Township. These lands are owned by the Township, Oakland County, State of Michigan, the Huron-Clinton Metropolitan Authority, land conservancies, as well as privately owned properties. Land designated for recreation / conservation are predominantly located in the portion of the Township which is south and west of I-75. In the portion of the Township to the north and northeast of I-75, there are limited areas designated for recreation / conservation.

**Privately Dedicated Open Space**

These lands have been set aside as privately dedicated open space, primarily as part of cluster developments. While most if not all of these properties are not accessible to the general public, they provide a valuable element in the Township’s overall open space system, particularly since many are located adjacent to one another, improving the ecological functioning of each open space area.

**Public / Semi-Public**

The Public / Semi-Public designation is confined to existing Township, County and State properties located within the Township. Therefore, these locations are scattered throughout the Township and form no readily identifiable pattern.

**Utility Corridor**

This designation is also confined to existing above-ground utility facilities, which are located in the northwest and southeast corners of the Township.
LEGEND
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Traditional Lakefront Residential
- Multiple Family Residential
- Mobile Home Park
- Mobile Home Park
- Recreational-Conservation
- Privately Dedicated Open Space
- General Cluster Commercial
- General Cluster Commercial
- Local Commercial
- Office-Service
- Limited Industrial
- Planned Mixed Use
- Public/Semi-Public
- Utility Corridor

Map #1

FUTURE LAND USE PLAN
Springfield Township
Oakland County, Michigan

Carlisle/Wortman Associates, Inc.
Community Planners and Landscape Architects
Ann Arbor, Michigan

Plot Generation Date: 12/29/08
Transportation Plan

The purpose of the Township road network is to provide for the safe and efficient movement of people and goods within and through the Township. Adequate roads are essential to commerce and daily activities. Road systems within the Township have evolved over decades to accommodate changes in lifestyles and, in turn, lifestyles have changed as a result of increased mobility. Most residents of the Township live in low density, single family developments spread throughout the Township. Therefore, the automobile will continue to be the dominant mode of transportation due to scattered land use patterns, population densities and personal preferences. However, energy availability and cost will make non-motorized transportation more attractive, a factor which must be considered in future planning.

The Michigan Department of Transportation (MDOT) and the Road Commission for Oakland County share responsibility for the operation and maintenance of the public road network within Springfield Township. In Springfield Township, MDOT is responsible for maintenance and improvement of I-75. The remainder of Springfield Township's public roads fall under the jurisdiction of the Road Commission for Oakland County. Michigan Townships do not have direct jurisdiction over the roads and streets that traverse their lands, a factor which is a source of occasional frustration for many local Township officials.

The lack of jurisdiction over roadways does not mean that a Township lacks responsibility over a number of factors that influence conditions along roadways within their community. There exists a strong interrelationship between the road system and land use patterns. The type and pattern of land use will strongly influence traffic volumes along a given road. Likewise, the adequacy of a road may determine the type of adjacent land development that occurs. Therefore, many roadways are inadequate to handle intense development at this current time. However, the benefit of the Transportation Plan is to assist in establishing priorities for future road improvements based on the function of various Township roadways.

The Transportation Plan integrates three (3) major elements that will assist the Township in promoting a better understanding of and planning for the relationship between land use and transportation.
Transportation Plan Designations

The Transportation Plan presented on the following page proposes the hierarchy of transportation routes based upon the National Functional Classification (NFC) System. NFC is a planning tool which has been used by federal, state and local transportation agencies since the mid-1970's. The Federal Highway Administration (FHWA) developed this system of classifying all streets, roads and highways according to their function.

At the top of the NFC hierarchical system are principal arterials, roads whose primary function is to carry relatively long distance, through-travel movements and/or to service important traffic generators. Minor arterials are similar in function to principal arterials, with the trips carried being of shorter distance and to lesser traffic generators. Collectors funnel traffic from residential or rural areas to arterials. Local roads have the primary function of providing access to property, such as in residential neighborhoods or rural areas.

All public streets, roads and highways in Michigan have an NFC designation. These have been determined cooperatively between the Michigan Department of Transportation (MDOT) and the agencies having jurisdiction over their respective roadways and are submitted to the FHWA for final approval. The FHWA uses various criteria in granting approval to the NFC in a given area. From time to time, Michigan engages in a statewide functional reclassification. Individual changes to the NFC in a given area may be requested at any time.

The NFC designation of a given road determines whether it is a federal-aid road. Federal-aid roads are eligible for federal funding, either as part of the National Highway System (usually limited to principal arterials) or through the Surface Transportation Program (STP). All other NFC designations are not eligible for federal-aid.
It should be noted that the Transportation Plan based on the NFC designation system is long-range in scope. Many of the roadways designated for a certain classification do not meet currently acceptable standards for right-of-way width, roadway width, or surface condition. The following describes the NFC designation of various Township roadways.

**Principal Arterials - Interstate**

These roadways are at the top of the classification hierarchy. The primary function of such roadways is to carry relatively long distance, through-travel movements. I-75 is the only interstate in Springfield Township and traverses the Township from the northwest to the southeast.

**Principal Arterials Non-Interstate**

Non-interstate principal arterials, which are also designed to primarily carry heavy volumes of traffic, include freeways, multi-lane highways and other heavily traveled roadways that supplement the interstate system. There are no roadways in Springfield Township that currently meet this classification, except a small portion of Dixie Highway south of the I-75 interchange.

**Minor Arterials**

Minor arterials include roads connecting intra-urban land uses. These roads tend to accommodate slightly shorter trips than a principal arterial. Minor arterials include only Dixie Highway, from the I-75 interchange to the Springfield / Groveland boundary.

**Major Collectors**

Major collectors provide access and mobility within residential, commercial, or industrial use and connect local roads to arterials. Major collectors generally carry more traffic than minor collectors. Major collectors in Springfield Township are: White Lake Road, Andersonville Road, Ormond Road, Davisburg Road, Holcomb Road, Oak Hill Road, Holly Road, and Rattleslee Lake Road east of Eaton Road.

**Minor Collectors**

Minor collectors also provide access amongst varying land uses, but are less trafficked than Major collectors. Minor collectors include Rattleslee Lake Road west of Eaton Road.
Local Roads

Local roads provide access to individual properties, and typically have moderate to low speeds. The improvement of local roads typically rates the lowest priority. The remainder of Township roads are classified as local roads, and are primarily subdivision roads.

Pedestrian and Bike Path Plan

Pedestrian and bicycle transportation are forms of transportation that should not be overlooked in planning for future transportation needs of the Township. The popularity of non-motorized transportation has grown significantly in recent years.

The Pathway Plan on the following page illustrates a generalized plan for linking facilities in the Township with pathways. The Pathway Plan is long range and may be used as an outline when pursuing potential funding sources.

Within the Township, paths will have greatest utility if they link residential areas, parks, schools and other community facilities, and shopping areas. The development of a system of paths for pedestrians and bicyclists which is completely separate from the street system is safest and most desirable. Many communities have used abandoned railroad beds on which to establish paths, although this option is not currently available in Springfield Township.

The availability of recreational open space in northern Oakland County has become more and more important, and plans exist to link the northern resources to population centers in the south. Bikeway linkage networks are in the planning stages at both state and county levels, and strongly promoted within many local municipalities.

In response to demand for pathway linkage systems, Oakland County Planning prepared the Headwaters Trail concept plan also included in the Pathway Plan for northwestern Oakland County. The plan proposes to link – via a pathway system – state and county parks and other major open space areas in the region. The routes shown on the plan are conceptual only and are not intended to illustrate exact route locations. However, there is benefit for the Township to support the efforts of the Headwaters Trail District and seek ways to pursue linking local paths with a regional system.
In 2005, the Planning Commission created a “Priority Pathway Plan.” This plan identifies a subset of pathways throughout the community whose construction should take precedence over other identified pathways, and which will provide residents with the most benefit. These priority pathways connect the most destinations within the Township, connect the Township’s paths to existing or proposed regional paths, and provide the Township’s residents with pathways along the most traveled corridors in the community. These priority pathways have been added to the Pathway Plan, shown on the following page.

To assist in the implementation of the Pathway Plan – and the priority pathways – the Township adopted Section 16.25 Safety Paths into the Zoning Ordinance in 2006. This ordinance requires developments that are subject to site plan or subdivision approval to construct safety paths if they are located adjacent to a priority pathway, as identified on the Priority Pathway Plan. The Township also has the discretion to require that funds be deposited into an account if it is impractical to build the pathway during construction of the project.
LEGEND

Existing Regional Recreational Trails

Proposed County Recreational Trails (Conceptual)

Proposed Township Pathways

Priority Pathways

Non-Priority Pathways

Township Activity Center

1 Shiawassee Basin Preserve
2 Springfield Civic Center
3 Davisburg Elementary School
4 Rotary Park
5 Davisburg
6 Mill Pond Park
7 Schultz Park
8 Springfield Oaks Golf Course
9 Davisburg Trout Pond (DNR Wildlife Area)
10 Springfield Oaks Activity Center
11 Andersonville Elementary School
12 Indian Springs Metropark
13 Springfield Plains Elementary School

Nearby Activity Center

1 To Groveland Oaks
2 To Independence Oaks
3 To Clarkston

PATHWAY PLAN
SPRINGFIELD TOWNSHIP
OAKLAND COUNTY, MICHIGAN

Plot Generation Date: May 30, 2008
Opportunities for Change

The lack of direct control over roadways does not mean that the Township has no influence over the function and character of its roadway system. As indicated, the Township has authority over land use decisions, and the relationship between land use and transportation is inseparable. Furthermore, the extent to which Township opinion can influence road agency policy should not be underestimated.

Specific areas in which the Township can influence transportation are described in the following subsections.

Public Roadway Design

Studies conducted by the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO), have found that typical motorists will travel a speed they determine to be reasonable given the existing conditions, weather, and roadway geometry. Although there are a number of intervening factors, roadway design is of primary importance. The wider, the flatter and the straighter the road, the higher the speeds will be. The FHWA has found that attempts to alter driver speed behavior by changing the speed limits have minimal effect. Thus, roadway design is crucial to achieving desirable speeds. Where possible the Township should continue to advocate the downsizing of roadway design by public agencies.

Additional Township priorities for public roadways include the following long-range strategic priorities, which were provided to the Road Commission for Oakland County by Township officials:

1) Improve intersection area on Dixie Highway at Big Lake Road and Deerhill Road on the Springfield/Independence Township border.

2) Add left turn phase to signal at Davisburg and Dixie Highway.

3) Pave Tindall Road from Davisburg to Rattalee Lake Road.

4) Improve road drainage throughout the Township.

5) Improve gravel roads throughout the Township.
One additional priority for roadway improvements was outlined in the Dixie Highway Corridor Plan in 2000. It is a goal of the Township to construct a boulevard entryway on Dixie Highway beginning near the I-75 intersection and ending in the area of Bordine Nursery. The purpose of the boulevard is to facilitate the smooth and safe flow of traffic, improve vehicular and pedestrian safety, and help to promote the image of Dixie Highway as an entryway into the Township.

Private Roads

The Township has encouraged private roads in new developments when the Road Commission policies and standards would result in an unnecessary loss of trees and other environmental site features. While there is currently no private road ordinance, the Township has adopted standards (American Association of State Highway and Transportation Officials (AASHTO) Low Volume Road Standards) to allow for variation in right-of-way (easements) widths, pavement widths, utility locations, horizontal curve, vertical alignment, and other standards to be based upon the number of houses served and the physical and natural features of the property being developed.

The following sections describe access management and traffic calming techniques that could be used to design better functioning roadways. Note that not all of the techniques described are encouraged or allowed by the Road Commission for Oakland County.

Access Management

Access management is defined as a process that provides or manages access to land development, while simultaneously preserving the flow of traffic in terms of safety, capacity and change. The basic principles that are used to achieve the benefits of access management are described as follows:

• **Limit the Number of Conflict Points.** When the number of potential conflict points between turning vehicles increases, so do the opportunities for traffic crashes. A use with multiple driveways on a typical four-lane road can produce numerous conflict points. Reducing driveways achieves a reduction in conflict points and provides more space for good design for the remaining driveway.
• **Separate Conflict Points.** Traffic conflicts can also be reduced by separating conflict points. Effective ways include minimum distances between intersections and driveways, corner clearance standards that separate driveways from the critical approach areas of intersections, and encouraging shared driveways. Each of these techniques permits a longer, less cluttered sight distance for the traveling motorist, which increases traffic safety. More separation distance also gives motorists a longer reaction time. Higher traffic speed requires greater driveway separation.

• **Separate Turning Movements from Through Movements.** Vehicles typically slow before turning. When turning vehicles are removed from the main flow of traffic, traffic speed is better maintained. In addition to maintaining speed, roadway capacity is preserved and accident potential is reduced.

• **Coordinate Hierarchy of Roadways with Access Management.** Access management standards consistent with roadway function protect investments in existing roads, businesses and residential areas. When a road combines high traffic volumes with too many conflict points, roadway function and quality decline, along with the ability to safely access abutting properties.

*Traffic Calming*

The Institute of Traffic Engineers defines traffic calming as "the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users". In other words, traffic calming uses visual and physical techniques to reduce speeding and improve vehicular and pedestrian safety. While narrower roads are one such technique, there are other measures to consider.

• **Gateways / Entryways.** A special entrance feature or gateway has the effect of narrowing a street at the entryway into a neighborhood. It helps create identity to a neighborhood and increases driver awareness of common neighborhood elements, like pedestrians and children crossing the street.

• **Speed Bumps / Speed Tables.** Speed bumps are mounds of paving material placed across a roadway for the purpose of causing drivers to reduce their speed. Speed tables are similar to bumps, but are constructed with a flat table in the center portion.
Both speed bumps and tables reduce speed and may reduce traffic volume by discouraging cut-through traffic.

- **Cul-de-sacs.** Perhaps the most common form of traffic calming devices are cul-de-sacs which represent a complete closure of a street either at a location that might otherwise be an intersection, or at mid-block location. This technique has proven to be very effective at reducing traffic speed and volume, and increasing the safety for all users of the right-of-way.

- **Alternative Pavement Surfaces.** Alternative pavement surfaces, such as pavers or cobblestones, have the effect of increasing driver perception of a change in driving environment. Alternative surfaces can be used for the entire street or for just sections of the street.

- **Curvilinear Roads.** Straight roads increase speed. Curves break up the driver's line of sight and require the driver to drive more alertly. This technique increases the potential for reduced traffic speed and volume, thereby increasing safety on the road.

- **Roundabouts / Traffic Circles.** A roundabout is a circular barrier placed in the middle of an intersection to restrict the movement of traffic through that intersection. This tool tends to reduce driver speed by interrupting the direct flow of traffic and requiring turning movements. Traffic circles can also discourage cut-through traffic. Circles can be landscaped to reduce the amount of impervious surface.
Springfield Township has developed a Natural Areas Plan that will be used, in part, to meet the land preservation goals set forth in this Master Plan. The purpose of the Natural Areas Plan is to identify environmentally significant areas of Springfield Township that should be preserved in their natural state and those that can be compatibly integrated with development. Furthermore, the Natural Areas Plan works toward creating a system of open spaces that are linked to one another through naturally-occurring or human-made corridors.

This plan represents an ecosystem approach to open space planning that will help preserve both the natural areas themselves, and as importantly, the functioning of the systems these areas represent. The graphic labeled Typical Land Cross-Section on page 69 shows how different land forms and types are related. An ecosystem approach to land preservation takes into account not only the natural feature identified as significant, but also the other adjacent land elements that allow that natural feature to be sustained. For example, a forested wetland would not exist without the water flow from adjacent forested uplands that is detained at the bottom of the hill.

Development of the Plan

The Natural Areas Plan for Springfield Township is based, in part, on a Natural Areas Plan developed for the Shiawassee and Huron Headwaters Resource Preservation Project ("Headwaters Project"), and the Green Infrastructure project initiated by Oakland County Planning and Economic Development (OCPEDS).

Step 1: Combining the Data: The data from the Headwaters project was combined on a map with other available data to identify important natural and human-made features throughout the Township. The data used in this process, and shown on the map on page 77, includes the following:

- Potential Natural Areas (MNFI Sites). As part of the Headwaters project, Michigan Natural Features Inventory (MNFI) biologists, botanists, and wildlife specialists inventoried the Township to identify potentially significant natural areas. Each area was ranked using five criteria including size; intactness; upland/wetland complexes; important riparian corridors and watersheds; and areas with potential for restoration.
This process resulted in 24 environmentally-significant natural areas within Springfield Township. Of these sites, three received field inventories in conjunction with the Headwaters project to determine their ecological makeup and significance. A fourth site, the Bridge Valley complex, had previously been studied.

The character and composition of each field-inventoried site varies. Each MNFI site may have both upland and wetland communities present, although in some sites one may be dominant. Natural areas with intact natural communities representing presettlement conditions are very significant but rare. Although the ecological significance of sites may vary, each site has significance to its local setting. This is especially true if the setting has experienced a high degree of development and landscape fragmentation. However, many sites within Springfield remain relatively intact and development activity has been minimized.

Each natural area is composed of plant and animal communities that interact to establish an intact ecosystem core area. Those sites within Springfield Township that have not been surveyed should receive field inventories, especially those that are ranked seven (7) or above. The Township has addressed this need in part by implementing a Resource Protection Overlay District in their Zoning Ordinance. If a parcel proposed for development is located within a Priority Resource Protection Area, the applicant is required to gather factual data on the ecology of the property known as an Ecological Characterization and submit this with the site plan review materials. This information then guides where development is placed on the parcel, and assists in preserving the most environmentally significant areas of the site. Without detailed site information, it would be difficult to develop meaningful conservation management plans that direct the preservation of these unique natural areas.

As part of the Headwaters Project, the Long Lake / I-75 Woods / Shiawassee Lake areas in Springfield and the Rattalee Lake / Mill Pond areas in Rose Township were selected to demonstrate a process for developing a comprehensive conservation management plan. The demonstration plan can be found in the Shiawassee & Huron Headwaters Report and can be used to develop individual management plans for each of Springfield's important natural areas.

