

Chapter Three: Growth Management Plan

INTRODUCTION

SECTION 3.1: INTRODUCTION

The Growth Management Plan is intended as a policy framework for the future growth of Tredyffrin Township. This plan has been developed using information gathered through geographic information systems (GIS) analysis, field work, stakeholder focus group discussions, Township staff input, public meetings and deliberations by the Comprehensive Plan Steering Committee. The plan contains recommendations for policies intended to help build upon what is most desirable about Tredyffrin Township as a place to live, work, and play.

The Growth Management Plan is intended to provide a guide for day-to-day decision-making of Tredyffrin Township's elected and appointed officials and staff regarding development. It is also intended to provide clear guidance to public and private organizations, businesses and residents about the direction in which the Township wishes to proceed. Since meeting many of the Township's challenges and responding to its opportunities will require coordinated efforts among many parties, it is imperative that this plan establish a clearly defined framework for the Township's development future.

The Growth Management Plan focuses both on protecting what makes the Township a desirable place to live and on how development and revitalization may be harnessed to invigorate selected areas. The land use plan describes the preferred type, intensity, and distribution of land uses in Tredyffrin Township for the next 20 years. The next section describes ways that modifications to the transportation network can help resolve existing circulation problems and provide future mobility for drivers, cyclists, pedestrians and transit riders. The housing element discusses how to meet the residential needs of current and future Township residents. The environmental protection and the historic preservation elements consider the protection of existing Township resources. The parks, recreation and open space, and community facilities elements describe the manner in which residents and employees will continue to be provided with local amenities and services and the utilities element identifies how public infrastructure will continue to be used to support existing and future development and protect public health and safety.

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LAND USE PLAN

SECTION 3.2: LAND USE PLAN

GOAL:

Realize a future overall development pattern that is generally consistent with the existing pattern, accommodating attractive redevelopment and supporting economic opportunity while preserving the character of the Township.

OBJECTIVES:

1. Encourage mixed-use development at selected locations along major transportation corridors, including the vicinity of the Paoli station along Lancaster Avenue as a tool for revitalizing existing communities and increasing access to public transportation.
2. Locate businesses and employment centers within major transportation corridors, particularly the US 202 and Lancaster Avenue corridors, in order to maximize accessibility for employees and clients and limit traffic impacts on residential areas.
3. Accommodate new non-residential development in areas where this kind of use is already established and where it supports other goals of the plan.
4. Maintain or enhance the character of existing residential neighborhoods.
5. Provide locations for new and revitalized retail and other commercial uses to meet the needs of residents for goods and services.
6. Encourage prospective commercial and residential development that will result in the creation of substantial acreage of permanent and contiguous open space and significant publicly accessible areas.

The Land Use Plan (Figure 3.2.1) serves as the focal point of the Growth Management Plan. The Plan describes the preferred future distribution and interrelationship of land uses throughout the Township, from residential neighborhoods to open space and natural resource protection areas, from schools to office parks and commercial retail developments. All of the subsequent elements of Chapter 3 act in a supporting role for the framework set out in this future land use plan. The Land Use Plan is the reference

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against which land use decisions and major public expenditures can be measured for the next ten to twenty years. The Land Use Plan is concerned with the proposed location, intensity, and amount of different uses, mirroring the values, needs, and expectations of the residents of Tredyffrin Township.

The Land Use Plan, as well as the other specific elements of the Growth Management Plan, is oriented toward planned evolution of the Township through the year 2030. It reflects modest population growth, a balanced land use mix, conservation of natural and cultural resources, and efficient utilization of the existing local road network and servicing systems. The Growth Management Plan is based on a 2030 population for the Township of about 32,000, and an increase of about 1,500 housing units above the present inventory.

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INSERT FIGURE 3.2.1 LAND USE PLAN

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Major Planning Concepts

The Land Use Plan has been developed in order to build upon and enhance the existing attributes of Tredyffrin Township. The Land Use Plan contains the following major concepts that are highlighted on Figure 3.2.2:

1. Rail Station Mixed-Use Center in the vicinity of the Paoli R5 rail station;
2. Community Mixed-Use Center at the Chesterbrook Shopping Center ;
3. Revitalized and intensified Office and Business Park Centers along the US Route 202 Corridor.

Concept 1: Rail Station Mixed-Use Center

A Rail Station Mixed-Use Center, located along the Lancaster Avenue corridor, will incorporate a combination of existing buildings, adaptively-reused structures and new buildings that include ground floor retail shops, restaurants, and services with offices and/or residences above. The centers will provide public open spaces, safe and convenient access to transit, and expanded opportunities for pedestrian activity, including adequate sidewalks, on-street parking, landscaping, and pedestrian linkages to adjacent areas.

Not only does the Paoli area offer opportunity for community revitalization, but it can also become a community focal point and include opportunities for services that meet the needs of those who live and work in the vicinity. In addition, this mixed-use development can result in a center that provides for the housing and activity needs of those entering the work force and older residents interested in downsizing their residences. The area is served by public water and sewer; however, increasing the amount of development in this area may require additional capacity.

The center will provide multiple destinations in a relatively compact area. Such an arrangement allows residences to be close to jobs, jobs to be close to shopping, and shopping to be close to community facilities and everything accessible to public transit. Providing a mix of uses allows residents the opportunity to walk or drive to these locations and take care of multiple needs within one trip, potentially reducing the need for automobile trips that increase gasoline consumption and roadway congestion. A Rail Station Mixed-Use Center also offers the availability of transportation options, including transit for mobility elsewhere in the community and to regional destinations.

The current areas around the rail station are well established and include historic and

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community resources. The evolution of these areas into more active centers will require an understanding of this context. Adaptive reuse and new development projects that are constructed in these centers will enhance and build upon what is positive about these areas.

The Rail Station Mixed-Use Center is located adjacent to the following R5 station and convenient to SEPTA bus service:

Paoli – This center would be located to the north and south of the rail line and both sides of Lancaster Avenue. The concept is currently being advanced through the implementation of the Paoli Community Master Plan.

While many different uses are possible for these centers, some are more compatible than others, as noted below:

Recommended

- Mixed-use, multi-story buildings, with retail shops at ground level, and offices or apartments above;
- Commercial buildings interspersed with community uses such as a senior center, day care center, branch library, post office, educational center, museum, or indoor recreation facility;
- Residential uses within walking distance of community uses and commercial services;
- Pedestrian-oriented buildings, directly accessible from sidewalks along Lancaster Avenue and perpendicular and parallel streets and/or from a walkway system;
- Pedestrian-oriented lighting, benches, and landscaping.

Not Recommended

- “Big-box” retail, office, or other business uses that require large single-floor selling or working spaces;
- Single-floor, free-standing, single-use retail buildings;
- Large surface parking lots;
- Sparse or non-existent landscaping.

Concept 2: Community Mixed-Use Center

Community Mixed-Use Center will be a mixed-use hub of retail, office, and residential

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uses. A Center will be a developed or redeveloped area with walkable, compact concentrations of residential, retail, and office uses that also incorporate public open spaces and pedestrian amenities. They will also attract residents to these areas for shopping and dining. This concentration of activity may also improve the level of public transportation service.

The following Community Mixed-Use Center has been chosen for attention because it is an existing center with strong potential for the future. With careful redevelopment and revitalization, including traffic improvements, it can be used more efficiently and effectively, transforming it into a center of greater activity and amenity:

- Chesterbrook Shopping Center – This center includes the redevelopment of the shopping center into a multi-story mixed-use development that would be designed to take advantage of its proximity to Wilson Farm Park. This center may also include parking decks or other parking options.
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This concept is intended to provide attractive, convenient and economically sound mixed-use settings for living, working and shopping in an area that is accessible to transit. These areas can become destinations for the residential and office areas around them.

The list of Recommended and Not Recommended uses and characteristics discussed above with respect to Rail Station Mixed-Use Center are also applicable to Community Mixed-Use Center.

Concept 3: Office and Business Park Centers

Office and Business Park Centers are focused on the office and business park areas along the US Route 202 corridor and Atwater. Since these areas have such convenient access to the regional transportation network and the presence of business and industry already, it makes sense to look at ways that the redevelopment of existing business properties may occur to meet current and future demands in this sector and continue to provide sound fiscal support to the Township.

While these areas will be primarily for office uses, there may be opportunities for flex space that accommodates low impact light industrial development. The US Route 202 corridor may be expected to see redevelopment occur over the planning period as

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single-story office buildings are replaced by structures of three or more stories. Such redevelopment may include structured parking. As areas are developed and redeveloped, site planning and design features will include sidewalks, paths and transit stops in support of pedestrian mobility and safety.

Locations for this type of development include the following areas:

- Devon Park – This area, located in the eastern section of the US Route 202 corridor, is considered a primary focus for redevelopment. Here, single-story structures located along Devon Park Drive would be redeveloped as multi-story structures reaching a maximum height of four to six stories, with the four-story structures located closer to the residential development south of the Norfolk Southern freight line and the six-story buildings located closer to US Route 202.
- Cedar Hollow – This location, in the western section of the US Route 202 corridor, may be considered a favorable location for a second phase of redevelopment. Although this area includes some reasonably new office buildings, some other structures are older and may be susceptible to change. In this area, older manufacturing and distribution buildings and some offices will ultimately be replaced by multi-story structures reaching a maximum height of four to six stories, depending on the proposed development's location and the context of adjacent buildings.
- Chesterbrook – Recognizing that many office buildings in this location have been built and/or upgraded recently, the initial focus in this area would be related to retrofitting building sites to accommodate increased pedestrian and bicycle mobility and to provide both safe and convenient access to transit. This may be accomplished through paths connecting to an enhanced pedestrian network. In addition, surface parking lots may be adapted to provide direct, clearly marked pedestrian paths to and from a transit corridor, and shelters for waiting transit riders. Long-term redevelopment would be expected to mirror the Devon Park and Cedar Hollow areas.
- Atwater – The Atwater Corporate Center, most of which is in East Whiteland Township, is in the northwestern section with primary access on Route 29. Most of the corporate center remains to be developed. The area already is zoned for flex space and two of three phases of road improvements is complete. Future development in the Tredyffrin portion will connect to the planned Cedar Hollow Trail, which in turn will provide off-road access to the Chester Valley Trail.