- Green Infrastructure Project. In 2007, Oakland County initiated a project called the “Green Infrastructure Visioning Project,” which focused on identifying an interconnected
network of green spaces that conserve natural ecosystem values and functions, guide sustainable development, and provide economic and quality-of-life benefits to communities within the County. The resulting interconnected network of green spaces is made up of hubs, sites, and links.

1) “Hubs” anchor the network and provide an origin or destination for wildlife. Hubs range in size from large conservation areas to smaller parks and preserves. Hubs provide habitat for native wildlife and help maintain natural ecological processes. Example hubs on the Natural Areas Plan include a variety of preserved areas, such as Township owned parks or private conservation areas in residential developments.

2) “Sites” are smaller ecological landscape features – such as a small wetland or woodlot – that can serve as a point of origin or destination, or incorporate less extensive ecologically important areas.

3) “Links” are the connections that hold the network together and enable wildlife to move back and forth between hubs and sites. Links are made up of tree rows, river and stream corridors, and even utility easements.

To develop the green infrastructure data, the Township’s elected and appointed officials, residents, environmental and conservation group representatives, and others participated in a visioning session led by Oakland County Planning and Economic Development Services. The participants were provided with a series of maps showing a variety of environmental and cultural information. Broken into several small groups, each group was asked to mark important natural and cultural features on a large transparency that was laid over the maps. The information on the transparencies was then compiled in a Geographic Information System (GIS) to come up with the Township’s assessment of the important features of its community. This information is shown on the Natural Areas Map, and includes wetlands, woodlands, tree rows, forest patches, and severe slopes as well as other environmentally significant areas. The results of this project were very similar to the Township’s previous Natural Areas Plan, but identified more areas across the Township that could be included in the community’s “green infrastructure.”

• Existing Open Space. This category includes all publicly-owned recreational lands, such as recreational lands owned by Springfield Township, school districts, Oakland County, the Huron Clinton Metropolitan Authority, and the State of Michigan. Privately held open space, both recreational and conservation lands, are also included in this category.
• Corridors. Included in this category are human-made corridors, such as Natural Beauty Roads and utility corridors.

**Step 2: Analyzing the Data:** Once the data was combined on a map, it was possible to see where several data elements overlapped, signifying the environmentally-important areas. These areas generally relate to the natural features identified in the Headwaters Project and Green Infrastructure Visioning project such as the river corridors, and their respective wetland and upland features.

**Step 3: Identifying Connections:** The next step was to connect the environmentally-significant sites to create an interrelated network of natural areas. The connecting corridors, such as rivers, existing tree rows, natural beauty roads, and utility lines, help preserve the natural functioning of these systems. If kept in their natural state, these corridors preserve the hydrologic connections between the river and its wetlands, between wetlands, and between adjacent uplands and wetlands. The corridors also provide spaces for wildlife to move between the natural areas and allow them to play their role in the functioning of the entire system.
Natural Areas Plan Overview

The Natural Areas Plan map identifies many areas that warrant special consideration to preserve, maintain or restore the existing natural features. The amount of area covered by natural features throughout the community is impressive, and has continued to grow despite significant development pressure. The Township has been pro-actively implementing a comprehensive approach to natural feature preservation for many years, and as a result, there are many natural features still existing in the Township. The following describes several of these areas and possible tools that could be used to help maintain and preserve their functioning. (Note that application of the Resource Protection Overlay District accomplishes some of the desired results described here).

- MNFI Field Inventoried Sites - These sites are identified on the Natural Areas Map with a gold star. These sites have been named within the Headwaters Project as the Long Lake Natural Area in the western portion of the Township, the I-75 Woods Complex in the central portion of the Township and the Huron Swamp Complex in the southern portion of the Township. The results of the field inventories for these areas are provided on pages 31 - 70 in the "Appendix MNFI" of the Headwaters Project manual. Here, the significance of each site is discussed in detail, along with potential environmental threats and appropriate management techniques. Also, an example of the tools that can be used to preserve features of Long Lake Natural Area and the I-75 Woods Complex are given on page 194 of the Headwaters Manual.

- Other MNFI Sites - The remaining 21 MNFI sites, identified through the Headwaters Project, also hold significant natural areas and are shown on the Natural Areas Plan map. Because of time and budget constraints, these sites did not receive a field inventory as part of the Headwaters Project. One site, Bridge Valley, although not inventoried for the Headwaters project, was previously inventoried and extensively studied as part of other projects and judged ecologically significant. In addition to the inventories conducted through the Resource Protection Overlay District, inventories should be performed on the remaining 20 sites to identify the quality and mix of ecosystems within each. With this information, appropriate management and preservation techniques can be determined.

Action Summary:

1) Conduct natural feature inventories to determine the type and quality of
ecosystems existing in each MNFI site.

2) Prepare a management plan for each area that responds to the threats identified in the inventories.

- Huron, Shiawassee and Clinton River Corridors - The headwaters and main tributaries of the Huron, Shiawassee and Clinton Rivers are shown on the Natural Areas Map.

**Huron River:** The Huron River headwaters emanate in southern Springfield Township and travel south into White Lake Township. Management for lands surrounding the Huron River is discussed in detail in the Huron Swamp Complex field inventory (Pages 31 - 43 of the "Appendix MNFI" of the Headwaters Project Manual).

*Action Summary:*

1) Maintain closed canopy of southern mesic forest and swamp.

2) Conduct annual monitoring for exotic invasive plants, such as garlic mustard and glossy buckthorn.

3) Create a management plan that reduces the number of white tailed deer.

4) Remove glossy buckthorn plants from the fen and surrounding forests.

5) Monitor trails for exotic plants and remove them annually.

6) Control woody plant establishment in grasslands through mowing or prescribed burns.

7) Annually collect seed from prairie species.

8) Encourage private lands surrounding primary boundary to provide a native plant buffer (minimum of 100 feet wide).

9) Maintain residential properties through septic system maintenance, minimal lawn areas, landscaping with native plants, and designated area for lawn clippings a safe distance from the natural buffer area.
10) Minimize runoff of chemicals from golf course into adjacent natural areas by building natural detention ponds, using safe procedures for handling chemicals, incorporating natural buffers around waterways, and minimizing chemical inputs.

Shiawassee River. The Shiawassee River's headwaters emanate in central Springfield Township at Shiawassee Lake and travel northwest through the I-75 Woods Complex and the Long Lake Natural Area into Rose Township. Much of the river corridor is contained within MNFI sites. However, there are portions of the river, and many associated lakes and wetlands that are not included in MNFI sites, and therefore require additional management techniques to maintain them. Particular topics to address are riparian buffers, non-regulated wetland protection, stormwater quality, and road and railroad crossings. Given the sensitive characteristics of many of these areas, special consideration for the preservation of open space and natural habitat through fee simple purchase and/or conservation easements are particularly important management techniques to consider. Implementation of a significant riparian buffer of 75' to 100' that maintains the natural vegetation in place should be considered. In addition, site design techniques using best management practices (BMP’s) for the capture and filtering of stormwater, stormwater infiltration, and low-impact road crossings should also be considered.

Action Summary:

1) Preserve open space through fee simple purchase and/or conservation easements.

2) Maintain natural vegetation along all riparian corridors through application of a natural buffer (minimum of 75' to 100' wide).

3) Protect non-regulated wetlands from development and water quality degradation. Best management practices should be implemented for the capture and filtering of stormwater and stormwater infiltration to treat water before it reaches any existing wetland.

4) Use low-impact road crossing techniques to protect the riparian corridor and existing hydrology of rivers and streams.
Clinton River. The Clinton River emanates from northeastern Springfield Township. This river corridor encompasses the Bridge Valley area, just northeast of Dixie Highway in the eastern portion of the Township. This area has been studied extensively by the University of Michigan (1997), the Nature Conservancy (1995) and the MNFI (1988). Each study identified the area as a high quality upland-wetland complex composed of a prairie fen of exceptional significance, as well as threatened and special concern plant populations.

This portion of the Township has also been studied through the Upper Clinton Subwatershed Management Plan, an extensive project conducted by Springfield Township and nine other communities within the subwatershed. The main purpose of the plan was to meet the Township’s stormwater permit requirements under the National Pollutant Discharge Elimination System (N.P.D.E.S.). However, the plan also provides extensive information on water quality in the subwatershed, possible threats to the resource, and a list of actions that the Township currently implements to protect water quality and features. The Clinton River watershed is shown on Map #7.

Data in the Subwatershed Management Plan indicates that the water quality in this part of the Township is high. Water Quality indicators, such as pH, dissolved oxygen, nitrogen, and temperature are all within desirable ranges. However, data in the plan indicates high phosphorus concentrations in Dixie Lake, Softwater Lake, Susin Lake, and Waumegah Lake, which can cause problems with excessive algae or plant growth. Potential sources include septic systems and stormwater runoff from residential areas. A perceived problem with local residents is water clarity. A possible source of sediments is gravel roads, conveyed via road ditches or at bridge crossings.

The Clinton River Watershed Council also conducts a student monitoring program called Stream Leaders, where students use biological and physical parameters to assess water quality. Since the inception of the program in Springfield Township (2003), the Upper Clinton subwatershed has received a “good” (or 3 out of 4 points) rating.

A portion of the Clinton River area has been developed using clustering techniques, a conservation easement and a builder-developer agreement that recognizes the area’s significance. Any additional development within this area should follow this example and use land conservation and clustering tools to preserve natural features as well as the functioning of these features. Other management techniques, such as maintaining the
hydrology of the site, minimizing disturbance, control and removal of exotic plants, surface water filtering and infiltration, and native landscaping should also be considered.

*Action Summary:*

1) Continue to use land conservation and clustering tools to preserve existing natural features and their functioning.

2) Protect threatened and special concern plant communities through registration with the Michigan Natural Areas Council or The Nature Conservancy.

3) Maintain the hydrology of the area through site plan review requirements, clustering and open space preservation.

4) Minimize disturbance within the area.

5) Annually monitor the area for exotic invasive plant species, and remove as necessary.

6) Develop properties within this area by using natural feature buffers, water quality management techniques (capture, filtering and infiltration) and native plant landscaping.

As mentioned previously, the Subwatershed Plan provides a list of actions that the community could implement to improve protection of water quality and features. These action items were categorized by when the community thought they could accomplish the action. These categories are “current” (or already doing that action), “short-term,” “long-term,” and “wish list” (or will consider to do in the future). Springfield Township was able to categorize most of the thirty-five action items as “current.” However, the following actions were identified as ways the Township could improve its water resource protection efforts:

1) Educate municipal staff and/or contractors on “good housekeeping” practices, including proper fleet and service yard maintenance and landscaping activities. (Short-term)
2) Implement soil erosion and sedimentation control ordinances or standards. (Short-term)

3) Cooperate with the County, other Clinton River watershed groups, or agencies to identify, prioritize, and implement projects to construct, restore, and enhance wetlands. (Wish list).

4) Cooperate with the County, other Clinton River watershed groups, and agencies to identify, prioritize, and implement projects to restore and enhance instream habitat. (Wish list).

5) Update current Recreation Master Plans to include individual park plans that outline goals and strategies for protecting and managing key natural areas. (Short-term).

Implementation of the Natural Areas Plan

Since the adoption of the Natural Areas Plan in the previous Master Plan, the Township has been active in implementing many tools and techniques to preserve the Township’s environment. The following are examples of these achievements:

▪ Development of various zoning ordinance provisions, such as the Resource Protection Overlay District, and landscaping provisions emphasizing native plants.

▪ Major revisions to the Township’s Design and Construction Standards, including requirements for vegetative buffers along bodies of water, wetlands, and similar natural features.

▪ Identifying the location of MNFI sites on development proposals. If a development site contains MNFI lands, the Township encourages use of the cluster option whenever possible that leaves all or most of the MNFI area intact. Examples include Forest Point and Hidden Ridge residential developments.

▪ Restrictions on use of synthetic fertilizers, pesticides, and the like through the site plan review process.

▪ Requirement of third-party conservation easements for developments in or near sensitive natural areas. This helps to ensure that the natural area preserved will be properly monitored and managed. Some examples include Forest Pointe, Hidden Ridge, and Hummingbird Ridge.
Partnerships with other organizations:

1) Land conservancies have assumed conservation easements for natural areas set aside within developments and are monitoring these sites. They have also acquired high-quality properties. For example, the North Oakland Headwaters Land Conservancy (NOHLC) acquired a property within the Long Lake MNFI area, and the Six Rivers Land Conservancy acquired a property within the I-75 Woods MNFI area. These land conservancies have also implemented recommended maintenance practices, such as prescribed burns on conservation easements or their own properties, and have conducted invasive species removal workshops. The Township also partnered with NOHLC, and received a grant to acquire a key parcel within the Long Lake MNFI area. The Township owns the real property, and NOHLC has assumed a conservation easement.

2) Springfield Township Parks Department has implemented recommended maintenance practices on Township lands, including prescribed burns within the Long Lake MNFI area, and developing a detailed resource management plan.

3) Through cooperation with the NOHLC and property owners, the Township is systematically taking measures to protect the Shiawassee River corridor in the community. Beginning at the River’s source, the Forest Point cluster development preserves the headwaters area of the River. Conservation easements provided to the NOHLC by property owners, and purchase of land outright by the Township is further protecting this sensitive corridor from impacts of human development.
LEGEND

EXISTING OPEN SPACE
- Springfield Township Lands / School Property
- Oakland County, HCMA, State Parks
- Private Recreation Facilities
- Privately Dedicated Open Space

POTENTIAL NATURAL AREAS*
- (MNFI SITES) - may include combination of wetland/riparian systems and upland and/or public land
- Field inventoried MNFI Sites
- Springfield Township Green Infrastructure
- Lakes/Rivers/Streams/Floodplain

OTHER CORRIDORS
- Natural Beauty Roads
- Potential Wildlife Connections
- Utility Corridors

* Natural Area may include a combination of areas
Planning Concepts by Sub-Area

For purposes of providing a more detailed description of various planning concepts and their specific relationship to the Goals and Policies, the Township has been divided into fourteen (14) Sub-areas. Planning Sub-areas are illustrated in the map on the following page.

Planning Sub-Area One

Characteristics

Located in the extreme northwest corner of the Township, this Sub-area is bounded by Groveland Township to the north, Interstate 75 to the east, Rattalee Lake Road to the south, and Rose Township to the west. Holly Township touches the corner of Springfield Township to the northwest.

The existing land uses are overwhelmingly low density residential, agricultural, and open land. Residential land use is located mainly along Rattalee Lake, Weber, and Tucker Roads. There has been minimal development activity within this Sub-area, therefore a number of large tracts remain intact. A small commercial node is located at the intersection of East Holly Road and I-75.

Sub-area One contains two large, heavily wooded tracts located in the eastern and western portions of the Sub-area. These two areas were identified by the Michigan Natural Features Inventory (MNFI) as the Weber Road site and the Holly Road site. Both of these sites received a ranking of 7, where most points were given for their size and intactness. Additionally, there are numerous small wetland areas and tree rows in the area. Soils unsuitable for development purposes make up a large percentage of this Sub-area's ground cover.
Land Use Plan and Policies

The intersection of 1-75 and East Holly Road is designated for cluster commercial development in accord with Policy 20 which encourages the consolidation or grouping of commercial development in centers rather than strips. Proximity and accessibility to 1-75, and relative isolation from existing residential development makes this an ideal location for commercial development. Policy 6 establishes the criteria for the location of residential land uses. The balance of the Sub-area is planned for low density residential development where the natural resource base is capable of accommodating such a density. Holly Road, a paved primary road, is also capable of handling the traffic demands associated with low density residential.

Areas designated for low density residential are compatible with existing low density land use patterns both within the Sub-area and the neighboring Townships. In addition, those areas where natural features pose severe constraints to development are most appropriately designated for low density residential in accordance with the Policy.

Because of soil and other natural feature constraints, this Sub-area is not considered suitable for intense development purposes.

Planning Sub-Area Two

Characteristics

Located in the north central portion of the Township, this Sub-area is bounded to the north by Groveland Township, to the east by Dixie Highway, to the south by Rattalee Lake Road, and to the west by 1-75.

Existing land uses include industrial, recreation, institutional, commercial and office, and multiple and single family residential. Industrial land use and extractive operations occupy much of the land area between Tindall, Holly, and Oak Hill Roads, between Tindall and 1-75, and south of Holly Road at Dixie Highway. Heather Highlands, a twenty-seven hole golf course, is located south of Holly Road and west of the industrial district. The County Road Commission Garage and the Township Fire Station No. 2 constitute the institutional land uses in the Sub-area. Commercial and office land uses are located in the north along Dixie Highway.
Low density residential is primarily found in the Sub-area midsection surrounded by open land. Single family residential uses include two mobile home parks stretching along Dixie Highway and across Oak Hill Road. Oak Hill Estates lies to the north and crosses into Groveland Township, and Springfield Estates lies to the south. In addition, a multiple family residential development is located at East Holly and Dixie Highway.

Sub-area Two contains two large deciduous woodlands, each within an undeveloped or open land area. Water resources include many small ponds and wetlands. One MNFI identified site is located in the eastern portion of the Sub-area named Holly Greens. The site received a ranking of 6, with most points coming from size and intactness. Slopes greater than ten percent, the result of extractive operations, are found to the northwest. The majority of the Sub-area exhibits only slight constraints to development with a few exceptions. The most notable exception is the Heather Highlands area which exhibits severe constraints to development due to soil limitations for the development of on-site septic systems.

*Land Use Plan and Policies*

This Sub-area is designated to support a variety of future land uses: a planned mixed development, residential options, local commercial uses, and industrial areas.

Industrial land uses have been limited to the Holly Green Industrial Park. High intensity land uses have been limited to frontages along Dixie Highway and the I-75 interchange in accordance with Policy 21.

Commercial developments are planned in reflection of existing land use patterns. A planned mixed development is designated to complement the cluster commercial area in Sub-area One. The intent of designating the area as a planned mixed development is to provide extractive reclamation efforts with flexibility in the planning of future use. A local commercial area is designated to complement the abutting office / service district in Sub-area Three. All of these districts should complement the high density residential development which currently exists.

Residential land uses are located within the central portion of the Sub-area. These areas are planned based upon the directives of Policies 1 and 6. Medium density residential areas are planned to correspond to existing development patterns and are buffered from more intense land uses by multiple family and mobile home park districts.
The extent of recreation land use remains consistent with existing golf course development to continue to promote the retention of open space and natural resources.