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While many different uses are possible for these centers, some are more compatible than others, as noted below:

Recommended

- Multi-story office buildings with structured parking and the provision for limited retail to serve some of the needs of employees;
- Pedestrian- and bicycle-friendly buildings, accessible from sidewalks along roadways that include convenient and safe connections to the bicycle and pedestrian network and to transit;
- Appropriate lighting and landscaping.

Not Recommended

- Single-floor, free-standing, single-use buildings;
- Expanded surface parking lots;
- Sparse or non-existent landscaping.

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INSERT FIGURE 3.2.2 MAJOR PLANNING CONCEPTS

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Open Space Network

The Land Use Plan supports the recommendations of the 2005 Tredyffrin Township *Park Recreation and Open Space (PROS) Plan* (2005 pg. 56). These recommendations state the need to provide areas for natural resource protection, recreational activity, and safe, convenient options for residents, employees and visitors to travel within the Township without the need for an automobile.

The Land Use Plan recognizes the vulnerable natural features as identified in the 2005 PROS plan and it supports the conservation and/or preservation of significant natural resource areas, including waterways, riparian buffers, woodlands and steep slopes, together with deed-restricted permanent undeveloped lands, greenways, and a variety of designated recreational lands, to help create the open space system for the Township.

A continuous, interconnected, permanent open space network is intended to serve several purposes, as follows:

- Conserve areas of environmentally sensitive and culturally valuable resources;
- Establish a framework for trails for walking, hiking, and cycling;
- Permit pedestrian and bicycle access to a variety of destinations, including adjacent and nearby residential developments, schools, special natural features, shopping, and specific sites for recreational facilities;
- Provide for private open space and recreational space needs of the residents of residential developments;
- Provide appropriate buffers between roadways and residential areas;
- Provide appropriate buffers, where possible, between areas of incompatible land use;
- Provide landscaped setbacks along road corridors; and
- Maintain and enhance wildlife habitat.

Natural feature corridors, combined with projected linear buffers and greenways, are an important feature of the Land Use Plan. As well as the primary mechanism to protect natural resources, these areas may offer additional long-term benefits to the community, such as the control of potential stormwater flood damage and maintenance of stable groundwater levels.

Regulations governing land development are extremely important in helping to ensure

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the protection of environmentally sensitive and culturally valuable lands and in creating important buffers and greenways. Zoning alternatives such as residential clustering concentrates a tract's potential development on a small portion of the overall property, leaving the remaining area as permanent open space. In addition, requiring a similar environmental site analysis for smaller land development projects as for cluster developments could also promote the protection of environmentally sensitive and culturally valuable lands and the creation of important greenways and buffers.

In addition to residential clustering opportunities, permanent open space and greenways are supported by the establishment, through existing development regulations, of landscaped buffers and setbacks along road corridors and along the perimeter of developed tracts of land. In instances where tracts with incompatible land uses adjoin one another, the setback open space may also serve as a linear buffer, containing dense vegetation and/or berming to ensure adequate screening between the differing land uses. These corridors of open space also have the capability of becoming easements for pedestrian movement along the perimeter of major tracts of land as part of municipal-wide and multi-municipal networks of trails.

This system offers an opportunity to expand open space and recreational opportunities in the Township, and is intended to be complementary to existing local recreational facilities.

The Land Use Plan recognizes the importance of an extensive, interconnected open space network throughout the Township. The Plan includes several conservation components, consisting of the following elements:

- Environmental resource protection, storm water management, natural areas retention and conservation, including creeks, floodplains, wetlands, steep slopes, and woodlands;
- Recreational lands, including playing fields, parks, public and civic space and a golf course;
- Deed-restricted, permanently undeveloped lands set aside as part of land development approvals;
- Trail network, including local and regional facilities that are easily reached and interconnected through a network of trails and sidewalks;
- Multi-Modal Green Routes Network, consisting of pathways, trails and sidewalks within or just adjacent to the transportation right-of-way, that links the different

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parts of the Township and provides non-motorized access to open space and recreational sites as well as to schools, shopping, and cultural facilities;

- Historic resource protection, including conservation easements on identified sites, and resources;
- Buffers between incompatible land uses where feasible.

This network provides links among the major land use elements of the Land Use Plan, as well as setting aside existing natural features such as floodplains associated with Valley Creek and Trout Creek, and their tributaries. Although floodplain and wetlands regulations administered by the Township and by the Pennsylvania Department of Environmental Protection, U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency already prohibit or restrain development in these natural feature areas, there are many instances of development encroaching upon or directly having an impact on these sensitive areas.

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INSERT FIGURE 3.2.3 PARKS, RECREATION AND OPEN SPACE

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General Development Patterns by Use

The Land Use Plan contains ideas for residential, commercial, industrial, and institutional uses in the Township, as follows:

Residential

In general, low-density development is proposed for most of the areas of the Township that are intended to be residential. This reflects the single-family detached dwelling character of the Township and reinforces this quality into the future. Opportunities to create new areas of medium- and medium-to-high-density residential use are provided in the Rail Station Mixed-Use Center near the Paoli station and at the Community Mixed-Use Center proposed for the Chesterbrook Shopping Center. These are all areas where retail services, jobs, and either existing transit or the potential for new transit are within walking distance from residences. In response to these factors, these areas have been designated as the most appropriate locations in the Township for higher residential densities.

Low-density development is appropriate for tracts generally located in the northwestern portion of the Township. This development will follow the principles of cluster subdivision that seek to maximize permanent open space and minimize the effect of new development on sensitive natural features.

Commercial

Most major office and retail development and redevelopment will occur in Mixed-Use Centers and Office and Business Park Centers. However, there will be opportunities for the development and redevelopment of commercial properties elsewhere in order for existing businesses to expand and new businesses to locate in the Township. Areas designated for this activity include the following locations:

- Lancaster Avenue, between the intersection with PA 252 on the west and the Township line on the east;
- Gateway Shopping Center
- Yellow Springs Road near the East Whiteland border

Industrial

Industrial uses are designated to continue along the US Route 202 corridor in the areas identified for Office/Business Park use. Although heavy industry is not a reasonable

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current prospect, the future may present additional opportunities for light industrial operations with minimal environmental impacts to locate within the Township. This type of development could occur in the vicinity of Cedar Hollow Road and along Devon Park Drive. Such development may be more likely and appropriate in the vicinity of Cedar Hollow Road as compared to Devon Park Drive because of the strong potential for new office structures along Devon Park Drive.

Institutional

Institutional buildings, including schools operated by the Tredyffrin/Easttown School District as well as private education establishments, should be maintained and upgraded over the planning period. Also included are the Township municipal building, public libraries, and places of worship.

Fiscal Impacts of the Land Use Plan

The Land Use Plan has been developed in consideration of achieving greater efficiencies for Tredyffrin Township in providing services through the planning period, particularly with regard to utilities, transportation and public safety. Focused growth and investment in the Mixed-Use Centers and the Office and Business Park Centers is a model for development that will serve the Township well in controlling costs. In particular, it focuses redevelopment in areas with public water and sewer. It also may provide opportunities to improve the Township's transportation network as part of these projects should be funded in-part or entirely by others.

More recent suburban growth has led to a development pattern that is highly dependent on the automobile. Such a pattern has tended to promote longer-distance trips for shopping and services. In contrast, increasing the number of residents in these Mixed-Use Centers allows for a "captive" market for local businesses. In addition, central locations that provide for the needs of those who live and work in the Township may allow "park once" opportunities for those who reach these destinations by car but can meet multiple needs on foot once they arrive. They provide similar benefits to those who arrive by transit, on foot or by bicycle.

The Office and Business Park Centers that have been built along the US Route 202 corridor will continue to evolve and redevelop in those locations, making the most of this regional transportation infrastructure that can provide strong regional access to these employment centers while potentially minimizing the need to upgrade Tredyffrin

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Township's local roads. The intention of the Centers is to minimize the impact on the School District's finances by limiting new residential developments while focusing on multi-family housing and focusing redevelopment on commercial areas.

Redevelopment and mixed-use development will enable greater efficiencies for public services such as utilities, transportation and public safety. However, for services such as education, the fiscal impact will also greatly depend on the ability to manage the pace and type of growth. As discussed in Section 3.8, Community Facilities & Utilities Plan, school capacity will be an important determinant of future costs for residents. Managing residential growth to reflect the capacity of such services could minimize school tax increases to present and future residents.

A concentration of residential, commercial, and mixed-uses in designated areas should make upgrades of service networks more economically feasible than providing those same services to a more dispersed pattern of development. In addition, new development in these designated areas should enhance existing commercial concentrations within the Township, providing local employment opportunities and protecting key elements of the Township's tax base.

Relationship of the Land Use Plan to Local and County Plans

A total of seven municipalities border Tredyffrin Township including Schuylkill Township to the north, Charlestown Township to the northwest, East Whiteland Township to the west, Willistown Township to the southwest, Easttown Township to the south, Radnor Township to the southeast, and Upper Merion Township to the east. All municipalities are in Chester County except Radnor Township, which is located in Delaware County, and Upper Merion Township, which is located in Montgomery County.

Schuylkill Township

Schuylkill Township is one of three municipalities that comprise the northern border of Tredyffrin Township. The land along the border that the two Townships share is zoned for residential R-1 and is comprised of individual residential lots with open space or utilities scattered along the border. The eastern edge of Schuylkill Township also includes a portion of the Valley Forge National Historical Park.