**Planning Sub-Area Three**

*Characteristics*

Located in the northeast corner of the Township, this Sub-area is bounded by Groveland Township to the north, Independence Township to the east, Rattalee Lake Road to the south, and Dixie Highway to the west.

Existing land use is overwhelmingly low density residential, agricultural and open land; an exception is the small commercial and office area located along Dixie Highway. Low density residential lots front along Oak Hill, Kier, Knox, Bridge Lake, Gibbs, and Rattalee Lake Roads. Local subdivisions are Green Trees Farms and Greentree Estates located in the central portion of the Sub-area. Prime agricultural lands are found in the southeast and west of the sub-area. The interior areas remain as open lands.

Sub-area Three contains a significant woodland which spreads throughout the central area. MNFI identified this area as Oak Hill Road West and Oak Hill Road East. These sites received a ranking of 6 and 5 respectively based mostly upon their size and intactness. Water resources in the area include many small ponds and streams, and a large wetland to the north. The sub-area contains a large percentage of prime agricultural soils. Slopes in excess of ten percent form a ridge that runs through the Sub-area’s midsection. Gibbs Road is designated as a Natural Beauty Road. Lands with severe limitations to development are found in conjunction with woodland and wetland areas.

*Land Use Plan and Policies*

The vast majority of the Sub-area has been reserved for low density residential development in keeping with the Sub-area's existing character and development patterns. This is in accord with the directives established by Policies 1 and 6. Lands fronting on Dixie Highway are an exception. The northern section is designated as an office / service district and has been planned in accord with Policy 20. The southern section is currently developed as medium density
residential units. This plan is in keeping with Policy 6 and coordinates development in Sub-area Three with the development in Sub-area Two.

**Planning Sub-Area Four**

*Characteristics*

Located in the western portion of the Township, this Sub-area is bounded by Rattalee Lake Road to the north, 1-75 to the east, Davisburg Road and the settlement of Davisburg to the south, and Rose Township to the west.

Existing land uses are low and medium density residential, recreation, agriculture, institutional, and open land. Low density residential accounts for much of the road frontage throughout the Sub-area. Agriculture and open land comprises the interior areas. The Shiawasee Basin property represents significant recreation and conservation land uses in the southern portion of the Sub-area. The Township’s Civic Center is represented by the institutional land use, directly adjacent to the Shiawassee Preserve. The Grand Trunk rail line passes through the southwest corner of the Sub-area.

Sub-area Four contains two MNFI sites: Eliza Lake with a ranking of 7 with most points received for its size, intactness, and restorability, and Long Lake with a ranking of 11 with most points received for its size, intactness, high restorability, and corridor features. Both of these sites are of very high quality. The Long Lake site has been extensively inventoried by the MNFI. The Sub-area also contains the Shiawassee River. Surrounding these water resources are wetlands. Smaller woodlands, wetlands, and streams are located to the north. Scattered areas of slopes in excess of ten percent are found throughout the Sub-area. A majority of this planning Sub-area is subject to severe development limitations. Areas most capable of supporting development are located in the northeastern portion of the Sub-area.

*Land Use Plan and Policies*

A recreation / conservation area is established in the west central portion of the Sub-area to recognize the Shiawasee Basin property. The area surrounding this district is designated for low density residential development as a means of buffering sensitive natural resources from negative impacts, and continuing the development of open space in accordance with Policies 1, 2 and 3. The eastern portion of the Sub-area is designated for medium density residential development.
Planning Sub-Area Five

Characteristics

Located in the central part of the Township, this Sub-area is bounded by Rattalee Lake Road to the north, Dixie Highway to the east, Davisburg Road to the south, and I-75 to the west.

Existing land uses are primarily single family residential: low density to the northwest, medium density in the central area, and high density to the east and north. In addition there are small multiple family, commercial and privately dedicated open space land use zones. The balance is classified as open land.

An institutional land use borders I-75 in the form of a State highway rest area. The commercial / office and multiple family land use areas have their frontages on Dixie Highway. In addition, one small, nonconforming industrial use also fronts on Dixie Highway.

Sub-area Five contains a moderate amount of woodland in the north central section. Water resources are more abundant here: Dixie Lake stretches nearly the entire length of the Sub-area, and numerous wetlands are found to the west and south of Dixie Lake. No sites were identified by MNFI. Soils capabilities within the Sub-area provide few limitations to development. Overall limits to development are slight, with exceptions in areas to the north and south of Dixie Lake.

Land Use Plan and Policies

Because of the few limits to development and the ability of local roads to handle additional traffic, the land use plan designates the majority of the land area for medium and high density residential development consistent with Policy 6 governing residential development. The medium density residential development will be concentrated toward the western half of the Sub-area and the high density residential development will surround Dixie Lake, commensurate with existing land use patterns. A small area, along I-75, is designated as public/semi-public to reflect the location of the existing public rest area.
Planning Sub-Area Six

Characteristics

Located along the eastern boundary of the Township, this Sub-area is bounded by Rattalee Lake Road to the north, Independence Township to the east, Davisburg and Holcomb Roads to the south, and Dixie Highway to the west.

Existing land uses are primarily single family residential and agriculture, with a small industrial land use sited along the northern portion of Dixie Highway, and an institutional use representing the Clarkston school property located at Holcomb and Davisburg Roads. High density residential is concentrated around Susin Lake, and north of Waumegah Lake. Medium density residential spans the central portion of the Sub-area connecting the areas of higher residential density. A small, medium density subdivision is also found in the southeastern corner. The northern portion of the Sub-area remains in large parcels and is primarily either single-family residential or open land.

Sub-area six includes two sites identified by the MNFI: Radio Tower Woods with a ranking of 7 with points given mostly for size, intactness, and restorability, and the Waumegah Complex with a ranking of 7 with points given mostly for size, intactness, and corridor features. Many wetland areas, one system which extends from the north to the south, and several intermittent streams connect the Sub-area water resources to those of adjacent Sub-areas and neighboring Independence Township. Development potential is good within this Sub-area. The instances of soils unsuited to development and steep slopes are minimal, as is the occurrence of prime agricultural lands.

Land Use Plan and Policies

The planned land uses for Sub-area Six are very limited industrial along Dixie Highway, planned mixed use, and high and medium density residential. The intensity of these land uses reflects the ability of the local land resources to support such development. The intersection of Rattalee Lake Road and Dixie Highway is designated for planned mixed use. While the existing land use is industrial at this location, this area has been designated planned mixed use to be consistent with Policy 20, and to coordinate better with adjacent uses across both roadways. Traditional lakefront residential exists at the southwest corner surrounding Susin Lake. The remainder of the Sub-area is designated for medium density residential land use, in keeping with Policy 6, and to
provide a transition between the traditional lakefront residential in Sub-area Six and low density residential in Sub-area Three.

Planning Sub-Area Seven

Characteristics

Located in the west central portion of the Township, this Sub-area encompasses the settlement known as Davisburg. The northern boundary follows the south line of Section Eight, the eastern boundary is aligned with Dilley Road, the southern boundary is located south of the First Baptist Church of Davisburg, and veers to the north along the edge of the Mill Pond and the Grand Trunk Rail line. The western boundary runs approximately half the length of the west line of Section Seven.

The settlement of Davisburg, although never incorporated as a village, has been the historical commercial, governmental and social center of the Township. Davisburg first developed around a mill powered by water from the Shiawassee River, and later flourished due to the construction of the Grand Trunk Railroad which runs through the middle of this Sub-area. Most of the homes and the commercial buildings are historically and architecturally significant with construction dates from the late 1800’s and early 1900’s.

Existing land uses in this Sub-area are high density single-family residential, institutional, conservation, and a small area of office and commercial uses along Broadway between Eaton Road and the railroad. Institutional uses include the Springfield Township Fire Station No. 1 on Broadway at Eaton Road, the Masonic Temple, and two churches. One park is located within this Sub-area. The vast majority of the northern half of this Sub-area is open land.

Sub-Area Seven contains a number of water-related resources: the Shiawassee River and a significant amount of wetland, and one, 4.5 acre area being preserved by the North Oakland Headwaters Land Conservancy as the Eaton Wet Meadow. Other small wetland areas are located around the Mill Pond, along the Shiawassee River and in scattered locations within the northeastern portion of the Sub-area. A portion of one MNFI site is located in this Sub-area: the Long Lake site with a ranking of 11, the highest ranking given (also received by the Huron Swamp). The Long Lake site was also extensively inventoried by the MNFI. Soils in the southwestern portion of the Sub-area are suitable for development but generally soils in the northern half of the Sub-area are not. The small commercial area is severely constrained from
expansion by soil conditions, a high water table, and a lack of public waste water or sewage disposal systems.

Land Use Plan and Policies

Policy 19 calls for Davisburg to be maintained as a hub of activity within the Township. However, in accordance with Policies 1 and 2, expansion of land uses is limited by poor soil capacities and the extensive wetland coverage. In keeping with Policy 6 and existing development patterns, a small area of high density residential is planned for the area adjacent to the governmental, commercial and office land uses located along Broadway. A second area of high density residential is adjacent to the northeast portion of Davisburg. To further encourage revitalization of Davisburg, much of the current commercial area of the hamlet is designated as planned mixed use. The vision is to create more of a destination for people traveling to other sites within the Township, including cyclists, motorcyclists, and others using the vast natural and recreational attractions the Township has to offer.

Planning Sub-Area Eight

Characteristics

Located in the center of the Township, this Sub-area is bounded by Davisburg Road to the north, 1-75 to the northeast, Ridgewood to the southeast, Big Lake Road to the south, and Andersonville Road to the southwest and the west.

Existing land uses in the sub-area are recreation, conservation, institutional, single family residential, agricultural, and open land. Recreation depicts the northern portion of the Springfield Oaks County Park, and institutional designates a State rest area located along 1-75, as well as the cemetery on Davisburg Road. Andersonville School, located on Andersonville Road, is also designated as an institutional land use. Single family residential development fronts Andersonville, Clark, Dilley, and Ridgewood Roads. Agricultural and open lands make up the balance of the Sub-area.

Sub-area Eight includes an extensive wetland area and riparian corridor encircled by Andersonville, Clark, and Hogback Lake Roads. This wetland area is part of the MNFI identified site of Shiawassee Lake which has a ranking of 8 based mainly upon its size, intactness, restorability, and corridor features. Another MNFI site is located in the Sub-area: the
I-75 Woods. This site received a ranking of 10 due mostly to its intactness, corridor features, and moderate restorability, and was extensively inventoried by the MNFI. Sub-area lakes include Hogback, Warden, Trout Pond, Mill Pond, and other small ponds, as well as a network of streams and intermittent drainage channels radiating from the center of the Sub-area. Deciduous woods are found near I-75, between Andersonville and Clark Roads, north of Hogback Lake, and encompassed by Dilley and Clark Roads and the Grand Trunk line. Soils unsuitable to development are located in the north central portion of the Sub-area, as are scattered areas of slopes greater than ten percent.

Land Use Plan and Policies

Low density residential and recreation-conservation are the two primary land uses designated for this area. Recreation-conservation land uses are mostly found on the west side and central portion of the sub-area. Public / semi-public land uses border I-75 to reflect the State rest area, and along Andersonville Road to reflect Andersonville Elementary School. The planned land uses are in accord with the guidelines established by Township Policies 1, 2, 3, and 6 for the conservation of natural resources and features, and the designation of residential land uses.

Planning Sub-Area Nine

Characteristics

Located in the east-central portion of the Township, this Sub-area is bounded by Davisburg Road to the north, Dixie Highway to the east, and I-75 to the south and west.

Existing land uses within the Sub-area include single and multiple family residential, commercial / office, institutional, and open land. The concentration of development occurs along Dixie Highway. Commercial / office, and institutional uses are found exclusively along Dixie Highway, as is true for the multiple family residential use. There are also several vacant parcels on Dixie Highway. Behind the more intense land uses are single-family residential developments, mostly built in a cluster pattern to preserve the existing deciduous woodlands that exist along I-75.

The vast majority of deciduous woodland area is located in the southwestern portion of the sub-area, stretching between I-75 to Dixie Highway. This area is also designated as the MNFI
site Springfield Woods which received a ranking of 5 mostly for its size. Water resources include many small lakes and ponds, including Softwater Lake. Wetlands are found primarily in the northern section of the Sub-area. Areas that are least capable of supporting development are scattered throughout the northern half of the Sub-area, and concentrated to the west in the southern half of the Sub-area. Soils with the most severe limitations to development are located in the northern and central tiers of the Sub-area. Soils in the southern tier are well suited to development.

Land Use Plan and Policies

Because Dixie Highway is the major transportation corridor serving Springfield Township, land use policies along the corridor, between I-75 and Davisburg Road, concentrate on planning for more intense development here than in other areas of the Township. In accord with Policy 20, planned mixed developments are sited along the northern stretch of Dixie Highway at Davisburg Road, and along the southern stretch of Dixie Highway at the I-75 interchange. Local and cluster commercial uses are situated at the corner of Old Pond Road and Dixie Highway, also in accord with Policy 20. An office-service district is planned adjacent to the cluster commercial area, as well as further south along Dixie Highway.

Residential land uses have been planned, in accord with Policy 6, for the following areas: medium density residential for the most northern portion of the Sub-area and within the more environmentally sensitive woodland areas along I-75, multiple family residential along Dixie Highway, Old Pond Road, and I-75, and along the east shore of Softwater Lake, and high density residential east of Old Pond Road and the balance of Softwater Lake.

Planning Sub-Area Ten

Characteristics

Located along the east-central Township boundary, this Sub-area is bounded by Davisburg Road to the north, Holcomb Road to the northwest, Independence Township to the east, I-75 to the south, and Dixie Highway to the west.

Existing land uses in the Sub-area are single and multiple family residential, commercial, industrial, agricultural uses and open land. Single family residential uses are found to the north,
and mostly away from Dixie Highway. The remaining land uses are situated along Dixie Highway. The agricultural designation represents Bordine’s Nursery. Sub-area Ten includes Bridge Valley, an MNFI identified site with a ranking of 7, with most points given for its size, intactness, element occurrence, and corridor connections. The Bridge Valley site was also extensively inventoried by the MNFI. The Sub-area also includes several ponds, and a system of intermittent streams which connects these water resources. In the southern half of the Sub-area is a substantial network of wetlands and streams which indicate soils least capable of supporting any kind of development. Deciduous woodlands are limited, and found mostly to the northeast of wetland areas. Extensive coniferous coverage is found to the south.

*Land use plan and Policies*

As in Sub-area nine, planning for Dixie Highway, between Davisburg Road and I-75, is intentionally more intense than in other areas of the Township. Planned land uses along Dixie Highway include local commercial at the Davisburg Road intersection, and at the Cobblestone Lane intersection. General cluster commercial is located on the south side of Dixie Highway at the intersection with Old Pond Road. Planned mixed use areas make up most of the remaining parcels along Dixie Highway.

While development in these areas is intended to be of higher intensity due to their location and accessibility, it is also the intent to protect and preserve the unique and sensitive natural features that also exist in this part of the Township. This would include, for example, lands that make up the Bridge Valley MNFI area as described above.

The commercial and mixed use areas have been planned in accord with Policy 20. Medium density residential development is planned throughout the Sub-area in accordance with Policy 6. Conservation of natural resources is planned in accordance with Policies 1, 2 and 3. The availability of utilities will determine the feasibility of more intense land use development.
Planning Sub-Area Eleven

*Characteristics*

Located along the western edge of the Township, this Sub-area is bounded by Davisburg Road to the north, Ormond Road to the east, White Lake Township to the south, and Rose Township to the west.

Approximately half of the land area within this Sub-area is agriculture with the remainder being low density residential spread throughout the area. As a result, much of the land remains in large parcels.

Sub-area Eleven includes two small lakes, a wetland to the north, and a system of wetlands to the south. The wetland system to the north is part of the MNFI identified site named the Parker Road Complex which received a ranking of 6 based upon size, intactness, and moderate restorability. There is a moderate amount of woodland scattered across the northern and southern tiers of the Sub-area. A very large woodland area occupies most of the center tier. This is the location of the MNFI identified site Eagle Road East which received a ranking of 8 based upon its size, intactness, and high restorability. A portion of the Schmitt Lake Complex, which received a ranking of 9, is also located in the far south of the study area. This Sub-area contains two large areas of soils unsuitable for development purposes, several areas of prime agricultural soils, and many small areas of slopes greater than ten percent.

*Land Use Plan and Policies*

In accord with Policies 1 and 6, low density residential is planned for the entire Sub-area. The low density residential designation is highly consistent with existing land use patterns in the area, is also compatible with land use patterns in the adjacent Townships, and recognizes the limitations posed by Sub-area soil conditions.
Planning Sub-Area Twelve

Characteristics

Located within the central portion of the Township, this sub-area is bounded by Davisburg Road to the north, Andersonville Road to the northeast, Big Lake Road to the southeast and south, and Ormond Road to the west.

Existing land uses within this Sub-area are primarily agriculture, recreation, single family residential, and open land. Near the hamlet of Davisburg, commercial / office land use is located to the west of Andersonville Road, and an institutional land use depicts a Davisburg school facility on the south side of Davisburg Road. Agriculture is found in the central portion of the Sub-area, and open lands are spread throughout the Sub-area. The recreation area south of Andersonville Road depicts the Springfield Oaks Youth Activities Center, and the 4-H Grounds. The remainder of the Sub-area is low density residential.

Sub-area Twelve includes Shiawassee Lake, and a system of wetlands to the north. This area has been identified by the MNFI as the Shiawassee Lake site and was given a ranking of 8 based upon size, intactness, moderate restorability, and corridor connections. Wooded areas are found to the north of Big Lake Road and to the south of Andersonville Road. This area has also been identified by the MNFI, and has been named Big Lake Woods. The site has a ranking of 8 based upon size, intactness, and restorability. Soils least capable of supporting development are found in the south central portion of the Sub-area. Slopes greater than ten percent are found within the areas least capable of supporting development. Prime agricultural soils are located in the northwest.

Land Use Plan and Policies

Medium density residential has been planned for the areas east of Shiawassee Lake and north of Big Lake. Low density residential is planned for the remainder of the Sub-area. These land use designations are in accord with Policy 6 which guides the development of residential areas. To the far north, public / semi-public, office-service, and local commercial are sited in close proximity to the settlement of Davisburg, primarily recognizing existing development patterns.
Planning Sub-Area Thirteen

Characteristics

Located in the southeastern corner of the Township, this Sub-area is bounded by 1-75 to the north, Independence Township to the east, Andersonville Road near Big Lake Road to the south and west, and Ridgewood Road to the northwest.

Existing land uses include industrial, extractive, utility / communication (Detroit Edison) developments in the most southern portion of the Sub-area, and along Andersonville Road. Institutional and recreation uses include Northwestern Oakland School’s campus, Colombiere Center and Shepherd’s Hollow Golf Course, which occupy most of the northeast corner of the Sub-area. Single family residential units and scattered areas of agricultural and open land uses make up the balance of the Sub-area’s land uses.

Sub-area Thirteen includes Green, Foster, and Huckleberry Lakes. Wetland areas are typically found in conjunction with the lakes. Three sites have been identified and ranked by the MNFI within this Sub-area. The Colombiere Complex located in the central part of the Sub-area received a ranking of 5 for its size, intactness, and moderate restorability. Huckleberry Lake Bog, located at the central eastern border of the Sub-area, received a 6 for its size, intactness, and moderate restorability. Section 35 Swamp was also identified and given a ranking of 5 due to its size and moderate restorability. Deciduous woodland coverage is found primarily to the north and along 1-75. Limits to development are found to the south and east due to soils unsuitable for development and some slopes greater than ten percent.

Land Use Plan and Policies

In accord with Policy 6, most of the Sub-area has been reserved for medium density residential development. In conjunction with residential development, a large recreation-conservation area has also been designated in this Sub-Area encompassing the Colombiere Complex.

A local commercial district is planned at the 1-75 interchange. Limited industrial is planned on Andersonville Road and in the most extreme southeast corner of the Township. These land use designations are made in accord with existing development located in Independence Township, and Policy 21.
Planning Sub-Area Fourteen

**Characteristics**

Located in the south-central portion of the Township, this Sub-area is bounded by Big Lake Road to the north, Andersonville Road to the east, White Lake Township to the south, and Ormond Road to the west.

Existing land uses include Indian Springs Metro Park (conservation and recreation) agriculture, single family residential and open land. Sub-area Fourteen includes extensive wetland acreage, and deciduous woodland coverage. Four MNFI identified sites are located within this Sub-area. The Big Lake Wetland, located in the northwestern corner of the Sub-area, received a ranking of 6 for its size and intactness. The Hillsboro site, located in the center of the Sub-area, received a ranking of 4 mainly for its size. The Schmitt Lake Complex, located in the southwestern area of the Sub-area, received a ranking of 9 for its size, intactness, and restorability. The Huron Swamp Complex, located in the eastern half of the Sub-area, received a ranking of 11, the most points given to a site (also given to Long Lake) for size, intactness, corridor features, and restorability. The Huron Swamp Complex was extensively studied by the MNFI. Woodland Trail is a designated Natural Beauty Road. Soils are generally wet and mucky. Limitations to development are severe throughout most of the Sub-area.

**Land Use Plan and Policies**

Low density residential is planned, in accord with Policy 6, in the south and west portions of the Sub-area, and in the northeast portion adjacent to Andersonville Road. In addition, traditional lakefront medium density residential is designated for the area surrounding Big Lake, extending to Andersonville Road, and in the area abutting the Huron Swamp. As directed by Policies 1, 2, and 3, a recreation-conservation area is planned to encompass the Indian Springs Metro Park and Timberland Sanctuary.
Appendix I: Background Studies
Locational and Regional Setting

Springfield Township is located in the northwest quadrant of Oakland County. The Township is comprised of approximately thirty-six square miles. It is bounded on the north by Groveland Township, on the east by Independence Township, on the south by White Lake Township, and on the west by Rose Township.

Springfield Township is centered in a highly populated and prosperous market region, and is accessible from all major Michigan market areas such as Detroit, Pontiac, Flint, Ann Arbor, and Lansing.
According to the publication, *Springfield: For Those Who Come After . . .*, the first Township settler was Asahel Fuller who purchased land in 1830 from Daniel LeRoy. The property, which was located in Section 13 along the Detroit and Saginaw Turnpike, included “le petite fontaine” or the Little Springs, which was a well-known resting place for traders, trappers, and Native Americans journeying to or from Saginaw and other places in the northern wilderness. The hamlet that developed at this location was referred to as Springfield because of these springs.

When Springfield Township was organized in 1836, it was originally named Painesville by the State of Michigan. The Township residents chose to retain the name of “Springfield” because the area was already well-known for the twenty some lakes and headwaters of three (3) rivers, and the watersheds of four (4) rivers located within its boundaries.

The Andersonville settlement was originally referred to as Husted Settlement after the John Husted Family who settled there in 1833. In 1836, the Issac Anderson Family settled in this area, and over time the settlement took on that family's name. When the Detroit and Milwaukee Railroad was constructed through the Township in 1856, a station was opened in Andersonville.

The first settler in the area of Davisburg was Cornelius Davis in 1836. The village was laid out very soon after the Detroit and Milwaukee railway was built. The first Davisburg railroad station was built in 1856 and turned Davisburg into a small boomtown. The first school was constructed in 1857, a hotel in 1855, and the grist mill in 1857. During the heyday of the railroad, Davisburg was a larger town than it is today.

The first Township meeting was held in the spring of 1837. Early township meetings focused on solving the problems of a rapidly growing community. From the actions taken at these meetings, roads were surveyed and maintained, schools organized and financed, and funds raised to operate the Township.

The first Post Office in Springfield Township, according to 1856 Oakland County Archives, was located in Springfield Village, along the Detroit-Saginaw Trail in 1835. The U.S. Post Office Archives indicate that a Post Office existed at that location in 1832. The Springfield Village Post Office operated until 1888, though no official postmark existed. The Andersonville Settlement had a Post Office from 1895 until 1912, complete with an official postmark.
The Davisburg Post Office was established in 1857 when the functions of the Post Office were moved from Austin Corners (intersection of Oakhill Road and Dixie Highway). Austin Corners had provided a postal site since 1848. The Davisburg Post Office was initially located in the Davisburg Mill. The post office moved to the Ely Building in 1890, and the spelling of the village name to Davisburg was officially changed by the Post Office in 1894.

The railroad (originally the Detroit and Milwaukee, then acquired by the Grand Trunk Western Railroad in 1928, and recently by Canadian National) which crosses Springfield was a major impetus to growth in the Township. Agriculture was the mainstay of the local economy, and the trains allowed the farmers to ship produce and livestock and to receive supplies and farm implements. In addition, the railroad provided a means to travel to other towns and brought mail on a daily basis.

In 1924, Dixie Highway (also known as the Saginaw Trail or Turnpike) was paved north from Pontiac and south from Flint with the two operations meeting in Springfield Township. At the time, agriculture was declining as a major economic activity and many local residents began to travel along this route to Pontiac and Flint for employment in the automotive factories.

More changes occurred in the Township with the construction of Interstate 75, which traverses the Township in a northwest-southeast direction connecting Pontiac and Flint. The accessibility of the Township provided by two local interchanges accelerated residential growth during the 1960's and 1970's. The increased ready access to major employment centers coupled with the pleasant residential atmosphere of the Township have made Springfield Township one of the more desirable bedroom communities in Northwestern Oakland County.
Population Growth Trends

Existing and Projected Population

The population of Springfield Township has steadily increased since the 1930 U.S. Census. The current population, according to the 2000 Census, is 13,338 people. This represents a 34% increase over the 1990 Census figure of 9,927.

In the past three Master Plan documents, population projections have been provided to give a general estimate of possible future population growth in the community. The projections used have been provided by Southeast Michigan Council of Governments (SEMCOG), and are shown on the table below. To provide some sense of the accuracy of the projections, the US Census population figures have also been provided for comparison. Note that the projections change over time. Also, projections that are calculated further into the future have a greater possibility of inaccuracy. For instance, the 20-year projection from 1979 to 2000 is 34% greater than the actual 2000 population. On the other hand, the 10-year projection from 1990 to 2000 is only 2% less than the actual 2000 population. Therefore, these variable results indicate that projections should only be used as general estimates, and are more an indication of the direction of population change rather than the extent of population change. It should also be noted that the Township does not necessarily endorse or agree with SEMCOG’s forecasted populations.

Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>SEMCOG Small Area Forecast (1979)</th>
<th>% Difference between forecast &amp; actual population</th>
<th>SEMCOG Regional Development Forecast (1990)</th>
<th>% Difference between forecast &amp; actual population</th>
<th>U.S. Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>4,385</td>
<td>0%</td>
<td>--</td>
<td>--</td>
<td>4,388</td>
</tr>
<tr>
<td>1980</td>
<td>7,368</td>
<td>-13%</td>
<td>--</td>
<td>--</td>
<td>8,295</td>
</tr>
<tr>
<td>1990</td>
<td>11,385</td>
<td>+13%</td>
<td>9,801</td>
<td>-1%</td>
<td>9,927</td>
</tr>
<tr>
<td>2000</td>
<td>20,313</td>
<td>+34%</td>
<td>13,060</td>
<td>-2%</td>
<td>13,338</td>
</tr>
</tbody>
</table>

Note that the probability of error in estimating future population is increased as the size of the area being estimated decreases. In larger areas, conflicting trends have a canceling effect on one another; however, in small geographic areas, such unforeseen trends may dominate the area’s
population character for several years and even decades. For this reason, forecasts for small geographic areas – such as the SEMCOG Small Area Forecast (1979) – are more subject to periodic fluctuations that are only local in nature.

Current SEMCOG projections estimate the population to be 14,393 as of October, 2007, an increase of 8% since 2000. SEMCOG forecasts that by the year 2035, Springfield Township can expect to have a population of 16,325, an increase of 22% from the year 2000 population, and an increase of 13.4% since 2007.

The chart below reflects actual and projected population gains by census year from 1930 to 2035. Between 1990 and 2000, growth within Springfield Township and adjacent Townships has ranged between 7% and 34% while Oakland County as a whole has had a 10% increase.

Figure 4
Springfield Township Population Growth: 1930-2035

Figure 5

Population Percentage Change
Northwest Oakland County
from 1990 to 2000

Source: US Census Bureau (1990, 2000)
Figure 6

Township Population 1990 - 2000

and

Population Change from 1990 – 2000

Source: US Census Bureau (1990, 2000)
Existing and Projected Household Number and Size

According to the 2000 Census, Springfield Township has 4,619 households. SEMCOG estimates that the number of households increased 12% as of 2007, and is expected to increase an additional 30% by the year 2035. As described under the Existing and Projected Population section on page 98, projections should only be used as a general guide to the direction of change in number of households, rather than the extent of the change. The table below reflects the number of existing and projected households in the Township. As of 2000, household size in Springfield Township is 2.87 persons, which indicates that the Township has a large portion of households with children. Over 43% (or 2,011) of the households in Springfield Township have children.

Figure 7

Number of Households

A trend that is typical in southeastern Michigan is a higher rate of increase in the number of households than total population growth. From 1990 to 2000, population increased 34% while at the same time the number of households increased by 66%. Corresponding to the increased number of households is the decrease in the size of households. This trend is due to couples having children later in life and a decrease in the number of children being born per woman. Another factor may be the large number of aging baby boomers, often referred to as "empty
nesters,” or households whose children have moved out. As is evident from the chart below, Springfield Township is expected to conform to this regional trend.

**Figure 8**

*Household Size in Springfield Township 1980-2000*

Characteristics

The characteristics of a population are an important factor in determining the future land use needs of a community. The following provides a brief summary of the characteristics of Springfield Township residents.

Household Type

Over 79% of the Township's population live in family households, and most are married-couple families. This percentage is considerably higher than both the County's or the regions. The remainder of the population is composed of non-family households. Non-family households are those that are comprised of a group of unrelated persons or one person living alone.

Figure 9
Percentage of Springfield Township Households by Type

Age Composition

As depicted in the following chart, approximately 68% of Springfield Township residents were below the age of 44 in 2000, which is down from 76% in 1990. About 22% of the population falls between the ages of 45 and 59 years, an increase from 16% in 1990. Only 9% of the population is over the age of 60. This age distribution depicts a Township population that continues to be primarily comprised of younger people and families with children, but is aging in similar fashion to the population at large. Age composition of adjacent Townships is similar.

**Figure 10**
*Population Distribution by Age Group (1990 & 2000)*

Source: U. S. Census Bureau (1990, 2000)
**Income**

The median income for Springfield Township residents as reported by the U.S. Census over the past 20 years is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>$41,888</td>
</tr>
<tr>
<td>1990</td>
<td>$48,630</td>
</tr>
<tr>
<td>2000</td>
<td>$71,977</td>
</tr>
</tbody>
</table>


The median household income in 2005 according to Oakland County Development and Planning was estimated to be $83,391 (in 2004 dollars).

While it appears that Springfield Township has experienced an increase in affluence, these figures cannot be compared until they have been adjusted to reflect the same level of buying power. Using the Annual Average Consumer Price Index, each income figure has been adjusted to 1999 and 2004 dollars. This indicates that the current trend for income in the Township is increasing in buying power, but after a significant decrease between 1980 and 1990, as shown in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Income in 1999 Dollars</th>
<th>Median Income in 2004 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>$89,597</td>
<td>$101,571</td>
</tr>
<tr>
<td>1990</td>
<td>$63,095</td>
<td>$71,526</td>
</tr>
<tr>
<td>2000</td>
<td>$71,977</td>
<td>$81,595</td>
</tr>
<tr>
<td>2005</td>
<td>--</td>
<td>$83,391</td>
</tr>
</tbody>
</table>

*Source: Carlisle/Wortman Associates; Oakland County (2007)*
Education

The Township has a well educated population. Over 64% of residents over the age of 25 have some college education. The following chart shows educational achievement as per the 2000 U.S. Census.

Figure 11
Educational Achievement of Residents Over 25 Years of Age

Source: U.S. Census Bureau (2000)
Housing Characteristics

Residential Characteristics

The 2000 U.S. Census tallied 4,794 housing units in the Township, an increase of 38.5% over the 3,459 units reported in 1990.

According to Township records, the Township has issued 526 building permits for new dwelling units for 2001-2007. The chart below reveals the number of residential building permits issued per year for the past seven years by the Township. The drop off in residential building permits in recent years, shown in Figure 12, reflects the current difficult economic times in the state, and in the national housing market. Figure 13 shows that this trend is shared by neighboring communities.

Figure 12
Residential Building Permits 2001-2007

Source: Springfield Township (2007)
Figure 13
Residential Building Permit Comparison 2001 - 2007

Source: SEMCOG Community Profiles (2007)
Housing Unit Type

The 2000 U.S. Census identifies the predominant housing type in the Township as an owner-occupied, single-family unit. Nearly 92% of the occupied housing units are owner-occupied, and about 8% are renter-occupied. Almost 80% of the dwelling units in Springfield Township are single-family homes. The remainder are multiple family units or other.

Age of Housing

The housing stock of Springfield Township is relatively new. The following table shows the approximate number and percentage of the housing stock for each year built.

### Table 5
Age of Springfield Township’s Housing Stock

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Units</th>
<th>% of Total Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre 1940</td>
<td>293</td>
<td>6.1%</td>
</tr>
<tr>
<td>1940-49</td>
<td>134</td>
<td>2.8%</td>
</tr>
<tr>
<td>1950-59</td>
<td>334</td>
<td>7.0%</td>
</tr>
<tr>
<td>1960-69</td>
<td>485</td>
<td>10.1%</td>
</tr>
<tr>
<td>1970-79</td>
<td>1,514</td>
<td>31.6%</td>
</tr>
<tr>
<td>1980-89</td>
<td>798</td>
<td>16.6%</td>
</tr>
<tr>
<td>1990-99</td>
<td>1,236</td>
<td>25.8%</td>
</tr>
</tbody>
</table>

Source: 1990 and 2000 U.S. Census and CWA

Housing Costs

Between 1990 and 2000, the cost of housing in the Township rose substantially. According to data compiled by Oakland County and the Township Assessor’s office, the average selling price in 1990 was $109,899, and as of 2000, it had risen to $243,645. This represented a 121% increase in average selling price over a 10-year period. The rapid rise in the average selling price was attributable to the cost of new construction, the increasing popularity of rural communities,
and the general rise in housing prices noted on both a local and regional level in southeastern Michigan.

Since 2000, the average price of a home in Springfield Township continued to rise until the past three years, when it dipped slightly. The Township Assessor reports that in 2005, the average home price was $305,945, in 2006 it was $295,931, and in 2007, it was $300,658. The number of homes sold has fallen dramatically since 2000. In the year 2000, 216 homes were sold in comparison to 2005 (169 homes sold), 2006 (129 homes sold) and 2007 (125 homes sold through October). Since 2001, the number of home foreclosures has increased, which could be a reflection of the troubled housing market and possible impact of sub-prime mortgages impacting housing throughout the country.

### Table 6
Change in Number of Foreclosures

<table>
<thead>
<tr>
<th>Community</th>
<th>Number of Foreclosures - 2001</th>
<th>Number of Foreclosures - 2007</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Springfield Township</td>
<td>12</td>
<td>58</td>
<td>+383%</td>
</tr>
<tr>
<td>Brandon Township</td>
<td>11</td>
<td>98</td>
<td>+790%</td>
</tr>
<tr>
<td>Groveland Township</td>
<td>3</td>
<td>35</td>
<td>+1,066%</td>
</tr>
<tr>
<td>Holly Township</td>
<td>2</td>
<td>29</td>
<td>+1,350%</td>
</tr>
<tr>
<td>Independence Township</td>
<td>15</td>
<td>142</td>
<td>+846%</td>
</tr>
<tr>
<td>Rose Township</td>
<td>7</td>
<td>40</td>
<td>+471%</td>
</tr>
</tbody>
</table>

Source: Oakland County through November 15, 2007.
Existing Land Use Categories

Mapping of existing land use has been updated from aerial photographs and verified by field observation. The following classifications have been applied to the Township’s land uses:

**Agricultural:** Land being used primarily for agricultural purposes including such uses as the raising of crops for food and fiber, tree farms and nurseries, and large horse farms.