Schuylkill Township adopted its Comprehensive Plan in 1991 then adopted an addendum to the land use element of the 1991 Comprehensive Plan in 2005. The

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Township worked with Phoenixville Borough, and Charlestown, East Pikeland, East Vincent and West Vincent Townships on a multi-municipal Comprehensive Plan, which was adopted in 2007.

As a precursor to the multi-municipal Comprehensive Plan, Schuylkill Township developed a set of guidelines for development in conjunction with their Comprehensive Plan Addendum, adopted in 2005. This addendum is meant to update the land use element of the Comprehensive Plan. The premise follows the Congress for the New Urbanism idea of the transect, which allocates different land uses and intensities based on proximity to the more urban Phoenixville Borough. The guidelines and best practices set forth in the Addendum will form the basis for an amendment to the Schuylkill Township Zoning Ordinance and the Subdivision and Land Development Ordinance.

Charlestown Township

Charlestown Township shares a small border with Tredyffrin Township on the northwestern corner of Tredyffrin. The land uses in Charlestown Township along the border are comprised solely of either low-density residential or vacant lots. These uses are compatible with Tredyffrin's existing and future land use plan which does not recommend intense development for that area.

Charlestown Township updated its 1976 Comprehensive Plan in December of 2001. The plan is a call to protect and conserve the natural lands and encourage growth in appropriate areas of the Township. The plan does not call for any major changes along its border with Tredyffrin Township.

East Whiteland Township

East Whiteland Township shares a 2.4-mile long border with Tredyffrin Township on its western edge. Most of the boundary area has similar uses on each side of the municipal line. East Whiteland updated its Comprehensive Plan in 2001. The two main uses in East Whiteland along the Tredyffrin boundary are single-family detached housing and recently developed office space along Valley Stream Parkway. On the northern boundary, the Atwater business park located along Route 29 is planned to include 2.6 million square feet of new development. This development also extends into Tredyffrin Township. Additional changes planned for the land uses adjacent to Tredyffrin Township include the conservation of some open space in small clusters along the border. On the

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eastern boundary, adjacent to the Cedar Hollow Office and Business Park area, “Uptown Worthington”, a large mixed-use town center is planned.

Over the next few years, coordinated planning activities involving the two Townships will be required relative to land development that straddle or are adjacent to the municipal boundary. In addition, sewer planning will also be pursued through intermunicipal cooperation.

Willistown Township

Willistown Township shares a small border with Tredyffrin Township along the western edge of the municipality. The land uses in the area comprise mainly of single-family residential, which are similar to the uses within Tredyffrin Township. Along Lancaster Avenue there are commercial uses surrounded by light manufacturing facilities which continue into Tredyffrin. Tredyffrin Township will need to continue to coordinate with Willistown Township with regards to the implementation of the Paoli Community Master Plan that spans both Townships, and to provide for consistent corridor planning along Lancaster Avenue (US 30).

Easttown Township

Easttown Township is located along the southern boundary of Tredyffrin Township and is part of the same school district. At the Township boundaries, the land use is mostly low-density single-family detached housing on both sides of the border. The areas along Lancaster Avenue are either commercial or mixed-use in character. Land uses along the boundary of the two Townships appear to be compatible.

Easttown Township recently updated its Comprehensive Plan. The plan proposes to increase the residential density along the Lancaster Avenue corridor through mixed-use development where Lancaster Avenue enters Easttown in the vicinity of the Berwyn Rail Station, then continuing with highway commercial mixed-use development as it moves west along Lancaster and finally along the eastern border of the Townships, Easttown proposes a new town development district. These areas are proposed to have densities ranging from 5 to 12 units per acre. Continued communication between the Townships is necessary for this important area with regard to issues related to the school district, and to provide for consistent corridor planning along Lancaster Avenue (US 30).

Radnor Township (Delaware County)

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Radnor Township borders Tredyffrin Township along Tredyffrin's panhandle in the southeastern portion of the Township. There is a mix of uses along the border ranging from more dense uses around Lancaster Avenue representing commercial, medium-density residential and multi-family residential to the less intense residential along the most eastern section of the panhandle. In between there is a large tract of institutional uses and medium-density residential development.

According to the Radnor Township Comprehensive Land Use Plan (2003), there are little or no changes foreseen in the existing land use plan. The Township is, for the most part, already developed with only small parcels of undeveloped or vacant land available. The plan detailed the Township's desire to keep its existing character with some improvements.

Upper Merion Township (Montgomery County)

Upper Merion Township is located partially along the northeastern boundary of Tredyffrin Township, and continues to form the Township's eastern border. Land uses along this boundary vary greatly starting with the parkland that is associated with the Valley Forge National Historical Park, which straddles the northern boundary between the Townships. Moving farther east, Upper Merion continues the park services while Tredyffrin's land uses switch to low-density residential. Following the Township border south, the two municipalities are divided by US Route 422, County Line Expressway. Closer to Route 202, there is a concentration of commercial land uses on both sides of the Township borders. Farther down the boundary, both Townships have compatible land uses that mostly comprise low-density residential or open space / golf course uses.

According to the Upper Merion Township Land Use Plan, adopted October 6, 2005, there are no major changes planned for the areas adjacent to the Township boundaries. A Comprehensive Plan was adopted January 1, 1986, but the updated Land Use Plan offered more relevant data. Parkland/open space shall remain the same in the north as single-family residential shall remain the majority in the south. However, with the pending development of the Valley Forge Golf Course, a large-scale mixed-use development and the possible stormwater problems that may arise in connection with this new development, it will be important for Tredyffrin Township to maintain an ongoing dialogue with Upper Merion Township.

Chester County

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Chester County's Comprehensive Plan *Landscapes*, was first adopted in 1996, with amendments last made in 2003; a wholesale update is currently underway. The Livable Landscapes map adopted by the County Commissioners in 2003 shows most of Tredyffrin Township as a "suburban landscape" with interspersed "natural landscapes" and an "urban landscape" in the Paoli area. The Tredyffrin Township Land Use Plan is consistent with the existing county classifications. The combinations of residential, commercial, industrial, and mixed-use areas shown on the Land Use Plan effectively represent the suburban landscape described in the county plan.

Tredyffrin Township is also consistent with the goals and objectives of the *Integrated Water Resources Plan for Chester County, Pennsylvania and its Watersheds* in that Tredyffrin Township is undertaking efforts to preserve natural resources, improve water quality, reduce stormwater runoff and flooding as well as integrating utility and municipal planning to meet future water supply and wastewater needs.

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HISTORIC PRESERVATION PLAN

SECTION 3.3: HISTORIC PRESERVATION PLAN

GOAL:

Preserve the Township's historic resources and character-defining features.

OBJECTIVES:

1. Build upon existing preservation initiatives to create momentum for future projects.
2. Build partnerships and foster communication among residents, local agencies, and organizations.
3. Educate the community about the importance of preservation within the Township.
4. Preserve resources in the Township that qualify as historic.

Introduction

The Tredyffrin Township Comprehensive Plan includes the *Historic Preservation Plan* (2009) that has been adopted by the Township. This section reiterates the recommendations in that plan.

Tredyffrin Township has changed dramatically over the past three centuries due to development pressure related to its location along a primary transportation corridor within the Philadelphia metropolitan area. Nonetheless, historic buildings remain from each of the Township's periods of development. Tredyffrin is among the most historically significant places within the region, and many of its historic resources are of national significance. The Township and its residents are committed to preserving the community's historic character and resources.

Tredyffrin Township will continue to change. Revitalization and development will continue to occur and play a role in helping to maintain a high standard of living and quality of life for residents. Preserving the Township's historic resources and character-defining features should be a key objective of the community.

Tredyffrin will strive to strike an appropriate balance between change and the

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preservation of significant resources and landscapes associated with its history. Determining how to reach that balance is a multi-step process that begins with recognizing the preservation issues that must be addressed to ensure that the community's preservation and quality-of-life goals and objectives are realized.

In that effort, the Township will use the following definition to evaluate whether resources qualify as historic:

1. Historic significance:
 - Associated with events that have made a significant contribution to the broad patterns of our history
 - Associated with the lives of persons significant to our past
 - Embodies the distinctive characteristics of a type, period or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction
 - Have yielded information important in prehistory or history
2. Historic integrity – the measure of the historic qualities still present in the resource. Qualities that give integrity are visible characteristics leading to physical evidence of the historic nature of the resource such as the following:
 - Design: The elements that create the physical form, plan, space, structure and style of a property
 - Materials: The physical elements that were combined or deposited in a particular pattern of configuration to form an historic property
 - Setting: The physical environment of an historic property
 - Workmanship: The physical evidence of the crafts of a particular culture, people, or artisan
 - Feeling: The extent to which an historic property evokes the aesthetic or historic sense of past time and place
 - Association: The link of an historic property with an historic event, activity, or person. Also, the quality of integrity through which an historic property is linked to a particular past time and place.
3. Historic Context – requirement that a clear linkage exists between the resource and a broad historical pattern or trend. Historic context provides a frame of

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reference for evaluating a specific resource and a way in which to convey its significance.

Local Preservation Policy

Historic Preservation Ordinance

The existing Historic Preservation Ordinance was created in 1967. It established the entire township as an historic district and designated the areas within 250 feet of thirty-one buildings and sites as being of historical significance. No building permits may be issued for work on any of the thirty-one historically significant buildings or sites – or on any structure within 250 feet of those buildings and sites – unless the Board of Supervisors, following a recommendation from the Historical Architectural Review Board (HARB), has approved a Certificate of Appropriateness for the work.

The HARB will review the ordinance to ensure it remains consistent with State law and to update any outdated sections. In particular, they will evaluate the value of the 250 foot buffer area that triggers a review for a Certificate of Appropriateness to address concerns about impact on non-historic properties, and make a recommendation to the Board of Supervisors in this regard.