**Vacant:** Vacant lands having no specific use and upon which no buildings have been constructed. This includes the undeveloped part of a large parcel on which only a single family home has been constructed.

**Single Family Residential:** Improved land parcels having two or less families per building in predominantly residential use. This could also include only the one-acre portion of a larger parcel, the majority of which is undeveloped and identified as vacant.

**Multiple Family Residential:** Improved single land parcels having four or more families per unit in predominantly residential use including apartments, townhouses, row houses, condominiums, and other similar attached structures.

**Mobile Home Park:** Areas that have been planned and developed with the facilities and services necessary to provide sites for a community of mobile homes.

**Commercial / Office:** Areas that contain both local and community commercial retail and services. Includes neighborhood stores, shopping centers, drug stores, and highway-oriented uses such as gas stations and drive-in restaurants and office uses such as medical, dental, and veterinarian offices, banks, real estate offices, and other similar uses.

**Recreation:** Areas that contain public and private recreation sites including parks (county, state, local, private, or neighborhood), golf courses, etc.

**Conservation:** Areas that contain dedicated public open space intended for natural feature preservation and passive recreation.

**Privately Dedicated Open Space:** Areas devoted to private open space dedicated either as fee simple or conservation easements.
**Industrial:** Areas related to the manufacturing, warehousing, and assembly of goods as well as the related storage areas and warehousing.

**Extractive:** Areas that are devoted to surface extraction and processing of gravel, sand and stone.

**Institutional:** Areas that are devoted to schools, churches, cemeteries, fraternal organizations, day care facilities, and public buildings and grounds.

**Utility/Communication:** Improved land parcels containing above-ground utility or communication facilities including electric generating plants, gas pressure regulating and valving facilities, transmission lines, wireless communication facilities, booster and transformer stations, related storage yards, etc.

Mapped existing land use patterns within the Township are depicted on page 115. Although Springfield has experienced significant growth, the Township remains a low density residential community. The table below lists existing land use in Springfield Township in 2007.

### Table 7
**Springfield Township 2007 Existing Land Use**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>2007 Acreage</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacant</td>
<td>2,978</td>
<td>13%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>2,064</td>
<td>9%</td>
</tr>
<tr>
<td>Single Family Res.</td>
<td>10,947</td>
<td>49%</td>
</tr>
<tr>
<td>Multiple Family Res.</td>
<td>91</td>
<td>1%</td>
</tr>
<tr>
<td>Mobile Home Park</td>
<td>115</td>
<td>1%</td>
</tr>
<tr>
<td>Commercial / Office</td>
<td>195</td>
<td>1%</td>
</tr>
<tr>
<td>Recreation</td>
<td>1,213</td>
<td>5%</td>
</tr>
<tr>
<td>Conservation</td>
<td>2,156</td>
<td>9%</td>
</tr>
<tr>
<td>Privately Dedicated Open Space</td>
<td>1,237</td>
<td>6%</td>
</tr>
<tr>
<td>Industrial</td>
<td>249</td>
<td>1%</td>
</tr>
<tr>
<td>Extractive</td>
<td>378</td>
<td>2%</td>
</tr>
<tr>
<td>Institutional</td>
<td>369</td>
<td>2%</td>
</tr>
<tr>
<td>Utility/Communication</td>
<td>177</td>
<td>1%</td>
</tr>
</tbody>
</table>
Note that the amount of land associated with each land use category is different from the previous Master Plan. These differences are due to the evolutionary nature of the County’s Geographic Information Systems (GIS), and their efforts at producing more and more precise data. Compared to the data used in the previous Master Plan, this data is more precise because of improvements made in locating parcel boundaries and section corners. In addition, the previous Existing Land Use map was created using a graphics computer program, rather than a GIS program. This also increased the inaccuracy of the previous map. Lastly, the Existing Land Use map has been extensively reviewed, and changes made to how land use categories were assigned to individual parcels. In summary, the Existing Land Use map – and the data obtained from this map - is a significant improvement over previous maps.
**Existing Land Use Patterns**

The largest single developed category of land use in Springfield Township is single-family residential. Until the 1970’s, single family residential development was typically found in three major patterns: clustered around Davisburg, situated around the lakes, or scattered along road frontages. Davisburg remains the only “village” settlement in the community with older single family residences clustered around the downtown. Over the past forty years, single-family development has occurred throughout the Township.

Considerable residential development exists around a number of the lakes in the Township, particularly Dixie Lake, Green Lake, Big Lake, Susin Lake, Waumegah Lake, and Softwater Lake. Much less intense single family residential development can be found around Hogback Lake and Eliza Lake. Such residential patterns were largely established sixty-five years ago when lakefront dwellings were for seasonal use. The post-World War II trend has been to convert lakefront dwellings to year-round use.

Until the 1970s, non-lake residential development was confined to scattered single family dwellings along road frontages. With much of the usable lakefront property now fully developed, new subdivisions and single lot residences have scattered to other parts of the Township.

Since the 1970’s, new subdivision-style developments have been initiated or developed more fully. Additionally, cluster-style development has been utilized as a development style increasingly within the Township to protect natural resources, open space, and rural character. Examples of clustered developments include Stonegate, Hummingbird Ridge, Bridge Valley, Pine Lake Forest, Pebble Creek, and Forest Ridge.

There are two mobile home parks located in the extreme northern portion of the Township: Springrove Estates and Oak Hill Estates. Multiple family land use remains a minor component of overall land use in the Township with less than one percent of total land use devoted to this residential category.

Most of the commercial development in Springfield Township can be classified as convenience or general commercial activities. Development is focused along Dixie Highway, at the I-75 interchange, and in Davisburg. Commercial properties along Dixie Highway include a broad array of businesses, from large automobile dealerships, nursery and landscaping yards, and grocery store, to smaller offices, personal services, and convenience markets. The cluster of
commercial uses at I-75 and Holly Road take advantage of the highway interchange, and are generally made up of businesses in larger buildings or which require space for storage. However, other types of highway service uses, such as a gasoline/convenience market, are also located at the interchange. The hamlet of Davisburg has a different character altogether, and is made up of a cluster of traditional downtown buildings that contain a convenience store, small retail shops, and professional offices.

Industrial uses comprise about 1% of the total land in the Township. Industrial development, as indicated by both the existing land use and the percentage of Township tax base, is not a significant feature of Springfield Township. Existing industrial land use is found in three areas of the Township: Holly Greens Industrial Park, Valentine Industrial Park, and in the southeast corner along Andersonville Road.

The extractive category includes land that is being actively mined. The most extensive mining operations can be found at Tindall Road north of Holly Road extending to the Township line. The second area of removal includes the land northeast of Andersonville Road and south of Big Lake Road.

The institutional category accounts for a relatively small amount of land use in the Township. Predominant in this category are the facilities at Colombiere Center and the vocational school located to the southwest of Big Lake Road and the Dixie Highway and Interstate 75 interchange. Other uses in this category include the cemeteries, schools, and the Township facilities and buildings.

The recreation and conservation categories make up 14% of Springfield's total land use. Included in this classification are the Township, County and State park and active recreation facilities located near Davisburg, Heather Highlands and Shepherd’s Hollow golf courses, and Indian Springs Metropark located at the southern boundary of the Township. Also included are areas dedicated to open space preservation, such as the Shiawassee Basin Preserve, and parts of the Indian Springs Metropark. Privately dedicated open space comprises 6% of existing land use.

Thirteen percent of the land area in the Township remains vacant and 9% is in agricultural use. Agricultural land use is particularly prevalent in the western portion of the Township in the Ormond Road area.
Utility / Communication is a minor category encompassing less than 1% of Springfield’s total land use. A Detroit Edison corridor runs through the northwestern corner and the southeastern corner of the Township.

The largest public land owner in the Township is the Huron-Clinton Metropolitan Authority, which owns nearly 1,570 acres in the Township. The second largest public land owner is Springfield Township. The Township owns over 595 acres of land devoted to conservation and recreation purposes. The third largest public land owner in the Township is the Oakland County Parks Commission with over 300 acres devoted to the Springfield Oaks County Park. The Michigan Nature Association owns approximately 250 acres off of East Holly Road and the Department of Natural Resources owns over 100 acres on Davisburg Road. The North Oakland Headwaters Land Conservancy owns 115 acres and has conservation easements on 317 acres for a total of 432 acres.
Economic Base

Consideration of the local economic base is included in the planning process to ensure that land reserved for commercial, office, industrial, and mixed uses is of adequate size and location to meet the aspirations of the community. Economic activities may create job opportunities for local residents and contribute to the improvement of the Township tax base. While economic development is important, it is essential that these uses also be located in areas that are compatible with surrounding land uses and are adequately served by public utilities, services, and transportation systems. Factors considered in the evaluation of the local economy include tax base, and existing employment within the Township.

Employment

While there are numerous employers within the Township, most residents are employed outside of the Township borders, classifying Springfield as a bedroom community. The largest public employers in the Township are the Clarkston School District, the Road Commission for Oakland County, the Holly School District, and the Township through its Library, Parks Department, Fire Department and general offices. Springfield also has a broad range of private employers. The largest are listed in the following table:

Table 8
Springfield Township
Largest Private Employers

<table>
<thead>
<tr>
<th>Firm</th>
<th>Product/Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMC Group</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Ergomatic</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Michigan Web Press</td>
<td>Printing</td>
</tr>
<tr>
<td>Oscar Larsen</td>
<td>Petroleum Tank Installation &amp; Electrical Contracting</td>
</tr>
<tr>
<td>Clawson Container</td>
<td>Metal Storage Tank Manufacturing</td>
</tr>
<tr>
<td>IBC North America</td>
<td>Plastics Manufacturing</td>
</tr>
<tr>
<td>Smiths Disposal</td>
<td>Waste Disposal</td>
</tr>
<tr>
<td>Moon Valley</td>
<td>Rustic Furniture Manufacturing</td>
</tr>
<tr>
<td>Swann’s Foods</td>
<td>Food Wholesaler</td>
</tr>
<tr>
<td>Kroger Foods</td>
<td>Supermarket</td>
</tr>
<tr>
<td>Bordine Nursery</td>
<td>Nursery and Garden Supply</td>
</tr>
<tr>
<td>Shepherds Hollow</td>
<td>Golf Course</td>
</tr>
</tbody>
</table>
Table 8 (Continued)
Springfield Township
Largest Private Employers

<table>
<thead>
<tr>
<th>Firm</th>
<th>Product/Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosler GMC, Pontiac &amp; Buick</td>
<td>Auto Dealer</td>
</tr>
<tr>
<td>Clarkston Chrysler</td>
<td>Auto Dealer</td>
</tr>
<tr>
<td>Szott Ford</td>
<td>Auto Dealer</td>
</tr>
<tr>
<td>Saturn of Clarkston</td>
<td>Auto Dealer</td>
</tr>
<tr>
<td>Al Deeby Dodge</td>
<td>Auto Dealer</td>
</tr>
</tbody>
</table>

Source: Springfield Township (2007)

Tax Base

The previous Township Master Plan document used state equalized value (SEV) to explain the Township’s tax base position. Since Proposal A was passed in 1994, the state requires that taxes on real property be based on the cash value (SEV) only if the property has changed hands in that year. Otherwise, taxable value on real property can only be increased by the rate of inflation. Therefore, to understand the Township’s true position in relation to property taxes, two figures are presented here: the SEV and the Taxable Value (TV). This way, comparisons can be made between this Master Plan and previous plans.

Real property assessments are broken into various use classifications and include residential, commercial, and industrial development. The historical share of each use classification indicates economic growth trends and relative tax burden among use classifications.

Table 9
Assessed Value of Real Property 2000-2006

<table>
<thead>
<tr>
<th></th>
<th>Commercial</th>
<th>Industrial</th>
<th>Residential</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Equalized Value (SEV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>$22,372,600</td>
<td>$13,068,800</td>
<td>$418,078,100</td>
<td>$11,672,000</td>
<td>$465,191,500</td>
</tr>
<tr>
<td>2006</td>
<td>$51,643,500</td>
<td>$25,001,300</td>
<td>$731,437,440</td>
<td>$5,092,200</td>
<td>$813,174,440</td>
</tr>
<tr>
<td>Six year change in SEV:</td>
<td>+130%</td>
<td>+91%</td>
<td>+75%</td>
<td>-56%</td>
<td>+75%</td>
</tr>
</tbody>
</table>
Table 9 (Continued)
Assessed Value of Real Property 2000-2006

<table>
<thead>
<tr>
<th>Taxable Value (TV)</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Residential</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$38,137,880</td>
<td>$20,289,560</td>
<td>$589,031,315</td>
<td>$2,821,990</td>
<td>$650,290,945</td>
</tr>
</tbody>
</table>

Six year change in TV: +99% +63% +66% -34% +67%

Source: Springfield Township Assessor's Office (2007)

Residential land uses shoulder the largest share of the local tax burden. While substantial growth has also occurred in the tax base for the commercial and industrial sectors with a 130% and 91% increase in SEV respectively (99% and 63% in TV respectively), both compose a relatively small proportion of total taxable land.

The relative share of each classification in SEV as of 2006 is depicted in the following chart.

Figure 14
Relative Percentages of Real Property Assessed Valuation - SEV (2006)
Commercial Market Analysis

The following analysis of the commercial market potential within the Township provides quantitative estimates of future commercial demand, as well as a qualitative analysis of market trends that are relevant to Springfield Township. While the quantitative estimates of demand for commercial land use is a standard planning forecasting method, such an analysis does not go far enough in providing guidance for establishing land use policy.

Estimating demand is an essential component of planning for commercial growth. However, the ability of the Township to attain its economic goals or potential can be strengthened or weakened by such issues as access, physical limitations, commercial area aesthetics, and competing opportunities in neighboring communities. Therefore, incorporating a qualitative analysis of market trends in relationship to the existing and planned supply of commercial land in the Township provides the essential second component of commercial market analysis.

This analysis is not meant to be exhaustive. As a planning study, consideration of both quantitative and qualitative factors is essential in helping the Township formulate realistic commercial policies.

Commercial Demand Analysis

A basic assumption of the commercial demand analysis is that households will choose to make the majority of their purchases within a specific trade area. Trade area is defined as the geographic area from which prospective customers are expected to be drawn. Trade areas for the purchase of convenience goods (i.e. daily living needs) are in closer proximity to where people live. Trade areas for comparison goods (i.e. washers and dryers) shopping are larger. Trade areas tend to be dynamic where market penetration and accessibility are key issues; therefore, several distinct commercial areas may draw portions of their business from the same trade area. For the purpose of this study, the entire Township was designated as the trade area. Since this market analysis is used for planning purposes, it assesses the level of commercial activity that can be supported by the Township population. Of course, there are a number of other factors that can be considered in determining the amount of commercial land the Township may want.

The commercial market analysis relates household spending power and population within the trade area to determine the level of commercial development that can be supported within the trade area. The total expenditure is divided into categories of retail trade according to documented percentages for actual retail sales from previous years. The need for commercial
Development is calculated as a function of the average household income and retail trade statistics, translated into acreage by sales data per square foot of store type and typical floor area to land area ratios.

Baseline figures for 2007 population are calculated using population estimates from SEMCOG. Projections for 2035 are prepared using household growth projections from SEMCOG. An estimated household income figure of $89,140 for the year 2007 was adjusted upward from 2005 estimates by Oakland County Development and Planning of $83,391 for inflation.

The figures of percentage of retail sales by retail type, sales from study area, and sales per square foot are interpolated from a review of retail statistics published in the Dollars & Cents of Shopping Centers, Survey of Buying Power and Editor and Publisher Market Guide.

The following table translates the Township-wide market potential using the methodology of relating the spending “power” based on household income into the demand for commercial land. The assumptions used to determine commercial demand are included with each commercial demand projection in Tables 10-A and 10-B.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Households</th>
<th>Commercial Acre Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>5,155</td>
<td>81 ac.</td>
</tr>
<tr>
<td>2035</td>
<td>6,712</td>
<td>106 ac.</td>
</tr>
</tbody>
</table>
Table 10-A
2007 Commercial Land Demand

<table>
<thead>
<tr>
<th>Retail Type</th>
<th>Percent of Retail Sales</th>
<th>Retail Sales from Study Area</th>
<th>Sales Per Square Foot (2006)*</th>
<th>Square Feet Supported by Study Area</th>
<th>Equivalent Commercial Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Materials/Hardware</td>
<td>4.75%</td>
<td>$8,730,817.30</td>
<td>$314.85</td>
<td>27,730</td>
<td>2.5</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>13.70%</td>
<td>$25,181,515.16</td>
<td>$128.21</td>
<td>196,408</td>
<td>22.5</td>
</tr>
<tr>
<td>Food</td>
<td>8.95%</td>
<td>$16,450,697.86</td>
<td>$338.67</td>
<td>48,574</td>
<td>5.6</td>
</tr>
<tr>
<td>Automotive</td>
<td>34.30%</td>
<td>$63,045,691.24</td>
<td>$265.70</td>
<td>237,281</td>
<td>21.8</td>
</tr>
<tr>
<td>Gasoline</td>
<td>4.95%</td>
<td>$9,098,430.66</td>
<td>$265.70</td>
<td>34,243</td>
<td>3.1</td>
</tr>
<tr>
<td>Clothing &amp; Accessories</td>
<td>6.10%</td>
<td>$11,212,207.48</td>
<td>$168.39</td>
<td>66,585</td>
<td>7.6</td>
</tr>
<tr>
<td>Food Service</td>
<td>6.85%</td>
<td>$12,590,757.58</td>
<td>$233.31</td>
<td>53,966</td>
<td>6.2</td>
</tr>
<tr>
<td>Drugs</td>
<td>4.17%</td>
<td>$7,664,738.56</td>
<td>$513.07</td>
<td>14,939</td>
<td>1.7</td>
</tr>
<tr>
<td>Furniture</td>
<td>7.70%</td>
<td>$14,153,114.36</td>
<td>$163.49</td>
<td>86,569</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>$168,127,970.20</td>
<td></td>
<td>766,296</td>
<td>81</td>
</tr>
</tbody>
</table>

2007 Assumptions: 5,155 households, $89,140 average household income of which 40% is spent on retail goods.
*Data obtained from Dollars & Cents of Shopping Centers, Survey of Buying Power

Table 10-B
2035 Commercial Land Demand

<table>
<thead>
<tr>
<th>Retail Type</th>
<th>Percent of Retail Sales</th>
<th>Retail Sales from Study Area</th>
<th>Sales Per Square Foot (2006)*</th>
<th>Square Feet Supported by Study Area</th>
<th>Equivalent Commercial Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Materials/Hardware</td>
<td>4.75%</td>
<td>$11,367,845.92</td>
<td>$314.85</td>
<td>36,106</td>
<td>3.3</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>13.70%</td>
<td>$32,787,260.86</td>
<td>$128.21</td>
<td>255,731</td>
<td>29.4</td>
</tr>
<tr>
<td>Food</td>
<td>8.95%</td>
<td>$21,419,414.94</td>
<td>$338.67</td>
<td>63,246</td>
<td>7.3</td>
</tr>
<tr>
<td>Automotive</td>
<td>34.30%</td>
<td>$82,087,813.70</td>
<td>$265.70</td>
<td>308,949</td>
<td>28.4</td>
</tr>
<tr>
<td>Gasoline</td>
<td>4.95%</td>
<td>$11,846,492.06</td>
<td>$265.70</td>
<td>44,586</td>
<td>4.1</td>
</tr>
<tr>
<td>Clothing &amp; Accessories</td>
<td>6.10%</td>
<td>$14,598,707.39</td>
<td>$168.39</td>
<td>86,696</td>
<td>10.0</td>
</tr>
<tr>
<td>Food Service</td>
<td>6.85%</td>
<td>$16,393,630.43</td>
<td>$233.31</td>
<td>70,265</td>
<td>8.1</td>
</tr>
<tr>
<td>Drugs</td>
<td>4.17%</td>
<td>$9,979,772.10</td>
<td>$513.07</td>
<td>19,451</td>
<td>2.2</td>
</tr>
<tr>
<td>Furniture</td>
<td>7.70%</td>
<td>$18,427,876.54</td>
<td>$163.49</td>
<td>112,716</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>$218,908,813.96</td>
<td></td>
<td>997,745</td>
<td>106</td>
</tr>
</tbody>
</table>

2035 Assumptions: 6,712 households, $89,140 average household income of which 40% is spent on retail goods.
*Data obtained from Dollars & Cents of Shopping Centers, Survey of Buying Power
Demand vs. Supply

Commercial land in Springfield Township is centered along Dixie Highway, between Davisburg Road and Old Pond Road, and at the I-75/Dixie Highway and Holly Road interchanges. The commercial uses at these locations focus primarily on convenience and, to a lesser extent, comparison types of retail shopping. Most convenience shopping is available along Dixie near Davisburg. The interchange areas tend to focus more on comparison goods (autos, nursery products, etc.).

The outcome of the 2007 Commercial Land Demand analysis indicates that the Township can support 81 acres of commercial land, increasing to 106 acres by 2035. The amount of existing land zoned commercial is 249 acres, although large expanses are located at both interchanges. Note that this acreage figure does not include the Saturn Dealership on Dixie Highway, which is a PUD (Planned Unit Development).

Within the Dixie corridor from Davisburg to Old Pond, there are 95 acres of commercially zoned land, which includes several vacant parcels. Therefore, the Township currently has provided for a sufficient amount of commercially zoned property within this area of Dixie Highway to meet the current and future general shopping needs of its own residents. What this type of analysis does not address is the potential for the Township to provide additional commercial acreage that may draw on a more regional market, discussed more fully in a later section.

Table 11
Commercially-Zoned Property verses Market Demand
Springfield Township 2007 - 2035

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Commercially-Zoned Parcels¹</td>
<td>249 ac.</td>
<td></td>
</tr>
<tr>
<td>Market Demand</td>
<td>81 ac.</td>
<td>106 ac.</td>
</tr>
<tr>
<td>Use versus Demand²</td>
<td>+168 ac.</td>
<td>+143 ac.</td>
</tr>
</tbody>
</table>

¹Existing use based on calculations by Carlisle/Wortman Associates

²A plus (+) means there is a surplus of land zoned commercially versus the demand for such land.
The map on the following page illustrates the properties, and their relative sizes, that are currently zoned for commercial uses in the Township. Each property has been categorized into three general sizes: less than one acre; between one and five acres; and greater than five acres. Many of these parcels are currently developed, either as commercial uses or as a different use that is not expected to remain in the future. In addition, approximately 10 parcels are currently vacant. Of the vacant parcels zoned commercial, four (4) are larger than five acres in size.

Table 12
Commercially Zoned Property
Springfield Township

<table>
<thead>
<tr>
<th>Size of Parcel</th>
<th>No. of Parcels</th>
<th>Total Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than one acre¹</td>
<td>22</td>
<td>18.4 ac.</td>
</tr>
<tr>
<td>Between one and five acres</td>
<td>35</td>
<td>87.9 ac</td>
</tr>
<tr>
<td>Greater than five acres</td>
<td>14</td>
<td>142.3 ac.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>71</strong></td>
<td><strong>248.6 ac.</strong></td>
</tr>
</tbody>
</table>

Commercially Zoned Parcels
less than 1 acre
Commercially Zoned Parcels
1 to 5 acres
Commercially Zoned Parcels
greater than 5 acres

Note: This map depicts only the portion of the Township with commercially zoned properties. It doesn't show the entire Township.
Comparative Commercial Categories

A second part of the quantitative analysis provides a look at the number of retail establishments in comparison to household population. This is another simple way to determine if household demand is being met within the Township. Data comparing retail establishments in Springfield Township to two neighboring townships, Independence and White Lake, and to Auburn Hills is provided in Table 13. Independence and White Lake were selected due to geographic proximity and some similarities as more populated communities in northwest Oakland County. Auburn Hills was selected because of its significantly different characteristics as a commercial and industrial center in Oakland County. The source of the data is the 2000 U.S. Economic Census, which was updated in 2005.

The number of retail establishments is depicted in Table 13 and bears a relationship to household data in Springfield, Independence and White Lake. Springfield, with 25 retail establishments and 4,619 households (2000 Census) has one establishment per 185 households. Independence, with 78 establishments and 11,765 households, has one establishment per 151 households. White Lake, with 52 businesses and 10,092 households, has one per 194 households. In contrast, Auburn Hills has 216 retail establishments but only 8,064 households, or 1 retail establishment per 37 households.

<table>
<thead>
<tr>
<th>Total Retail Establishments</th>
<th>Springfield Township</th>
<th>Independence Township</th>
<th>White Lake Township</th>
<th>City of Auburn Hills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Households¹</td>
<td>4,619</td>
<td>11,765</td>
<td>10,092</td>
<td>8,064</td>
</tr>
<tr>
<td>Retail Establishments / Household</td>
<td>1 / 185</td>
<td>1 / 151</td>
<td>1 / 194</td>
<td>1 / 37</td>
</tr>
</tbody>
</table>

Table 13
Retail Trade by Sector
Springfield Township and Comparative Communities

Source: U.S. Economic Census, revised to 2005. Note that this data is for general comparison purposes only, and should not be considered current or verifiable.

The conclusion from this comparison is that Springfield is in line with similarly situated communities as far as retail establishments per household.

No attempt is made to do a detailed review of the types of businesses actually serving Springfield Township. A more sophisticated review of the types of businesses for the population served is
called a “gap analysis.” Such an analysis is used to determine where there may be unfulfilled need in the marketplace.

However, in reviewing the Economic Census data for Springfield, although it is out of date, it is interesting to note the distribution of businesses in Springfield as compared to the other communities. For example, Springfield has a disproportionately high number of businesses classified as “motor vehicle and parts dealer” and a disproportionately low number of “food and beverage stores.”

While retail locational decisions cannot always be generalized, there is reason to believe Springfield has attracted motor vehicle and parts dealers because of the availability of large tracts on reasonably priced land, as opposed to other nearby communities. Further, businesses of this nature are not reliant upon a concentration of population within a community. Conversely, there are a number of factors that may explain why Springfield has only one major food store. One factor may be that Springfield does not have the critical mass of population to support a food store, which tends to serve a localized market. Further, there are intervening opportunities for food shopping in other nearby communities.

**Regional Economic Influences and Commercial Concentrations**

As has been indicated, the quantitative purpose of the commercial analysis does not assess any potential for regional commercial use. Springfield Township is located twenty minutes from two cities, Pontiac to the south and Flint to the north. Two interchanges to I-75 provide easy access from Springfield Township to the major population and employment centers of southeastern Michigan, although the Dixie / I-75 interchange is the one closest in proximity to population centers within Oakland County.

Several major economic activity concentrations are located within Oakland County and within close proximity of Springfield. Although none of these concentrations are located within the Township, these areas are of considerable significance since they are within commuting distance for Township residents and directly affect Springfield's local economy. These centers include the following: the business center of Troy, the City of Pontiac, the Oakland Technology Park that is the home of Chrysler's North American headquarters, "Automation Alley", and several major retail centers including the Sashabaw Corridor in Independence Township, Great Lakes Crossing in Auburn Hills, and the Somerset Collection in Troy. Additionally, the Genysys Medical Complex is located along the I-75 corridor within Genesee County and serves as an important employment center, as will the McLaren Hospital and medical office development in Independence Township that is currently under construction.
In Oakland County and elsewhere, it is not surprising to see that major transportation arteries attract commercial development. The map on the next page illustrates existing commercial and office land use concentrations in the northwest part of Oakland County. The Commercial Concentrations map depicts a near continuous pattern of commercial and office use from Pontiac to the southeastern portion of Springfield Township. Another significant concentration is M-59 from Pontiac through Waterford and portions of White Lake. A third concentration is along M-24 through Orion and Oxford Townships. The I-75 interchanges have also attracted commercial and office uses, but the only significant concentrations are prevalent in Auburn Hills. The traditional corridor for economic activity in the Township has been Dixie Highway.

Two I-75 interchanges within Springfield have also helped to generate commercial and office development. The interchange at Dixie Highway and I-75 is located in the southeast portion of the Township. The other within Springfield – the East Holly Road and I-75 interchange – is located at the opposite boundary of the Township. As a result, these two areas are not ideally, or centrally, located to serve Springfield’s population. However, the East Holly Road/I-75 interchange is located in an area that could service, with careful planning, a broader market without impacting the balance of the Township, particularly current residential concentrations.
COMMERCIAL CONCENTRATIONS
SPRINGFIELD TOWNSHIP
Oakland County, MI

Legend

- Commercial / Office
- Water

Map #8
Retail Trends

There are a number of social and economic factors that are influencing the potential for and operating philosophy of retail trade. Technology, age, lifestyle and income appear to be the most significant factors influencing retail trends. An understanding of these trends can have an influence on Township policy. The following trends appear to be the most prevalent in recent times:

1. Technology/E-Commerce – The internet now accounts for more than 25% of durable goods and merchandise sales.

   To partially combat this, major retailers maintain detailed databases on their customers, so that merchandizing can be customized to meet the characteristics of specific geographic areas.

2. The Demise of the Mall – A solid trend in the 1970s and 1980s was the construction of enclosed malls, so much so that some communities tried to replicate the concept in their downtowns. Today, shopping centers are being built to replicate the ambiance and walkability of downtowns.

3. Precision Shopping – Considering both lifestyle and technology, customers are more prone to shop for a specific item. With such an objective in mind, customers have limited time for leisure shopping. The quick or “precision” shopping format is a recent trend that is being embraced even by large-scale retailers who are downsizing their stores to cater to precision shopping.

4. Entertaining the Customer – Coupled with the demise of the mall is the emergence of the next generation of shopping centers focused around the “streetfront shopping concept.” Although developers build shopping centers to attract the buying public, providing customers with convenience, entertainment, restaurants and a sense of place are elements that today’s consumers find attractive. Therefore, the streetfront shopping concept is more conducive to melding convenient parking with an attractive, exciting environment.

5. Challenges to Large Scale Retail – In addition to frequent challenges from communities, large-scale or big box retailers have been so successful as category killers that the only competition left are other big box retailers. As the market becomes saturated, large-scale
retailers are facing the challenges of surplus space, e-commerce and the streetfront shopping concept.

Findings

A number of observations can be made from the Commercial Market Analysis. These should be considered in formulating commercial policies for the Township:

1. For many years, the Township has focused its commercial activity on Dixie Highway. Planning over the past 15 years has designated the portion from Davisburg Road to Old Pond as a focus for community commercial activity. Such a strategy has made sense given the central location of the area, good accessibility, and available land. This area would seem to be able to satisfy much of the demand for daily shopping needs of residents.

2. The interchanges with I-75 offer both challenges and opportunities. Within the time frame of this Master Plan update, it would appear that there will be more interest in the Dixie/I-75 area. Considering the retail trends outlined in the previous section, Dixie/I-75 offers significant potential for more creative mixed-use development.

Of particular sensitivity in the Dixie/I-75 area is traffic. Virtually any type of additional new development in the area will require Dixie Highway to be improved, hopefully to the boulevard that has been envisioned. The strategy to pursue in developing this corridor is a mixture of uses, including residential, commercial, office, and other compatible uses. Not only will a mixed use strategy diversify the character of the area, a mixture of uses that is not pure commercial will have differing peak traffic volumes, thereby lessening the impact on Dixie Highway.

3. Communities that desire creative development must develop the vision. Much like the Dixie/Davisburg area was envisioned as a focus of community commercial activity several years ago, Dixie/I-75 can be envisioned as a mixed-use centerpiece. This Master Plan document provides background information, as well as overall goals and policies for the Township as a start to developing this vision. In addition, over the next several months, a steering committee made up of Dixie corridor property and business owners, and Township staff and elected and appointed officials will be updating the Dixie Highway Corridor Study, which will provide specific guidance as to how this corridor should develop. A major part of this vision, and its implementation, will be the amount of capital invested in the corridor. As it has in the past, the Township will need to
continue to identify and pursue sources of both public and private investment to fully realize the vision for the corridor.

4. Finally, although the analysis is not detailed, there does appear to be a disproportionate number of certain kinds of uses in the Township and a lack of others. While the large number of automotive related uses has not been a negative factor, some of these uses consume a large amount of land. If the area along Dixie Highway from Davisburg Road to Old Pond is to be preserved for convenience-related uses, the Township will need to encourage a broader mix of uses and individual uses that do not consume large land areas.
Community Facilities and Services

Township Facilities and Services

In 2002, the Township moved its offices into the new Civic Center located in the Shiawassee Basin Preserve off of Davisburg Road. The Center contains the Township library, Township administrative offices, and the Parks Department.

Fire protection service is provided by a paid, on-call fire department. The Township has a full-time Fire Chief, and two full-time fire fighters. The main fire station is located at the intersection of Rattalee Lake Road and Dixie Highway, and has recently been renovated to remodel existing apparatus bays, and add new bays, offices and training facilities. A second station is located in Davisburg. Police protection is contracted through the Oakland County Sheriff's Department.

Central municipal water and/or sewer service within the Township is limited. Only a few developments in the Township are served by central water and/or sanitary treatment systems. One such system is the Softwater Lake Sanitary Treatment Plant, which serves five (5) separate condominium projects and the Bavarian Village apartment complex, and is located near Dixie Highway and I-75. This system is in the process of being removed and connected to the Independence Township sewer system. These developments are also served by a municipal water system owned and operated by Oakland County. Two mobile home parks, Oak Hill Estates and Springrove Estates, are also served by community sanitary treatment and water systems. Both parks are located off of Dixie Highway in the northern part of the Township. The systems are not operated by the Township, and do not provide service to areas outside their mobile home park boundaries. There are also several other developments, both residential and commercial, that are served by community sewer systems. Detroit Edison provides electricity to most of the Township. Consumers Energy supplies electricity to the northwest corner of the Township, and natural gas service to the entire Township.

Clarkston Community Schools, Brandon School District, and Holly School District serve Springfield Township residents. Two private schools, Springfield Christian and Cedar Crest Academy, are also located in the Township. The Township contains the following public elementary schools: Andersonville, Davisburg, and Springfield Plains.
Parks and Recreation

Springfield Township has several public and private recreational facilities. In March, 2006, Springfield Township adopted the Parks and Recreation Master Plan that addresses recreation planning for the period of 2006-2011. Three park systems are represented within the Township: Oakland County Parks, Huron-Clinton Metropolitan Authority (HCMA) Parks, and Springfield Township Parks.

Springfield itself owns four Township parks covering almost 600 acres of land within the community. The following is a list and description of those parks:

• Davisburg Mill Pond Park / Hart Community Center - This eight acre park provides the following facilities: beach and swimming area, basketball court, volleyball court, tennis court, Hart Community Center, storage building, picnic shelter, gazebo, two shuffleboard courts, two horseshoe pits, pathway, accessible fishing pier, and a playscape.

• Green Lake Park - A 2.5 acre neighborhood park with a basketball court, playground, sand volleyball court, and picnic tables and grill.

• Karl Schultz Park - A 27 acre park with three ball diamonds, picnic shelter, picnic area, play equipment, and restroom.

• Shiawassee Basin Preserve - A 558.5 acre park offering ball fields, soccer fields, picnic pavilion, picnic area, fishing ponds, nature trails, Long Lake, Davis Lake, and a large nature preserve. East Shiawassee, which is a 6.5 acre section of the Preserve, is located on the east side of Eaton Road. Another section of the Preserve is called the Davis Lake Overlook, which is adjacent to Eaton Road and Davis Lake.

Springfield also contains several regional recreational facilities. Privately owned facilities include the 400 acre Colombiere Center, which includes the 360 acre Shepherd’s Hollow golf course; the 170 acre Heather Highlands Golf Course; the 20 acre Windmill Golf Course; and the 250 acre Timberland Sanctuary with rough trails.