Historic Sites Inventory Classification System

The Historic Resources Survey prepared in 2003 classified resources as Class I, Class II, and Class III according to their historical significance and integrity. Class I resources are (a) listed on or have been determined to be eligible for the National Register of Historic Places, (b) listed on the Local Historic Register (list of HARB-reviewed properties), or (c) contributing resources to those properties.

Class II resources are over 50 years old, determined to be of historical or architectural significance, retain architectural integrity, and are potentially eligible for listing on the National Register. Class III resources are over 50 years old, have historical significance, but might have been substantially altered and are not listed as Class I or II.

This classification system will be used for the designation of historic resources outlined in Recommendation 5.2.D with three modifications:

- I. An additional classification category of “Landmarks” will be created to include the historic properties currently under the jurisdiction of the HARB. These

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existing resources are of such significance to the nation's history, many of which are closely associated with Valley Forge, that they rise above National Register status and should (and currently do) receive added scrutiny and attention.

2. Class I resources should include resources that have been determined to be *potentially* eligible for listing on the National Register whether or not they have gone through the formal review process for determining eligibility.
3. Class III resources should include historic sites as well as structures, including ruins, historic places without visibly identifiable resources, and archeological sites.

Incentives for properties listed in the Historic Preservation Ordinance

The HARB and Planning Commission will investigate land use incentives designed to support and encourage property owners that agree to list their property in the Historic Preservation Ordinance. Regulatory incentives could be similar to the existing zoning regulation that permits historic properties in residential zoning districts to be used as a bed and breakfast or relaxed bulk and height regulations that recognize the often non-conforming nature of older historic properties.

Additions to the list of historic resources

Currently only 29 resources are protected by the Township under the existing Historic Preservation Ordinance through their inclusion on the Historic Sites List. The Township will consider adding additional buildings to the list subject to the requirements of the Historic Preservation Ordinance.

The HARB will review the Historic Resources Inventory and identify buildings and resources that they consider historically significant, according to the definition above. Such listing will subject these resources to design review by the HARB. Property owners will have to affirmatively indicate their support (opt-in) before the Board of Supervisors will add them to the list and shall record a notice that is acceptable to the HARB in their deed.

Further inventory of historic resources

The Historic Resources Survey completed in 2003 was an important step forward in

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inventorying the historic resources in Tredyffrin Township. Due to time and budgetary restraints, the inventory study concentrated on individual buildings and properties located within the central valley portion of the Township, using the historic 1883 map of the Township as a reference with respect to resources that existed at that time. Over three hundred historic resources were identified.

To build a more comprehensive inventory, additional inventory work will be undertaken for remaining areas of the Township. Historic resources may include more than just buildings. For example, historic roadways, which generally are characterized by narrow widths, no curbs, and vegetation close to the roadways, contribute to the character of a community. The HARB will explore what advantages an historic designation could have on resources such as roadways, and then decide whether to recommend to the Board of Supervisors to seek funding to add them to the inventory.

The HARB will be charged with continuing the inventory of the Township's historic resources. Partial grant funding for the inventory may be obtained through the Pennsylvania Historical and Museum Commission. As with the 2003 document, a consultant experienced in preparing historic resource inventories should be retained. This work could be undertaken in phases over time as funding becomes available.

Historical Commission

The Township will consider establishing an Historical Commission. Currently, Tredyffrin Township has a HARB that addresses design review for proposed construction changes to the protected historic resources within a local historic district which, in Tredyffrin's case, is the entire township. The design review of proposed changes is part of the Tredyffrin Township building permit application process. The Historical Commission, on the other hand, would review applications for subdivision and land developments for impact on designated historic resources. The two bodies would be complementary, and their areas of responsibilities would be distinctly different.

Historical Commissions are much like Planning Commissions, except that they focus on historic preservation issues. When an application for subdivision or land development is submitted that includes an historic resource, the plans for the project are forwarded to both the Planning Commission and Historical Commission. Applicants appear before an Historical Commission to present their projects and discuss preservation issues and

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impacts.

Upon completion of its review, an Historical Commission votes to approve or disapprove the plan and frequently makes recommendations on aspects of the plan. These recommendations are coordinated with those of the Planning Commission. In Tredyffrin Township, the Planning Commission is a decision-making body (in many municipalities, the planning commission is advisory to the board of supervisors). In Tredyffrin Township, therefore, it is possible that the recommendations of an Historical Commission would be sent to the Planning Commission for its consideration and inclusion in its decision and requirements with respect to a project.

Unlike the HARB, an Historical Commission may have the ability to address preservation issues that go beyond those resources identified on the Historical Sites List. The membership of the Historical Commission could be the same as the HARB, or the HARB could be a subcommittee of the Historical Commission, with different members to meet the membership requirements outlined in the Township's Historic Preservation Ordinance.

Outreach and Education

Outreach and education will be a primary objective for the Tredyffrin community in order to increase support for preservation projects. Knowledge of the history, significance, and range of community resources will help promote awareness and interest, and may influence the desire of local residents to support steps to protect and preserve historic resources. Educational programs will reach out to the entire community and focus on groups such as specific neighborhoods, developers, large land owners, and community constituencies.

Maintenance and treatment guidelines

The HARB will oversee the development of maintenance and treatment guidelines to be made available to the owners of historic properties through the Township's website. The guidelines will assist property owners with appropriate procedures and techniques for maintaining and caring for older houses, historic building fabric, and historic landscapes. Having a resource guide readily accessible and available to residents will help to improve the overall quality of care of historic resources in the Township and will ultimately improve the character, appearance, and value of properties. The guidelines will link to more detailed information and technical bulletins available at National Park

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Service and other websites as well as publications from organizations such as the Association for Preservation Technology.

Outreach and educational programs

The Tredyffrin Easttown Historical Society and Tredyffrin Historic Preservation Trust currently present educational programs such as the Historic House Tour and Lecture Series to members and residents. The Township will support their efforts to promote awareness of local history. The Historical Architectural Review Board also has an Annual Award program to recognize historic property owners, which should continue as an outreach tool by the Township.

The Township will continue to encourage local historic site steward programs to recognize and encourage property owners to preserve historically significant properties.

Historical landmarks

To promote community awareness about Tredyffrin's history, the Township will create a map of historical landmarks and establish signs at various historic events and sites.

Legal protection of historic properties.

To encourage owners of historic properties to take steps to legally protect the historic aspects of their properties, the Township will compile information that explains the pros and cons of, and the process associated with, historic preservation tools. One way property owners can legally protect the historic aspects of the property is through a façade easement on the property, which prevents changes to a building's exterior or face. This form of easement may be used to restrict other development on the site and encroachment into the property's air space.

Another method of legally protecting the historic aspect of a property is a deed restriction, which allow for stipulations contained within the actual deed regarding certain treatment or use of the property. Since deed restrictions are part of the deed, they must continue to be honored when the property is sold, so any future owner is obligated to comply with the provisions contained in the restriction. Deed restrictions can be used to regulate modifications to a structure itself, and also can be used to regulate uses or other types of activity on the property beyond that regulated through zoning.

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A third way to legally protect the historical aspects of a property is through a restrictive covenant, which is similar to a deed restriction in that it restricts specified alterations to a property. However, unlike a deed restriction, a restrictive covenant is an agreement between two parties, and is more similar to an easement. Restrictive covenants are sometimes viewed as more enforceable than deed restrictions but less enforceable than easement agreements.

Another way historic aspects of properties can be protected is by listing the property on the National Register of Historic Places. Although listing a property on the National Register does not interfere with a private property owner's right to alter, manage, or dispose of property, it often changes the way communities perceive their historic resources and gives credibility to efforts to preserve these resources as irreplaceable parts of the community.

Federal tax credits

The Township will provide information to the public about federal historic preservation tax credits and incentives to encourage the protection of historic sites. The Tax Reform Act of 1976 allows tax credits for the rehabilitation of a certified historic structure, but the maximum amount of the credit available is 20 percent. The law limits the use of the tax credit by income, setting a maximum eligibility level for use, as well as limits the amount of credit that can be taken annually. The Pennsylvania Historical and Museum Commission, in partnership with the National Park Service, administers the federal Rehabilitation Investment Tax Credit, which is available only to properties that are listed on the National Register of Historic Places or properties that have been designated by a state or local entity as certified to meet the requirements for listing on the National Register of Historic Places. The tax credit also requires that the rehabilitation work itself must be certified by the National Park Service.

Tax credits are also available to developers who reuse historic structures for low-income housing, defined as that which is affordable to those earning less than the median income for the region. As with the rehabilitation tax credit, the building must be a certified historic structure.

The National Trust for Historic Preservation is a private, non-profit organization that serves as a national clearinghouse for information and technical assistance on historic

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preservation. The National Trust promotes preservation by offering many types of services and programs through technical documents, seminars, workshops, and training sessions. They also coordinate regional and national historic preservation efforts and administer grants and loan programs. The National Trust also advises on legal aspects of historic preservation.

State tax credits

The Pennsylvania Legislature has considered legislation creating historic preservation tax credits in the past. The Township will encourage state officials to adopt tax credits, including for residential properties.

Design guidelines for historic sites

The HARB will have opportunities for training about design guidelines to assist them when reviewing permit applications for historic sites. Using design guidelines can encourage consistency in decision making and can help property owners to understand expectations in terms of alterations. Design guidelines are useful educational tools.

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SECTION 3.4: TRANSPORTATION PLAN

GOAL:

Achieve a safe and efficient transportation system that is compatible with the historic, natural and developed areas of Tredyffrin Township and that provides viable transportation alternatives, including driving, biking, walking and public transportation.

OBJECTIVES:

1. Guide community traffic to main roads and discourage dispersion of this traffic into the residential neighborhoods by adding appropriate road linkages and traffic calming measures and maintaining acceptable levels of service on arterial and collector roads.
2. Identify roadway corridors, segments, and intersections with safety problems, along with methods for eliminating these deficiencies.
3. Identify roadway corridor, segment, and intersection changes that would enhance circulation, economic growth, and quality of life.
4. Identify additional road linkages to be constructed in concert with development and redevelopment of land that would enhance circulation and access to arterial and collector roads.
5. Support bicycle and pedestrian friendly roadway and trail design.
6. Encourage upgraded public transportation service and opportunities for multimodal integration allowing for easy switching from one mode of transportation (pedestrian, bicycle, automobile, bus, train) to another.

Introduction

The transportation plan proposes to upgrade the safety, connectivity, convenience, and efficiency of the Township's transportation network in a way that is compatible with the historic, natural and developed contexts of Tredyffrin Township. This includes maintaining and improving access and mobility for vehicles, bicycles, pedestrians and transit patrons.

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Tredyffrin Township is highly accessible by private automobile. It also affords opportunities for residents, employees, and visitors to use transit, ride a bicycle, or walk. The area is served either directly or through nearby interchanges by three limited access highways that include the Pennsylvania Turnpike, US Route 202, and PA Route 422. In addition, the Township is traversed by two major arterials, US Route 30 (Lancaster Avenue) and PA Route 252, and many other state and local roads. The Southeastern Pennsylvania Transportation Authority (SEPTA) R-5 Regional Rail line and several bus routes serve the Township. Sidewalks are found generally in the vicinity of Lancaster Avenue and paths can be found throughout the Chesterbrook area.

The Growth Management Plan seeks to harness the favorable circumstances for mobility in support of focused development and redevelopment in the Township, upgraded physical conditions, and an improved quality of life for those who live and work in the Township. Focus areas include Rail Station Mixed-Use Centers, Community Mixed-Use Centers, revitalized Office and Business Park Centers, enhanced by an extensive network of parks, recreation facilities and open space that will serve the entire community and provide connections through greenways, trails, paths and sidewalks.

Major Planning Concepts

The Growth Management Plan describes three types of focus areas for development and redevelopment activity. While this Transportation Plan describes how to improve transportation infrastructure to support mobility throughout Tredyffrin Township, it also recommends work to support these focus areas. In every case, the development or redevelopment of the focus areas described below should be seen as an opportunity to improve the surrounding transportation network.

The focus areas described below all anticipate substantial redevelopment and reuse that has and may continue to require significant master planning. This provides an important opportunity to both meet the multi-modal transportation needs created by the redevelopment and also to improve the surrounding transportation network. This objective can be accomplished by promoting improved roadway linkages to be designed and constructed in concert with planned development and redevelopment.

Rail Station Mixed-Use Center

A Rail Station Mixed-Use Center is recommended for the Paoli R-5 Regional Rail

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Station area (see Section 3.2, Land Use Plan, for more information about the Rail Station Mixed-Use Centers). This location is a recognized center, already has transit service, and is somewhat walkable in present condition. Plans for the future will see a greater concentration and pedestrian-oriented mix of residential, retail, office, community, and open space uses. The Paoli Community Master Plan includes a new station, additional commuter parking, more room for buses and shuttles, and a plan for extensive road improvements for better pedestrian, vehicular and bus circulation and access.

The Center has good road access and has properties in the vicinity that are vacant, underutilized, or could be converted to new uses. Additional public transportation (bus, vanpool, and shuttle bus) will be seriously considered for the center, with service by SEPTA, the Greater Valley Forge Transportation Management Association (GVFTMA), the Transportation Management Association of Chester County (TMACC) or other entities. As the Center is reinforced and becomes a more attractive destination, a concentration of transit patrons will provide additional ridership for the primary modes (Regional Rail and bus, respectively), and SEPTA should be encouraged to provide more frequent transit service.

For the Rail Station Mixed-Use Center, as areas are redeveloped and revitalized, Tredyffrin Township will ensure that pedestrian connections to the station area is maintained and improved. This approach will include traffic calming measures, crosswalks, landscaping, and medians in select locations in order to improve safety and increase pedestrian comfort.

Lancaster Avenue is generally a four-lane highway with turning lanes at high volume intersections. Access to and from properties adjacent to the roadway varies from curbed sections with controlled access points to properties with no physical separation from the highway and therefore no defined points to access and exit the roadway. The exception is a five-lane section of roadway that runs from Lancaster Avenue's intersection with North Valley Road in the west, located in the vicinity of the Paoli Rail Station, to Glenn Avenue in the east, which is located near the Daylesford Rail Station.

In order for Lancaster Avenue to accommodate the needs of the Rail Station Mixed-Use Center, vehicles must be able to access properties in the station area and pedestrians must be comfortable moving along and crossing the roadway. The center turning lane present in the five-lane section of roadway in the vicinity of the Paoli Rail Station can be

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designed to provide flexibility for both vehicles and pedestrians. This lane allows vehicles to make left turns outside the travel lanes. In other locations, a raised traffic island can be installed to provide a refuge for pedestrians crossing the street. In other locations, it may become a landscaped center island that provides some relief from the developed landscape.

Community Mixed-Use Center

A Community Mixed-Use Center will encourage new hubs of retail, office, and residential uses on the site of the Chesterbrook Shopping Center (see Section 3.2, Land Use Plan, for more information on Community Mixed-Use Center). In a manner similar to the Rail Station Mixed-Use Center, the Center emphasize a concentration of uses in a form that is supportive of “one-stop” shopping, close physical relationships among residential, employment, retail, eating-and-drinking, and recreating components, and internal pedestrian movement.

Unlike the prospective Rail Station Center, which has access to the R5 Regional Rail line, the Community Mixed-Use Center only has SEPTA bus service. This service is limited in terms of frequency, span of service and the fact that buses must move with traffic along the often-congested roads. As the Center is developed, improved transit service will be required. This may take the form of upgraded SEPTA bus service and new transit linkages. For example, shuttle service could connect the center with the Paoli Rail Station, also making stops at office/business park locations along Chesterbrook Boulevard. Shuttles could be provided by TMACC or GVFTMA, a private entity, the Township, or some combination of sponsors.

As the Community Mixed-Use Center evolves, road improvements may be required. In addition, pedestrian and bike-friendly routes must be maintained and improved in order to provide safe and convenient circulation within the Center as well as access to the transit amenities provided by the Center. Since the Center is presumed to be a destinations for local residents, motorized and non-motorized access must be maintained and improved.

A transportation needs study for the center will be developed in conjunction with zoning amendments.

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Office and Business Park Centers

Four Office and Business Park Centers are located along the US Route 202 corridor, including locations in the vicinity of Cedar Hollow Road, the Chesterbrook area, and along Devon Park Drive, and the Atwater development on Route 29. These centers exist today and are expected to intensify through the planning period as single-story structures are replaced with multi-story buildings to accommodate the future demand for office and flex space needs.

The key transportation need for these Centers will continue to be convenient access from the higher order roadways such as US Route 202, the Pennsylvania Turnpike and PA Route 422 in order to keep regional commuter traffic off the local network of streets and roads. However, redevelopment may necessitate reviewing the capacity of local connector roads. A transportation needs study will be developed in conjunction with zoning amendments.

As the number of employees increases in these Centers, transit may become a more realistic option. This could include increased frequency of bus service and also an increase in shuttle service from these Centers to the R5 Regional Rail Stations located in Tredyffrin and Easttown Townships.

Throughout the process of development and redevelopment in these areas, site planning and design features will include sidewalks, paths and transit stops in support of pedestrian mobility and safety. Not only is this intended to make it convenient and safe for employees to walk from their offices to transit or shuttle stops, but it also seeks to promote outdoor opportunities for healthy physical activity.

Major Corridors

As stated earlier, major transportation corridors pass through Tredyffrin Township. The following describes an approach for coordination and action in order to meet the challenges posed by future transportation needs.

Pennsylvania Turnpike

The Pennsylvania Turnpike Commission is planning to construct two projects that will affect Tredyffrin Township. These include the construction of slip ramps to connect the

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Turnpike with PA Route 29 just to the west of the Township border, and the reconstruction and widening of the four-lane turnpike to six lanes from the Valley Forge Interchange west to the Downingtown Interchange.

The interchange with PA Route 29, though not located within the Township, has the potential to decrease traffic on Township roadways that currently exits the Pennsylvania Turnpike at Valley Forge and uses local roads to reach the Great Valley Corporate Center. It may increase land development interest in the area.

With regard to the six-lane widening project, Tredyffrin Township will need to continue to coordinate with the Pennsylvania Turnpike Commission and adjacent municipalities to advocate for the rights of Township residents throughout the study process. Particular issues of concern will include the Turnpike's condemnation of property within the Township and potential impacts to both the natural and built environment, including increases in noise and stormwater.

US Route 202

PennDOT is expanding US Route 202 between Chesterbrook and the Route 30 Bypass from four lanes to six lanes. The first phase of construction includes replacing three bridges and improving two intersections in preparation for the widening of the highway.

In addition to coordination with PennDOT regarding this ongoing construction project, Tredyffrin Township will continue to monitor the performance of US Route 202 and particularly its interchanges within the Township, in order to ensure that they continue to serve the needs of the Township. It is anticipated that when this expansion is completed, the additional capacity provided on US Route 202 will help relieve some of the congestion on roads within the Township.

Lancaster Avenue (US Route 30)

Lancaster Avenue, a major commercial corridor in Tredyffrin Township, moves substantial volumes of vehicles through the corridor, and provides access to intersecting streets and adjacent neighborhoods. Potential improvements are described under "Major Planning Concepts" above for the rail station mixed-use areas.