State facilities include the DNR Big Lake Boat Ramp, which is less than one acre in size and provides parking and a boat launch; and the DNR Trout Pond and State Land, which is a 110 acre hunting and fishing area. The Huron-Clinton Metropolitan Park Authority owns Indian Springs, which is 2,149 acres in size located in both White Lake and Springfield Townships (1,570 acres
in Springfield Township). This park provides such facilities as an environmental education center, nature and bicycle trails, picnic areas, restrooms, two picnic shelters, nature center, 18-hole golf course, and restaurant along with nature interpretation programs. Finally, Oakland County has two parks within the Township. The Springfield Oaks Activity Center is 112 acres in size and provides an activity center with 4-H fairgrounds, one horse arena, one event arena, a horse barn, a rabbit barn, and a livestock barn, as well as the historic Ellis Barn, relocated from Dixie Highway. It also provides trails, and exhibit hall with office space, and a pavilion. The County also provides a 182 acre golf course with clubhouse, restaurant, and pro-shop.
Natural Resources

Hills, wetlands, drainage systems, and vegetative cover provide Springfield Township with a highly varied landscape and significant local natural resources. Springfield Township is located within a hilly zone of glacial moraines and gently undulating plains, and enjoys the rivers, lakes, and wetlands that are characteristic of this type of glacially formed landscape.

The rolling wooded hillsides, lakes, wetlands, and relatively undisturbed areas of the Township have provided the "rural" atmosphere that has drawn many people to Springfield. These same natural resources and their preservation have driven land use policies and decisions in the past, and will provide the foundation for future land use plans, policies, and decisions as to where and when open space acquisition should occur.

The Township contains the headwaters and drainage basins of three major rivers, the Huron, Clinton, and Shiawassee, as well as small portions of the Flint River Basin.

The Township’s natural resources have been extensively studied over the past 40 years. A number of environmental and natural feature studies have been carried out by the Township, and by other organizations and agencies, that recognized the Township’s unique resources:

- As early as 1968, Oakland County performed an inventory and study of the Shiawassee River headwaters area.

- In 1984, The Township teamed with the Southeast Michigan Council of Governments (SEMCOG) to conduct an environmental planning study. This study actively involved the Planning Commission and developed maps and standards that formed the basis for the Township’s current environmental protection ordinance standards. The study also resulted in two booklets: one for developers that describe the Township’s environmental standards for site plan review, and development design techniques that specifically help protect natural features; the second for residents, which explains how land owners can protect groundwater and their drinking water source.

- In 1988, the Michigan Natural Features Inventory (MNFI) professionals performed a general overview of the environmental features of the Township in partnership with Oakland County.
• In 1997, the University of Michigan School of Natural Resources and Environment conducted an ecological study of the Bridge Valley area.

• In 2000, the Township joined Oakland County and five other communities in a study called the Shiawassee and Huron Headwaters Resource Preservation Project (Headwaters Project). This project is described in detail below.

• As a result of the Headwaters Project, the Township received a grant from the US EPA in 2002 to educate residents and the development community about the use of native plants in landscaping. This project, called the Springfield Township Native Vegetation Enhancement Project, created a computer-based interactive CD ROM to provide information about what constitutes a native plant, the importance of using native plants in landscaping and how to do this, among other information. The CD ROM also has detailed information about more than 250 plants native to Springfield Township, and a “plant finder” capability where the user can type in the planting conditions, (soils, amount of sun, etc.) and the plant’s desired characteristics (tree, flowering time, color, etc.) to identify suitable native species.

• In 2004, Oakland County worked with the MNFI staff to inventory the natural areas of the entire County. Then this information was mapped and provided to each community, along with assistance from the County on ways the natural features could be better preserved.

**The Headwaters Project**

In 2000, the Township’s natural resources were studied through The Shiawassee and Huron Headwaters Resource Preservation Project (Headwaters Project). The purpose of this study was to inventory critical natural resource areas for protection and to guide development decisions in the six participating communities in the project study area, one of which is Springfield Township. The inventory was conducted by biologists, botanists, and wildlife specialists with the Michigan Natural Features Inventory (MNFI), a partnership between the Michigan Department of Natural Resources and The Nature Conservancy. One main result of the inventory is the identification of 24 high quality, environmentally sensitive areas, such as the I-75 Woods, the Long Lake Natural Area and the Huron Swamp Complex. The following discussion provides information gleaned from this study and other natural resource studies done within the Township.
Watersheds and Headwaters

As mentioned above, Springfield Township is made up of four different watersheds, and contains the headwaters of the Huron River, the Clinton River and the Shiawassee River. Each river has its own watershed, or drainage area, which is the land area from which all surface water will eventually drain into that river.

**Huron River Watershed.** The Huron River watershed is located in the southern portion of the Township and comprises approximately 7,200 acres of the community. Current development trends show that residential land uses dominate the watershed, averaging one dwelling unit per 1 to 5 acres. Recreation and conservation land is another prominent land use, with Indian Springs Metropark being the largest area. The Canadian National Railroad is a significant transportation corridor that runs diagonally through Springfield Township and abuts the northeast boundary of the Huron Swamp.

Substantial information is available regarding the quality of the Huron River. The Huron River Watershed Council has coordinated monitoring sites, one located three and a half miles downstream from its origin at Big Lake. This monitoring site is the closest to the headwaters. The study found that the water quality at this site was exceptionally high and this was the highest quality part of the river in all the Council's monitoring sites. The Watershed Council notes, however, that the benthic populations have decreased over the past few years, and sedimentation has increased, resulting in compromised water quality. (Note: These studies base water quality indicators upon the benthic population, or insects and other organisms that spend at least part of their lifecycle on the bottom of a river.) The U.S. Environmental Protection Agency also cites that human use of the river and loss of wetlands are more serious indicators of compromised health. Also, the watershed's health is highly vulnerable due to population increases, and moderately vulnerable due to loss of rare aquatic species, urban runoff, agricultural runoff, hydrological modification, and air deposition.

As noted above, the river's headwaters emanate in southern Springfield Township, in hilly topography with several areas of very steep slopes. The soils in the upland areas tend to be well-drained and sandy, while in the lowlands tend to be a mixture of well-drained, moderately well-drained and very poorly drained loamy and mucky soils. The dominant upland vegetation is northern hardwood forests. The dominant lowland vegetation is hardwood wetland communities, with some emergent wetland and shrub/scrub vegetation. Surface waters and wetlands cover a significant portion of the watershed in Springfield.
Township. The wetlands, though scattered throughout the watershed's lowlands, are mostly focused along the riparian corridors. The largest wetland complex is at the headwaters of the Huron River in Springfield Township and the Huron Swamp MNFI site.

Shiawassee River Watershed. This watershed encompasses most of the western half of Springfield Township and makes up approximately 9,000 acres of the community. As in the Huron, residential land use dominates this watershed as well, averaging one dwelling unit per 2.5 to 5 acres. Commercial land use comprises a very small portion of total land use, with centers in western Springfield Township and at the I-75 / Holly Road intersection. Recreational and conservation land is another use in the area with Springfield Oaks and the Township's Shiawassee Basin Preserve being the largest areas. Important transportation corridors include I-75 running diagonally along the eastern edge of the watershed, Rattalee Lake Road as an important arterial road, and the Canadian National Railroad.

The water quality of the Shiawassee is not well studied. General information from the U.S. Environmental Protection Agency notes that the watershed's health is highly vulnerable due to fertilizer and pesticide runoff, and siltation, and moderately vulnerable due to population increases, hydrologic modification, and air deposition.

The topography within this watershed is varied, changing from very hilly in the central portion of the Township, to undulating and very hilly in the northern part, to very hilly with several areas of steep slopes in the western part. The upland soils are moderately to well drained, and lowland soils are a mixture of poorly-drained types. Vegetation is comprised of northern hardwood in the uplands and lowland hardwoods, lowland conifer emergent and aquatic wetlands, and shrub/scrub vegetation. Significant surface waters include the Shiawassee River corridor, Eliza Lake, Long Lake, and Davis Lake.

Clinton River Watershed. The Clinton River watershed covers approximately 6,300 acres in the northeastern part of Springfield Township. Existing land use is dominated by residential development at one dwelling unit per 1 to 2.5 acres. Higher density residential and areas of commercial and industrial uses exist along Dixie Highway. I-75 is also an important transportation corridor in the watershed.

Water quality information is very limited. However, the U.S. Environmental Protection Agency cites wetland loss as a more serious indicator of decreased watershed health, and
the watershed is moderately vulnerable due to threats to aquatic species at risk, agricultural runoff, population increases, hydrologic modification, and air deposition.

The topography of the watershed in Springfield Township is made up mostly of upland areas, although several areas of steep slopes exist focused mainly where the uplands abruptly change to lowlands at the Clinton River riparian corridor. The soils are a mixture of well-drained soils and soils with wetness or slow permeability in the uplands, to very poorly drained soils in the lowlands. Vegetation within the watershed consists mostly of northern hardwoods with smaller areas of pines. Wooded wetlands are located along the riparian corridor.

**Wetlands, Lakes and Groundwater**

Other water features in the Township include wetlands, lakes and groundwater resources. These systems are integral parts of the functioning of each watershed and play important roles in controlling, holding and filtering water before it reaches the river corridors.

Wetlands and lakes are found throughout Springfield. There are twenty-five lakes identified within the Township and several large areas of wetlands. The largest lakes include Big Lake, Waumegah Lake, Eliza Lake, Dixie Lake and Susin Lake. Most of the shoreline of these bodies of water has been developed for many years. The largest wetland system within the Township is Huron Swamp, located in Indian Springs Metro Park. Other large systems include wetlands adjacent to the Shiawassee River starting at Shiawassee Lake and heading north to Long Lake and its contiguous wetlands in the Shiawassee Basin Preserve. Important wetland systems are also found in the I-75 Woods MNFI site and the Bridge Valley site. These resources are significant for their wildlife habitat, water filtration, and ground water recharge capacities. The Headwaters Project notes that groundwater flow information is severely lacking. It recommends that future studies of both water quality and ground water flow should be conducted.

The map titled "Wetland/Riparian Systems" on the following page shows the extent of these water features throughout the Township.
LEGEND

- **POTENTIAL NATURAL AREAS (MNFI SITES)**
- **FIELD INVENTORIED MNFI SITES**
- **SPRINGFIELD TOWNSHIP GREEN INFRASTRUCTURE**

WETLAND/RIPARIAN SYSTEMS

- **\(\wedge\)** Rivers/Streams
- **\(\wedge\)** Floodplain
- **\(\wedge\)** Lakes
- **\(\wedge\)** Wetlands
- **\(\wedge\)** Watershed Boundaries

Map #9

WETLAND/RIPARIAN SYSTEMS

SPRINGFIELD TOWNSHIP

OAKLAND COUNTY, MICHIGAN

Plot Generation Date: June 3, 2008
Upland Landscape Fabric

Upland areas are also an important component of the Township's watersheds. Hills and ridges define the boundaries of each watershed, directing water to one river or another. Uplands that are vegetated also act as infiltration areas, absorbing water and reducing overland flow to wetlands, streams or rivers. Uplands also absorb water as long as they are covered with vegetation and have not been built upon with roads, parking lots or buildings. Another upland feature, steep slopes, also needs vegetation to be stable. They become particularly vulnerable to the erosive power of rain if they have been stripped of their vegetation or cut during construction activities.

Uplands also play a very important role in the health of adjacent wetlands. Many wetland complexes have been named by the Headwaters Project as high priority natural areas. Due to the relatively steep topography in northwest Oakland County, the health of these wetlands is heavily influenced by activities that take place in the adjacent uplands. For example, prairie fens (a wetland type) are developed and sustained over time by a constant flow of cold, calcium-rich groundwater. If something happens that alters that flow of groundwater, such as road construction near the wetland margin, the unique flora and fauna of the fen will slowly disappear over time. Therefore, although many of the second growth upland forests, brushlands, and old farm fields are not high priority ecosystems, they still provide important ecological services to the adjacent high-quality wetlands. In addition, many of these degraded upland sites may be restorable to historic vegetation types such as oak barrens, savanna, and oak-hickory forest.

The map titled "Upland Landscape Fabric" on the next page shows where these uplands lie in relation to the watershed boundaries and MNFI sites.
MNFI Field Inventoried Sites

The inventory process through the Headwaters Project resulted in 24 potentially significant sites throughout the community. Many of the sites identified by MNFI are relatively large and diverse, consisting of a variety of natural communities from uplands to wetlands and from forests to grasslands. When several natural communities are found together in one site, ecologists call it a landscape complex. The habitat diversity found at many of the sites in Oakland County is primarily due to the irregular topography, which ranges from steep sandy slopes to broad, flat outwash channels. Many of the plants and animals that have evolved in this diverse landscape require a variety of habitats to breed and survive. Landscape complexes made up of a mosaic of open and forested wetlands and uplands provide the habitat diversity needed for many birds, reptiles, amphibians, and mammals. For example, Blanding's turtles, which utilize small ponds for hibernation and feeding, require sunlit areas with moist, sandy soil, typical of old fields and forest clearings for egg laying. In addition, the relatively large size of landscape complexes provides the necessary space for natural communities and individual species to adapt to the changing environment, allows ecological processes to occur more naturally, and provides natural buffers for species that are sensitive to human activities. For example, many woodland and grassland songbirds and raptors require forests and grasslands that are at least 100 acres in size.

Of the 24 sites identified by the MNFI through the Headwaters Project, the three highest-rated sites received field inventories, including the I-75 Woods, Long Lake Natural Area, and Huron Swamp Complex. Through the field inventory, boundaries were drawn around the natural features to identify the most sensitive features within the site, and provide guidance in applying management techniques. Refer to the map on page 148 for MNFI site locations.

I-75 Woods. This site is approximately 425 acres and is characterized by a large, high-quality, and highly diverse wetland complex that lies along a stream corridor and a large upland forest dominated by oak and hickory. The forest contains associated wetlands with numerous shallow depressions (vernal pools) that fill with water in the spring, providing prime breeding habitats for invertebrate, which are important food sources for migratory song birds and amphibians. Bordering the forest are several old fields dominated by a variety of exotic (non-native) plants. Dry-mesic forest, emergent marsh, wet meadow, tamarack relic confers swamp, red pine, old field, and prairie fen are the natural communities that make up the site. Many native plant species were documented in the wetland complex, and the upland areas. Several old abandoned fields are found at the site
and are almost completely dominated by exotic plant species. One field, however, located in the southern portion of the site, contains a significant number and abundance of native, dry sand prairie plant species, such as wild lupine, big bluestem, Indian grass, and showy goldenrod.

**Stewardship:**

1) The wetland complex should be afforded maximum protection from disturbance. No grazing, timber cutting, Off Road Vehicle (ORV) traffic, excessive foot traffic or mountain biking should be allowed.

2) Additional development within the boundary should be avoided, minimized or designed to have minimal impact.

3) Immediate steps should be taken to eliminate purple loosestrife in the wetland complex and a yearly monitoring plan for this and other species should be developed and implemented.

4) The use of prescribed burning as a management tool should be considered.

5) In the uplands, immediate control of garlic mustard should be undertaken and a yearly monitoring plan for this and other exotic species should be developed and implemented.

6) Restoration in the uplands of oak barrens and oak savanna should be undertaken.

7) Future development that does occur within this area should be designed to maximize contiguous natural open space, and provide adequate buffers to the natural communities. Any development that occurs should be required to address water runoff, percolation and groundwater consumption. The following are ways this can be accomplished:

   A) Minimize size of lawns.

   B) Landscape with native plants, particularly prairie species.
C) Keep precipitation on-site (especially on ridge-tops).

D) Require wells to be drilled to a depth below the aquifer that supports the fen.

E) Maintain adequate septic systems.

F) Encourage the management of parcels immediately adjacent to the site as natural buffers to the adjacent natural communities.

**Long Lake.** The Long Lake Natural Area, approximately 600 acres, consists of open water, relic conifer swamp, wet meadow, prairie fen, and an upland forest with adjacent old fields. This site received the highest rating of the 24 sites identified in the Township by the Headwaters Project. It is an integral part of an even larger natural complex bordering the headwaters of the Shiawassee River. Together with the adjacent Rattalee Lake site (Rose Township) and I-75 Woods site, they form an undisturbed, intact and highly significant natural complex of exceptional ecological value. The existing site encompasses a variety of habitats suitable for different life stages or activities critical to the survival of many wildlife species.

Particularly unique to the Long Lake Natural Area, and considered very rare, is a high quality prairie fen which supports a number of native plants and animals. The fen extends along the entire length of the river corridor, approximately 265 acres. It is one of the largest known remaining prairie fens in southern Michigan. Based on an analysis of 136 prairie fens known in Michigan, Long Lake is ranked as the highest quality occurrence of prairie fen in the state due to its large size, diversity of high quality terrestrial and aquatic habitats, and high species richness, including the presence of several state-listed plant and animal species.

Adjacent to the prairie fen to the north is a 200 acre block of second growth upland forest. This forest is important habitat for numerous migratory birds and native amphibian species because of its size, occurrence of vernal pools, and proximity to the large wetland complex. In southeast Michigan, where extensive fragmentation of the natural ecology has occurred, these remaining intact associations of natural communities greatly increase the ecological value of the site.
Stewardship:

1) Because of the significance of this site and relative fragility of the prairie fen, this site should be afforded maximum protection from disturbance.

2) No grazing, timber cutting, ORV traffic, mountain biking, or excessive foot traffic should be allowed within the prairie fen and adjacent wetlands.

3) Additional development within the boundary should be avoided, minimized or designed to have minimal impact.

4) Populations of exotic plant species within the prairie fen complex, such as purple loosestrife and glossy buckthorn, should be monitored and controlled.

5) Fragmentation of both the wetlands and uplands by utility rights-of-way, trails and roads should be avoided to minimize impacts of exotic species and predation of bird and turtle nests.

6) It may be advisable to conduct prescribed burns in the prairie fen to reduce shrub and tree growth and enhance establishment of prairie plants.

7) The oak-hickory forest will require prescribed burns and/or tree thinning in order to stimulate oak regeneration in the understory, as well as herbaceous plants.

8) The primary concern is the protection of the flow and quality of groundwater that supports the prairie fen. Future development within this area should be designed to maximize contiguous natural open space, and provide adequate buffers to the natural communities. Any development that occurs should be required to address water runoff, percolation, and groundwater consumption. The following are ways this can be accomplished:

   A) Minimize size of lawns.

   B) Landscape with native plants, particularly prairie species.

   C) Keep precipitation on-site (especially on ridge-tops).
D) Require wells to be drilled to a depth below the aquifer that supports the fen.

E) Maintain adequate septic systems.

F) Encourage the management of parcels immediately adjacent to the boundary as natural buffers to the adjacent natural communities.