Tredyffrin Township anticipates working with Easttown, Willistown and Radnor Townships to add continuity to the Lancaster Avenue corridor from east to west. This

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may be reinforced by a common system of streetscape elements, including sidewalk and crosswalk materials, street trees, signage, lighting standards (poles) and luminaries, and bus shelters. The employment of a “toolkit” of shared physical components could convey a unified appearance to motorists on Lancaster Avenue as they travel its length.

PA Route 252

PA Route 252 is an important state route that links US Route 202 and the Chesterbrook area in general to Lancaster Avenue. This critical north-south link is important for access through the Township and must be maintained to provide safe and reasonably efficient mobility in this central portion of the Township. Tredyffrin Township will advocate for the replacement of the railroad bridge just north of PA Route 252’s intersection with Lancaster Avenue. The Township wishes to see a widened underpass to accommodate vehicular and non-vehicular traffic as well as extended turning lanes and signal phases for left turns and pedestrians, because of the critical nature of this intersection.

Transportation Master Plan

Tredyffrin Township will seek funding to develop a Transportation Master Plan for local roads that provides a comprehensive strategy for maintaining and upgrading the transportation network to serve the needs of Tredyffrin Township today and in the future. The Transportation Master Plan will analyze all local roads to develop a prioritized list of road improvements throughout the Township. The Plan will take into consideration the impact of the road improvement along the borders of neighboring municipalities. The master plan also will recommend traffic calming methods and describe locations where these strategies will be appropriate.

The following sections outline topics to consider in the development of the Transportation Master Plan:

Intersection Changes

Tredyffrin Township will evaluate its needs for intersection improvements and establish priorities for advocacy with county, state and federal assistance as part of the Transportation Master Plan. Roadway intersections can work efficiently and safely or become points for delay and conflict.

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Roadway Segment Changes

In addition to intersection described above, the Township will consider modifications to some local roadway segments as part of the Transportation Master Plan. In general, priority attention will be focused on maintaining and improving north-south connections throughout the Township.

Bridges

The Transportation Master Plan also will evaluate the railroad bridges located in the Township and develop a set of recommendations for changes required to alleviate congestion on local roads and accommodate pedestrians and bicyclists. One option for consideration is lowering roads to permit truck access.

Traffic Calming

There is increasing concern about vehicles traveling at a high rate of speed on local, often residential roads. Traffic calming measures introduce physical design elements to existing or new roadways in order to reduce vehicular speed to an appropriate rate. Priorities will be defined, such as roads near schools and collector roads in residential areas with the likelihood of increased pedestrian usage. To do this, the Transportation Master Plan will develop a set of “warrants” or criteria for areas to qualify for installation of traffic calming devices.

The Transportation Master Plan will consider the latest traffic calming methods and be mindful that traffic calming strategies have their pros and cons; some are not appropriate or preferred for certain streets. The Transportation Master Plan also will identify any amendments needed to design regulations in the Subdivision and Land Development Ordinance to encourage traffic calming in appropriate areas.

Functional Classification Review

Prior to creating a Transportation Master Plan, the Township will review and determine the preferred Functional Classification for the roadways in the Township. The Functional Classification information that is currently in Chapter 2 was gathered from the Pennsylvania Department of Transportation. The Township will review this classification, consider the purpose of the roadway, and determine whether they match. If they do not match, the Township will coordinate with PennDOT and come to an agreement about the classification.

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Information regarding functional classification of roadways can be accessed through national, state and county sources as follows:

1. *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway Transportation Officials (AASHTO). This reference is often known as “The Green Book”
2. *Guidelines for the Design of Local Public Streets, Publication #70*, The Pennsylvania Department of Transportation
3. *Road Functional Classification - Technical Memorandum An Element of Connecting Landscapes – the Transportation Plan for Chester County*, Chester County Planning Commission

Ultimate Right-of-Way Map

Tredyffrin Township also will work on an “Ultimate Right-of-Way” map for all roads in the municipality. Ultimate rights-of-way shown for each street will be appropriate for its functional classification, projected traffic volumes, land uses of abutting properties, and general neighborhood or district character.

This task will begin with an understanding of typical roadway right-of-way widths and their purpose. These widths are based on a functional classification. For example: a typical arterial ranges from 100-120 feet wide and is used to travel some distance; a typical collector ranges from 60-80 feet wide and might be used to get across town; and, a typical local roadway ranges from 40-60 feet wide and is primarily used to access property.

The following points will be important in developing the ultimate right of way map:

1. Consider the existing roads in comparison to the generally accepted standards for that roadway type;
2. Determine how the road is intended to serve the community today and in the future; and,
3. Identify any changes that might be required in the future to safely accommodate users of all types and modes, and for other needs such as utilities and drainage.

The ultimate rights-of-way will incorporate the Green Routes Network throughout the Township as it is identified in the Land Use Plan. This network is intended to provide a safe and convenient way for people to travel throughout the Township using means

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other than the private automobile. Depending upon the roadway involved, and the opportunities available, this network may be advanced using tools such as an expanded, striped shoulder or by providing a separate path adjacent to the roadway.

All of this information will be incorporated into or referenced in the Subdivision and Land Development Ordinances and all applicants for subdivision and land development approval will be expected to dedicate to the Township or the State, lands between the existing right-of-way line and ultimate right-of-way in order to accommodate future road widening or other uses such as the development of the Green Routes Network. Ultimate Right-of-Way maps are a valuable long-range planning tool, and appropriate to anticipate and accommodate changes to the roadway network that will be needed over time.

Improved Public Transportation Connections

Public transportation in Tredyffrin Township is provided by the Southeastern Pennsylvania Transportation Authority (SEPTA) R5 Regional Rail line and several bus routes. The Rail Station and Community Mixed-Use Centers, and the Office/Business Park Centers proposed as focus areas in the Land Use Plan are all intended to provide increased concentrations of potential transit users and therefore the opportunity to expand the frequency of rail and bus service.

As part of the Transportation Master Plan, Tredyffrin Township will coordinate with SEPTA, TMACC, GVFTMA, and providers of shuttle services regarding the feasibility of providing more frequent transit service and connections to that service. When considering these connections, it will be critical to look for opportunities to provide transportation services to senior citizens and those with disabilities and low income.

Improved Pedestrian and Bicycle Connections

Bicycle and pedestrian mobility is also considered a valid mode of travel in the Township. Recognizing that bicycle and pedestrian mobility is not simply an option for improved health and recreation, but is an important transportation option that lends great urgency and importance to proposed improvements.

The Township's 2005 Parks, Recreation and Open Space Plan (PROS) recommends developing a Township-wide trail system (2005 pg. 55). The Green Routes Network identified in the Land Use Plan (Figure 3.2.1) builds on this determined need to improve

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pedestrian and bicycle accommodations throughout the Township. This Green Routes Network is intended to provide bicycle and pedestrian routes linking all areas within Tredyffrin Township.

A key component of this effort is to provide support for the PROS Plan's recommendations regarding deficient bridge underpasses or overpasses that are too narrow to allow safe pedestrian or bicycle use. This plan asserts the need to coordinate with the owners of these bridges and underpasses so that as the infrastructure is upgraded over time, new accommodations for pedestrians and bicyclists can be incorporated into the project design.

As part of the PROS plan implementation, the Township appointed the Sidewalk, Trail and Path (STAP) committee to help advocate for plan implementation, research best practices, build community support and keep the Township focused on implementation. The STAP committee ranked the PROS plan implementation recommendations into priority areas. The committee will continue to assist with and monitor the progress of the PROS plan implementation and will be included in the development of the Transportation Master Plan.

While the Township's Parks, Recreation, & Open Space Plan (2005) provided a solid foundation for non-motorized means of transportation throughout the Township, the Sidewalks, Trails, and Paths (STAP) Committee has a vision for expanding this network beyond the original plan. As the 2005 plan was being written, extensive public comment was taken to determine which routes would be the most heavily utilized. The STAP Committee will re-institute this process in analyzing the extension of the 2005 plan into the new Green Routes Network. The group will hold several advertised public meetings in various neighborhoods throughout the Township, during which residents will have the opportunity to voice their opinions on which modes of non-motorized transportation, if any, they would like to be able to use around their homes and places of business.

The Township is currently working on a priority identified by the STAP committee to extend and complete a sidewalk network in areas adjacent to the Conestoga High School and the Tredyffrin/Easttown Middle School. The goal is to provide a safe route for students to walk to school without the need to use private property or unsafe road crossings. The STAP committee is a valuable resource and will continue to advocate for

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the PROS plan, and assist the Township with its implementation. For more details, see Section 3.7 of this chapter for a discussion of Parks, Recreation and Open Space and review the Park, Recreation and Open Space Plan that is available at the Township building or online at www.tredyffrin.org.

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HOUSING PLAN

SECTION 3.5: HOUSING PLAN

GOAL:

Provide for a diversity of housing opportunities, in harmony with the character of existing residential neighborhoods and the Township's historical and natural environments.

OBJECTIVES:

1. Facilitate a range of housing types, sizes, and price levels, to respond to changing housing needs and to provide housing for various stages of the life cycle, household configurations, and income levels.
2. Maintain the character of existing single-family residential neighborhoods.
3. Encourage the creation of workforce housing within the Township to allow people working in jobs such as teaching, law enforcement and office support, as well as individuals entering the work force, to live in the area where they work.

Lower-Density Housing

The housing plan recognizes that reinforcement of the character of residential areas within the Township is a significant aspect of planning for residential use in Tredyffrin Township. With the extent of residential construction over the last few decades, large portions of the community are essentially built out. Most parcels still available for development in these areas are relatively small in size. Where these sites may be found, they may be preserved as open space or developed generally at densities comparable with existing housing, in a form that is compatible with the neighborhood or district character.

Preserve Existing Neighborhoods

Low-density residential development, generally less than 2 dwelling units per acre, is proposed to remain the predominant land use in the Township over the planning period (see Section 3.2, Land Use Plan, and specifically Figure 3.2.1 for details). Existing low-density residential areas, covering about half of Tredyffrin Township, are stable and are projected to remain much as they are through the planning period. Any development of several units simultaneously, or of a substantial tract, is proposed to incorporate corridors of contiguous open space as part of the land development process. This

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technique is recommended in order to protect environmentally sensitive resources, provide lands for recreation, accommodate greenways along road corridors, and to allow for a trail network throughout the community.

Housing & Open Space

The housing element recognizes the Growth Management Plan's goals and objectives with respect to community services and resource protection. The Township enjoys a substantial amount of parks, recreation and open space. To be consistent with the goals of the Township's *Park Recreation and Open Space Plan*, the next challenge is to connect these resources to each other and to other areas within the Township.

Additional open space may be acquired by promoting cluster subdivision for substantial new developments. This form of subdivision permits a concentration of a tract's potential development on a small portion of the overall tract and leaving the remaining area available for open space and recreation use. This concept will be considered for any subdivisions in the northwestern portion of the Township, in order to conserve natural and open space resources. In addition, if there is any flexibility when considering what portion of a tract to reserve as open space, the emphasis will be placed on setting aside lands that are contiguous to or complimentary to existing open space, environmentally sensitive areas or other related amenities.

Cluster subdivision reduces the amount of land consumed for residences when compared with conventional development methods, while at the same time preserving a portion of development tracts for permanent open space uses. This form of development design concentrates buildings in specific areas on a site to allow the remaining land to be used for agriculture, preservation of environmentally-sensitive areas, permanent buffers, open space, or recreational uses. Cluster subdivision can involve only modest set-asides of land for these uses, or can involve set-asides of eighty percent or more of the whole tract being considered for development.

While some opportunities for cluster subdivision have been available over the last few years in the Township, additional incentives may be needed to achieve the goals of the Growth Management Plan. To preserve the remaining open space areas in the community, cluster subdivision opportunities must be attractive to potential developers. All low-density residential zoning districts should continue to offer clear opportunities for cluster subdivision, albeit through updated regulations. The benefits of the open

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space that result are substantial for Township residents, and are permanent as well.

One way to achieve increased set-asides of permanent open space is to combine cluster subdivision options in the regulations of a zoning ordinance with opportunities that permit developers of land flexibility in the selection of housing types to be constructed. Density limits based on gross density (“units per acre”) classifications, rather than specific housing types and individual lot-size requirements (“no less than 80,000 square-foot lots”) may be more likely to achieve the desired level of permanent open space set-aside of tracts undergoing development.

In general, flexibility in permitting a variety of structural types of housing, and even encouraging single-family attached and multi-family construction in lieu of single-family detached dwellings could be considered to help meet a wide variety of the needs of residents through the planning period while still preserving the existing character of the housing stock and additional open space.

Medium- to High-Density Housing

Housing in Focus Area Mixed-Use Developments

The Rail Station Mixed-Use Center in Paoli and the Community Mixed-Use Center at the Chesterbrook Shopping Center area represent significant opportunities to develop and redevelop properties for mixed-uses, including residential components. Parcels in these areas are suitable for higher-density residential uses, such as multi-family (apartment) and single-family attached (townhouse) units, and perhaps specialized residential uses such as life-care facilities. These areas may have prospects for new residential uses in place of current uses or may include new multiple-use (residential and commercial, for example) structures consistent with the special character intended for these parts of the community.

Higher density residential construction in conjunction with commercial/mixed-use initiatives in the Township may be able to respond to current and expected market demands over the planning period. Demographic and other changes may mean that residential units in mixed-used developments can tap into an increasing need for housing structural types other than single-family detached units that meet the needs of residents entering the work force and those wishing to downsize their dwelling.

New development or redevelopment of these areas may provide opportunities for new

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or rehabilitated housing stock to be built using green building principles. Tredyffrin Township will investigate ways to require and/or encourage environmentally-friendly development.

Medium- Density Residential

Medium-density residential development, from about 2 to 7 dwelling units per acre, corresponds generally with single-family attached (twins and townhouse) developments and small-lot single-family detached dwelling areas in the Township (see Section 3.2, Land Use Plan, Figure 3.2.1 for details). Prospective sites for medium-density housing include some perimeter portions of the new Rail Station and Community Mixed-Use Centers (but not the core areas of these centers), and “infill” housing on remaining vacant lots throughout the Township. Densities of these prospective residential developments are consistent with the construction of single-family attached (townhouse) and small-lot single-family detached dwellings.

As in the case of low-density residential development, any development of several medium-density units simultaneously, or of a substantial tract, should include corridors of contiguous open space.

High- Density Residential

High-density residential development, at over 7 dwelling units per acre, is currently represented in the Township primarily by multi-family (apartment) and single-family attached (rowhouse) developments (see Section 3.2, Land Use Plan, Figure 3.2.1 for details). As has already been suggested, the potential locations for development of high-density residential uses in the future include new Rail Station and Community Mixed-Use Centers. With a mix of commercial services, restaurants, and community functions, as well as advantages with respect to proximity to transportation and employment, these areas should be well-positioned to gain attractive, market-rate dwelling units at these locations, while also providing opportunities for the addition of smaller, moderately-priced units.

Fair Share and Affordability

The term “fair share” comes from legal decisions that have been made, beginning in the mid-1970s. Courts have held that local government land use regulations must allow for the housing needs of people who may desire to live within a municipality’s borders. In

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that regard, an ordinance may not exclude legitimate uses of land, such as multi-family housing, either by specifically prohibiting the use or by failing to make provisions for the use. Each municipality, then, must do its “fair share” in accommodating various housing types that may be in demand in a region.

In addition to being a requirement, providing a fair share of housing types makes sense for local businesses that need a diversity of workers to meet their varied needs. A diverse workforce can be seen as a competitive advantage for corporations to remain or locate within Tredyffrin Township.

Tredyffrin Township currently maintains a diverse mix of housing types and will continue to provide its fair share of housing types. The central concepts of the Growth Management Plan will provide opportunities to increase the diversity of housing options within Tredyffrin Township. The high-density housing options allowed at the Rail Station and Community Mixed-Use Centers make possible the provision for affordable housing in a way that new development confined solely to single-family detached housing would not.

Still, in a housing market such as that found in Tredyffrin Township, high-density housing options may not produce affordable units without concerted efforts by the Township and housing associates. Discussions with developers and non-profits may yield opportunities to build some affordable units as part of new developments. For example, integrating workforce housing within a multi-unit development is possible through choices in the square footage and the amenities within the unit, and can also be achieved without substantially changing the outward appearance of a unit, thereby allowing units of differing costs to be easily located near each other within a development. Developers could also be offered incentives such as an expedited review process or increased density allowances (the most common way to achieve workforce housing in PA).

One way that Tredyffrin Township could explore options for encouraging housing for all incomes is to convene a community conversation about best practices within Pennsylvania and throughout the nation. The purpose would be to determine whether and how to implement policies that respond to the circumstances and needs of Tredyffrin Township’s residents and businesses. The Township may consider expanding that conversation to neighboring municipalities in order to consider the challenges and benefits at a larger scale and potentially learn from the best practices of others.

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Resources and guidance are available, including an Urban Land Institute study of how to implement affordable, workforce housing in the Washington DC, Chicago and Atlanta Regions. *Encouraging Workforce Housing in the Chicago Region, Atlanta and the District of Columbia* describes specific strategies to encourage affordable housing and provides examples intended to stimulate actions in other communities. A nearby example is Lower Merion Township, Montgomery County which provides incentives for workforce housing, including real examples of applications that have succeeded or failed. Tredyffrin Township can reach out to Lower Merion to learn from their practice.

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SECTION 3.6: ENVIRONMENTAL PROTECTION PLAN

GOAL:

Protect and enhance environment of Tredyffrin Township.

OBJECTIVES:

1. Protect groundwater, floodplains, surface water, wetlands, mature woodlands and specimen trees, steep slopes, ridge lines, scenic viewsheds, wildlife habitat, and other environmental features of Tredyffrin Township.
2. Support state of the art storm water management programs and ordinances that conform to the most current best management practices in light of the needs of the Township.
3. Conserve natural resources and, where possible, keep the remaining open areas of Tredyffrin Township natural.
4. Determine appropriate areas for additional open space conservation.

The Environmental Protection element of the Growth Management Plan identifies specific areas in the Township that are environmentally sensitive, based on several sources: Tredyffrin Township; The U.S. Army Corps of Engineers' 100-Year Floodplain designation prepared for the National Flood Insurance Program; the National Wetlands Inventory undertaken by the U.S. Fish and Wildlife Service and Pennsylvania Department of Environmental Resources (now Pennsylvania Department of Environmental Protection); the Soil Survey of Chester and Delaware Counties prepared by the U. S. Department of Agriculture Soil Conservation Service; United States Geological Survey quadrangle series maps; and aerial photography. Areas that have been mapped include floodplains, wetlands, hydric soils, and steep slopes. Woodlands have not been mapped but are an important environmental feature worthy of protection in Tredyffrin.

These classes of environmentally-sensitive features are not uniform in their impact on development potential or in what they represent as hazards to human life and property; each has a unique levels of sensitivity for development, requiring differing levels of regulatory control for each.

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Watersheds

Floodplains/Flood-Prone Soils

Areas overlain by the 100-year floodplain as identified by the federal government, call for a complete prohibition of structures, buildings and retaining walls as well as design and construction limitations to prevent exacerbation of the flood hazard. Flood prone soils, identified by the USDA Soil Conservation Service Soil Survey, at times do not correspond precisely with the federal floodplain designations. The flood prone soils, specifically alluvial soils, indicate that they were deposited by floodwaters and can include areas subject to 100-year floods and also floods of lesser frequency. In Tredyffrin Township, the Flood Hazard District in the Zoning Ordinance includes both flood-prone soils and mapped 100-year floodplain areas. Tredyffrin Township will continue to enforce its floodplain ordinance and monitor and regulate changes to improve its ability to protect the Township from floodplain related issues. The Township will continue to support and participate in watershed planning efforts that work to control flooding even beyond the Township's boundaries.