**Huron Swamp Complex.** While the surrounding landscape is characterized by steep hillsides and kettle depressions, the Huron Swamp site consists of approximately 1,850 acres of broad, flat, sandy outwash plain. More than two-thirds of the site is dominated by southern swamp and southern mesic forest with scattered pockets of southern wet meadow, southern shrub-carr, and vernal pools, and a prairie fen bordering a small lake. The area constitutes the headwaters of the Huron River and supports many native plant and animal species. This site provides important breeding habitat for amphibians and insect-rich food resources for migrating songbirds. It is also a critical breeding habitat for forest interior songbirds.

A pair of red-shouldered hawks was documented in the Huron Swamp during the field survey. Once common throughout southern Michigan, this occurrence represents one of seventeen known nesting areas in the entire southern Lower Peninsula, and one of only six known nesting areas in southeast Michigan.

**Stewardship:**

1) Maintain the closed canopy of the southern mesic forest and southern swamp to ensure habitat for forest interior species.

2) Annually monitor for garlic mustard and glossy buckthorn. Remove all invasive plants from the fen, forest, and southern wet meadow.

3) Develop and implement a management plan to reduce the number of white-tailed deer.

4) Maintain old fields as grasslands to provide habitat for grassland nesting birds.

5) Conduct prescribed burns to encourage the growth and reproduction of native prairie species in the uplands.
6) Private lands surrounding the site should be encouraged to provide a native plant buffer between high use areas and the swamp. These private properties can also lessen their impact on the Huron Swamp by doing the following:

A) Minimize the size of lawns.
B) Landscape with native plants.
C) Maintain adequate septic systems.
D) Designate areas for lawn clippings that are a safe distance from the natural buffer area.
E) Use mulching mower.

7) Minimize runoff of chemicals from the golf course into the adjacent natural areas. Other management practices that can be used at the golf course include:

A) Develop and naturalize detention ponds.
B) Use safe procedures for handling chemicals.
C) Incorporate natural buffers around waterways, using native plants.
D) Minimize chemical inputs.
Other MNFI Sites

The remaining 20 MNFI sites identified through the Headwaters Project, also hold significant natural areas worthy of protection. Even though these sites did not receive field inventories, the process used to identify potentially significant sites was proven credible by what was found during the few field inventories conducted. If the initial process had been flawed, the field inventories would have uncovered this. Therefore, confidence is high that the 20 remaining sites also contain environmentally significant features. Future efforts should be made to conduct field inventories on these sites to further define the quality and mix of ecosystems within each. With this information, appropriate management and preservation techniques can be determined. Refer to the map titled "Michigan Natural Features Inventory (MNFI) Sites" on the following page for MNFI site locations.
Other Important Natural Areas

Springfield Township has several other areas that were identified in previous studies as significant natural resources. The following briefly describes these areas.

**Bridge Valley** - The combination of several associated plant communities comprises a relatively undisturbed 151 acre example of how the landscape appeared prior to European settlement. One special-concern and two threatened plant communities are found at this site as well as a prairie fen. Part of the site is registered with the Michigan Natural Areas Council.

**Huckleberry Lake** - This site is an 11 acre relict conifer swamp of notable significance. The swamp is surrounded by a bog and glacial brown water pond.
Historic Context

Springfield Township’s road network follows section and half-section lines typical of rural communities developed during the mid-nineteenth century. Early settlement of Springfield Township began in the 1830’s in Davisburg and was soon followed by the building of the Detroit and Milwaukee railroad. A school, hotel, and grist mill contributed to the booming of the village in the 1840’s and 1850’s. Agriculture was the mainstay of the local economy, and the railroad provided farmers with a means of travel and a way to ship and receive produce, supplies, and farm implements.

By 1872, all the Township was settled following the grid established by the American Rectangular Land Survey System of 1785. The main features of the system are the survey lines that were to be oriented with cardinal directions and that the land was divided into six-mile square sections (640 acres), quarter sections (160 acres), and quarter quarters (40 acres). Most roads followed section lines except where topographic and water features are significant.

By the 1920’s, the Saginaw Turnpike or what is now Dixie Highway was paved north from Pontiac and south from Flint with the two operations meeting in Springfield Township. At this time, agriculture was declining as a major economic activity and many local residents began to travel along this route to Pontiac and Flint for employment in the automotive factories. More changes occurred with the construction of Interstate 75 and the resulting increased accessibility, which accelerated residential growth since the 1960’s. The increased ready access to a major employment center, coupled with an attractive setting including some twenty-five lakes as well as headwaters of three rivers, has made Springfield Township one of the more desirable communities in northwestern Oakland County.

Despite all of the described changes, the rural landscape of Springfield Township still exhibits many of the features that are characteristic of its early settlement. One such feature includes rural roadways. Indeed, original 1872 roads have mostly retained a rural character with a narrow road surface, often of gravel and bordered with trees.

Source: Springfield Township Rural Road Tree Preservation Program.
Roadway Classification and Responsibility

Springfield Township has both private and public roadways. Private roads are the responsibility of the adjacent landowners, often a homeowners association. The following table shows an estimate of the private roads currently existing within the Township:

<table>
<thead>
<tr>
<th>Table 14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Private Road Surface Conditions</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paved (miles)</th>
<th>Unpaved - Gravel (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.96</td>
<td>3.81</td>
</tr>
</tbody>
</table>

Source: Springfield Township (2007)

The Michigan Department of Transportation (MDOT) and the Road Commission for Oakland County share the responsibility for operating and maintaining all public roads in Springfield Township. MDOT has operational responsibilities for the system of expressways and highways across the entire state. In Springfield Township, MDOT is responsible for maintenance and improvement of Interstate 75. I-75 traverses the Township with two interchanges, one at Dixie Highway and another at Holly Road. The remainder of Springfield Township's public roads, including Dixie Highway, fall under the jurisdiction of the Road Commission for Oakland County.

Roadway classifications are often confusing because planning agencies at each level of government will frequently use different designations for the same road. For this reason, a brief description of roadway classifications is necessary.

Act 51 of the Public Acts of 1951, as amended, charges county road commissions with the responsibility of classifying county primary and local roads. The classifications developed by county road commissions are subject to MDOT approval. Roads designated as primary roads must be of “the greatest importance.” This determination is based upon traffic volumes, primary generators of traffic served and other factors.

There are a total of 104.57 miles of public roadways in Springfield Township. Primary county roads include Davisburg Road, Andersonville Road, Ormond Road, Dixie Highway, Holly Road, and a portion of Oakhill Road. All remaining public roads are local county roads. Most primary
roads are paved while about half of local roads are not. Existing road surface conditions are as follows:

Table 15

<table>
<thead>
<tr>
<th></th>
<th>Paved (miles)</th>
<th>Unpaved - Gravel (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>22.73</td>
<td>0.77</td>
</tr>
<tr>
<td>Local (Non-Subdivision)</td>
<td>10.17</td>
<td>39.95</td>
</tr>
<tr>
<td>Local (Subdivision)</td>
<td>20.76</td>
<td>10.19</td>
</tr>
<tr>
<td>Total</td>
<td>53.66</td>
<td>50.91</td>
</tr>
</tbody>
</table>

Source: Oakland County Road Commission (2007)

Townships do not have direct jurisdiction over the roads and streets within their boundaries. However, certain statutes convey some authority over public roads to Township boards. The Township and Village Public Improvement Act gives Townships some authority to make road improvements to county roads. Another statute permits Townships to purchase and operate street cleaning and snow removal equipment on county roads. In each instance, all Township-initiated improvements or actions would require Road Commission for Oakland County approval.

Primary roads are established by the Road Commission for Oakland County upon approval of the Michigan Department of Transportation. By designating a road as part of the County Primary System, state and federal weight and gas tax revenues can be obtained for maintenance. All public roads not classified as interstate, state, or primary roads are local roads.

Additionally, the Road Commission for Oakland County published their "Report of the Strategic Planning Process 2007" Within this plan, Oakland County published the long range Strategic Priorities that they note as being identified by Springfield Township:

1) Improve intersection area on Dixie Highway at Big Lake Road and Deerhill Road on the Springfield-Independence border.
2) Add left turn phase to signal at Davisburg and Dixie Highway
3) Pave Tindall Road from Davisburg to Rattalee Lake Road.
Published in November of 1998, the Township completed The Springfield Township Tree Preservation Program. The purpose of this project was to develop a plan to preserve the trees and the rural character of road corridors within the Township. The plan contains many diagrams and outlines several policies of the Road Commission for Oakland County and details their effects upon the rural character of the Township.

Traffic Counts and Road Conditions

Springfield Township road conditions vary. Most roads used as arterials (and thus with heavier traffic) are paved, as are all public roads within new developments. The remainder of roads are unpaved. The map on page 155 depicts traffic counts on the more heavily traveled roads within the Township and also shows which roads are paved. Excluding I-75, Dixie Highway is the most heavily traveled. Andersonville, Davisburg, Holly, and Ormond are also heavily traveled. By interpreting traffic flow from traffic counts, much of the internal traffic of the Township centers on accessing I-75 and Dixie Highway.

Table 16 illustrates daily traffic counts. Counts have been provided for both 1998 and 2006. The following table compares traffic data from 1998 at key road lengths. The data indicates there has been a modest increase in traffic in the southern portion of the Township, and a significantly larger increase in the northeastern portion. Increase in traffic counts corresponds with the location of new development.

<table>
<thead>
<tr>
<th>Road</th>
<th>1998</th>
<th>2006</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge Lake (from Davisburg to Rattalee Lake)</td>
<td>1,924</td>
<td>2,386</td>
<td>24%</td>
</tr>
<tr>
<td>Andersonville (from Big Lake to Farley)</td>
<td>4,673</td>
<td>4,346</td>
<td>-7%</td>
</tr>
<tr>
<td>Davisburg (from Dilley to Bigelow)</td>
<td>6,003</td>
<td>6,349</td>
<td>6%</td>
</tr>
<tr>
<td>Davisburg (from Dixie Hwy. to Bridge Lake)</td>
<td>2,304</td>
<td>3,465</td>
<td>50%</td>
</tr>
<tr>
<td>Tindall Road (from Davisburg to Rattalee Lake)</td>
<td>1,143</td>
<td>1,160</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: Road Commission for Oakland County (2006)
Table 16 (Continued)
Comparative Daily Traffic Counts for Selected Roads with Springfield Township

<table>
<thead>
<tr>
<th>Road</th>
<th>1998</th>
<th>2006</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dixie Hwy (from I-75 to Old Pond)</td>
<td>24,180</td>
<td>22,713</td>
<td>-6%</td>
</tr>
<tr>
<td>(from Old Pond to Davisburg)</td>
<td>21,748</td>
<td>21,308</td>
<td>-2%</td>
</tr>
<tr>
<td>(from Davisburg to Rattalee Lake)</td>
<td>14,040</td>
<td>15,522</td>
<td>11%</td>
</tr>
<tr>
<td>(from Rattalee Lake to E. Holly)</td>
<td>12,763</td>
<td>13,479</td>
<td>6%</td>
</tr>
<tr>
<td>(from E. Holly to Oakhill)</td>
<td>9,570</td>
<td>11,453</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Road Commission for Oakland County (2006)
Aquifer - A distinct band or layer of gravel, sand, or porous, fractured, or cavernous and vesicular rock capable of holding and/or conducting water. When fully charged, an aquifer is saturated with water.

Aquifer Recharge - The addition of water to an aquifer that occurs naturally from infiltration of rainfall and from water flowing over earth materials that allow water to infiltrate below the land surface.

Biodiversity - The variety of life on earth and the ecosystems they form.

Brownfield - A brownfield is real property which the redevelopment or reuse of may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Clustered or Open Space Development - Clustered development provides for closer grouping of homes through reduction of lot size on the most buildable portions of a site while, at the same time, preserving a large portion of the parcel (including environmentally sensitive areas) as undeveloped open space. When properly designed, a clustered development offers advantages including:

• greater environmental sensitivity and responsiveness to environmental regulations;

• protection of neighborhood character by providing permanent open space for common use;

• enhancement of the environment setting and potential dedication of historic or culturally significant features;

• creation of a wider variety of active and passive recreational uses;

• creation of a more diverse and architecturally interesting neighborhood;

• creation of a friendlier pedestrian environment, including walking and bicycling alternatives; and

• reduction in the need for and number of automobile trips.

Compatibility - Compatibility refers to the characteristics of different uses or activities or design which allow them to be located near or adjacent to each other in harmony. Some elements affecting compatibility including height, scale, mass, and bulk of structures. Other characteristics include pedestrian or vehicular traffic, and parking impacts. Other important characteristics that affect compatibility are landscaping and architecture. "Compatibility" does not mean "the same as". Rather, compatibility refers to development proposals being sensitive to, and maintaining the character of, existing development.
**Conservation** - The management or control of human use of resources and activities on the planet, in an attempt to restore, enhance, protect, and sustain the quality and quantity of a desired mix of species, and ecosystem conditions and processes for present and future generations.

**Community Facilities** - Public or privately owned facilities used by the public, such as streets, schools, libraries, parks, and playgrounds; also facilities owned and operated by nonprofit private agencies such as churches, settlement houses, and neighborhood associations.

**Density** – The number of families, individuals, dwelling units, or housing structures per unit of land.

**Drainage** - (1) Surface water runoff; (2) The removal of surface water or groundwater from land by drains, grading or other means which include runoff controls to minimize erosion and sedimentation during the construction or development, the means for preserving the water supply and the prevention or alleviation of flooding.

**Drainage System** - Pipes, swales, natural features and man-made improvements designed to carry drainage.

**Drainage way** - Any natural or artificial watercourse, trench, ditch, swale or similar depression into which surface water flows.

**Dwelling** – A structure or portion thereof which is used exclusively for human habitation.

**Ecosystem** - A community of plants and animals interacting with each other and their physical/chemical environment.

**Forest** - In the narrow technical sense, a vegetation community dominated by trees and other woody shrubs, growing close enough together that the tree tops touch or overlap, creating various degrees of shade on the forest floor.

**Forested Upland** - Areas consisting of mesic forests dominated by beech and sugar maples as well as dry-mesic oak hardwood forests on dryer sandy loams.

**Forested Wetlands** - Areas consisting of relict conifer swamps, and/or southern floodplain forests.

**Groundwater** - The supply of freshwater under the surface in an aquifer or soil that forms the natural reservoir for potable water.

**Habitat Fragmentation** - The alteration or breaking up of habitat into discrete or tenuously connected islands as a result of modification or conversion of the landscape by management activities.
Hydrology - The science of water, its properties, and movement (cycling) over and under land surfaces.

Intermittent Wetland - An herb or herb-shrub wetland along lakeshores or in depressions, experiencing fluctuating water levels seasonally and from year to year.

Land Use - A description of how land is occupied or utilized.

Land Use Plan - A basic element of the Master Plan, it designates the future use or reuse of the land within the Township, and the policies and reasoning used in arriving at the decisions in the plan. The land use plan serves as a guide to official decisions in regard to the proposed location, extent and intensity of development of land to be used in the future for varying types of residential, commercial, industrial, agricultural, recreational, educational and other public and private purposes or combination of purposes.

Master Plan - A comprehensive long-range plan intended to guide the growth and development of the Township and one that includes analysis, recommendations and proposals for the community's population, economy, housing, transportation, community facilities and land use.

Natural Area - A tract of land or water which has the following characteristics: has retained or reestablished its natural character, or has unusual flora and fauna or biotic, geologic, scenic, or other similar features of educational or scientific value, but it need not be undisturbed; has been identified and verified through research and study by qualified observers; may be coextensive with or part of a wilderness area or wild area; does not have any minimum or maximum area requirement.

Open Space - That part of the Township which has not been developed and which is desirable for preservation in its natural state for ecological, historical, or recreational purposes, or in its cultivated state to preserve agricultural, forest, or urban greenbelt areas.

Preservation - A land-use designation that signifies little or no human activity or use within the designated area.

Primary Boundary – Boundary representing the core area of the unique natural features of the site.

Restoration - A process of returning ecosystems or habitats to their original structure and species composition.

Riparian - Pertaining to anything connected with or immediately adjacent to the banks of a stream or other body of water.

Right-of-Way - The right of passage over the property of another. More commonly, it refers to the land on which a road or railroad is located. The pathways over which utilities and drainage ways run are usually referred to as easements.
Road System – The classification of streets and highways by their diverse functions and design. The following is a commonly used hierarchy of streets and highways for planning purposes:

Local Roads – A road providing access to individual properties.

Collector – A road providing access and mobility within residential, commercial and industrial use and connecting local roads to arterials.

Arterials – A road that serves through-traffic movement across a community, often subject to controlled access from properties fronting on the right-of-way.

Interstate – A multi-lane highway with full grade separation and controlled access. It basically serves intercity and interstate traffic.

Secondary Boundary – Boundary representing a minimal area for which special protections or planning techniques are needed to maintain the unique natural features within the primary boundary.

Septic System - A tank plus a leaching field or trenches in which the sewage is purified by bacterial action.

Strip Development - A mélange of development, usually commercial, extending along both sides of a major road. Usually a strip development is a mixture of auto-oriented enterprises (e.g., gas, motels, and food stands), truck-dependent wholesaling and light industrial enterprises, along with the once rural homes and farms overtaken by the haphazard leapfrogging of unplanned sprawl.

Surface Runoff - The part of precipitation and snowmelt that reaches streams by flowing over the ground without penetrating the soils.

Traffic Calming Measures – The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users. Examples include speed bumps and cul-de-sacs.

Trip - The journey from a point of origin to a destination.

Water Course - Any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows in a definite direction or course, either continuously or intermittently, and has a definite channel, bed and banks, and includes any area adjacent thereto subject to inundation by reason of overflow or flood water.

Watershed - The area drained by a given stream, or other body of water.
**Wetland Complex** – Two (2) or more individual wetlands in close proximity that are connected spatially and/or hydrologically.

**Zoning** – The dividing of a municipality into districts and the establishment of regulations governing the use, placement, spacing and size of land and buildings.
I hereby certify that on February 12, 2009, the Board of Trustees of the Charter Township of Springfield formally approved this updated and amended Master Plan including the accompanying amended Future Land Use Plan, pursuant to the requirements of the Michigan Planning Enabling Act, Public Act 33 of 2008.

Laura Moreau, Clerk
Charter Township of Springfield