The Hydrologic Features map (Figure 2.8.1) is an important resource for the Township. The information represented, particularly with respect to floodplains, is a strong determinant for land use planning as it identifies areas within the Township that are at risk for flooding. In light of the recent and more frequent flooding events, Tredyffrin Township and its neighboring municipalities are more vigilant in ensuring that new development does not occur in floodplains or flood prone areas unless specific special construction methods are employed. This includes the careful consideration of infill development.

Stormwater Management

Stormwater management and flood and erosion control will continue to be important for all of the Township's watersheds, especially the major ones such as Trout Creek and Valley Creek. These are closely linked to upstream land development and stormwater management policies and practices. It is essential that local regulations promulgated in Tredyffrin Township and in all surrounding municipalities be based on watershed-wide considerations.

Close inter-municipality and County-initiated cooperation on all stormwater management issues will be needed over the planning period. Watershed-wide Act 167 Stormwater Management Plans and similar studies examine potential effects of land

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development upon discharge rates into creeks, and have led to local development regulations to assure that developments use the best available technology to minimize off-site stormwater runoff, increase on-site infiltration, minimize off-site discharge of pollutants, and encourage natural filtration functions.

Best Management Practices (BMPs) for stormwater management control may include measures such as detention and retention basins, recharge trenches, porous paving and piping, contour terraces, and swales. All stormwater retention, detention, and other stormwater management facilities will be designed to include and provide stormwater recharge in conjunction with other BMPs. Tredyffrin Township has developed information explaining stormwater BMPs for its residents, which can be found on the Township's website.

Tredyffrin Township is in the process of updating its stormwater ordinance as of the time of the writing of this Plan. The new code will address volume and rate requirements on a Township-wide basis, with additional requirements potentially applying to individual watersheds within the Township boundaries. This ordinance will comply with the Darby Creek Act 167 plan. As additional watershed based Act 167 Plans are adopted by the Counties for Crum and Valley Creeks, the Township's stormwater ordinance will have to be amended to ensure any more stringent requirements are met.

The Township has recently developed a *Trout Creek Watershed Restoration and Protection Plan*, which provides a tremendous amount of data about the watershed. The Township has commissioned a Trout Creek Watershed analysis that will recommend two specific projects to implement that will improve the watershed and address flooding issues. This analysis will also include a list of eight additional projects to consider after the first two capital projects are complete.

Stormwater detention and retention basins have been regarded for some time as the standard for dealing with stormwater runoff from tracts undergoing development, but are now coming under scrutiny. Basins occupy space that might be better used for something else, and basins often discharge directly into creeks, precluding opportunities for on-site groundwater recharge. In addition, the basins created over the last three decades in the Township are privately owned and may not be adequately maintained. Without proper maintenance, these systems do not work as designed, and flooding may

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occur. Standing water in basins can also provide an ideal setting for mosquito breeding and may represent a safety risk for children.

The Township will consider requiring that more current stormwater management technology be used in new stormwater management systems. For example, in lieu of basins, underground seepage beds with large diameter pipes or stormwater vaults promote on-site groundwater recharge, save surface areas for more-useful purposes, and represent less of a hazard than basins. In addition, the Township will consider requiring all future stormwater management systems to include a plan for regular maintenance and periodic Township inspections.

Water quality associated with stormwater runoff is an increasingly large concern. The new stormwater management ordinance will require that water quality as well as runoff rates are addressed in all stormwater management plans. Rain gardens or bioretention areas within parking lots and green roofs will also be required as a means of improving stormwater quality.

Impervious coverage contributes to stormwater runoff problems. Zoning regulations, such as impervious coverage and parking standards will be reviewed to ensure amounts of impervious surfaces are not required or permitted that exceed what is appropriate for the purpose of each zoning district.

Groundwater

Most of Tredyffrin Township is served by the central water distribution system of Aqua America with the remainder of the Township using local groundwater. The principle of groundwater recharge is important since many residential units and some businesses obtain drinking water from on-site wells.

The Delaware River Basin Commission (DRBC) has designated extensive areas of southeastern Pennsylvania, including all of Montgomery County, most of Bucks and Chester Counties, and parts of Delaware, Berks, Lehigh, and Philadelphia Counties as Groundwater Protected Areas. Within these areas, groundwater is considered to be under threat, either by excessive extractions or pollution. The DRBC has promulgated regulations which affect these areas and give the DRBC authority over the approval of any individual groundwater permit application to extract more than 10,000 gallons per day.

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The aquifer that underlies Tredyffrin Township feeds springs that supply area creeks. Tredyffrin Township is within the DRBC's Groundwater Protected Area, and the municipality's inclusion indicates that efforts to protect groundwater will be undertaken at the local and county levels, in addition to the region-wide regulations.

The Chester County Water Resources Authority completed the *Watersheds* plan in 2002, to provide guidance to communities in the conservation of natural resources associated with watersheds, including groundwater protection. County-led and municipal follow-through to implement the Watersheds Plan recommendations will be an important part of planning for groundwater protection over the next ten to twenty years.

The Land Use Plan reveals a generous proportion of the Township intended for parks, recreation and open space uses that can act as an extensive aquifer recharge area and assure a permanent framework for groundwater recharge even as development may proceed into the future. Tredyffrin Township will employ this framework for groundwater recharge and protection of groundwater quality. A key technique is adoption of appropriate land use regulations, including those that will:

- Maintain an overall low-density of development through large portions of the community;
- Provide incentives for clustered residential development;
- Conserve woodlands; and
- Ensure the use of "BMP"/stormwater management measures.

The neighboring community of East Whiteland Township has been the center for quarrying activities for many years. Portions of such quarries spill into Tredyffrin along its northwestern border. Such activities have strong impacts on groundwater, which naturally pools in quarrying pits. To maintain active extraction of minerals, this water must be mechanically pumped out, while state regulations specify replacement and restoration of water supplies affected by such areas. In the case of the former Warner Quarry, now the site of the Atwater development at the northwest corner of the Township, the quarry pit is being partially filled with water to allow groundwater flow to area creeks to be restored.

Tredyffrin also will encourage groundwater recharge on a smaller level by encouraging

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the use of porous paving, stormwater seepage beds and infiltration gardens. In addition, the Township will review its impervious cover limits and parking requirements to ensure that excess impervious is not resulting from ongoing development and redevelopment in the Township.

Wetlands

Another area of environmental sensitivity is represented by wetlands; generally areas with a high water table, poorly draining soils, and having some degree of surface ponding during the year. Under the jurisdiction of the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection, there is at the present time a steadily evolving regulatory framework concerning wetlands in Pennsylvania, mandating wetland surveys by developers of land and controlling the degree and type of wetland disturbance permitted.

Tredyffrin Township's ordinances already require the maintenance of a 50 foot buffer from existing wetlands. This standard may be improved by requiring that the setback be increased up to a total of 100 feet where hydric soils extend beyond the boundaries of the wetlands. The Township also will consider including limitations and requirements on activity within this wetland setback area, such as prohibiting tree removal, limiting grass mowing and requiring additional planting. Such requirements will be consistent with riparian buffer regulations, as discussed below.

Surface Water

The protection and improvement of surface water in Tredyffrin is most appropriately addressed within the Township. Actions that have the greatest impact on local surface water including the reduction of stormwater runoff through recharge and water infiltration are the protection of vegetated areas along water courses through both wetland setback requirements and riparian buffer requirements, and through any wellhead protection standards that the Township can undertake.

Tredyffrin Township will improve on these general ordinances by making the protection of headwater areas a priority. For example, the Township will investigate targeting first and second order streams for establishing forested riparian buffers. In addition, when development is proposed in headwater areas, particular attention will be paid to preventing negative impacts such as erosion and sedimentation of streams and pre-treating water discharged from stormwater facilities. The withdrawal of large volumes of

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groundwater also will not be permitted in headwater areas.

The Township presently has at least two culvert streams that are enclosed below existing developments. The Township will investigate whether other such streams exist and as the sites with such streams are redeveloped, the Township will investigate the possibility of day lighting these streams to return them to a more natural state.

Riparian Buffers

Since 1995, Valley Creek has been designated by the Commonwealth of Pennsylvania as an Exceptional Value Stream, conferring on it the State's "absolute protection" from the lowering of its water quality. One of the chief ways in which watercourse's quality can be affirmed or improved is through the maintenance of riparian buffers. A riparian buffer is a corridor of varying width adjacent and generally parallel to a creek or similar water course, extending for some distance back from the creek bank. Ideally, the buffer is wooded, shading and cooling the water, trapping nutrients and sediment runoff, stabilizing creek banks, and providing food and cover for aquatic and terrestrial wildlife.

Tredyffrin Township is currently working with the Natural Lands Trust to draft zoning and subdivision and land development ordinance amendments that improve the protection of the Township's water resources. Included in the ordinance amendments, Natural Lands Trust will develop a Riparian Corridor Overlay District that enables the Township to reduce the impact of land development on water resources by limiting uses permitted near the stream. This Overlay District will address corridor width requirements as well as restoration/reforestation measures appropriate for riparian areas.

Steep Slope Protection

Much of Tredyffrin Township contains sloping land with slopes ranging from 10% to over 25%. The Township currently limits development on slopes from 15% and greater to no more than 10% of the total slopes on a property and limits grading of these slopes to varying degrees. The types of uses and disturbances permitted in the very steep areas will be reviewed and revised. For example, disturbance could be limited to that necessary to accommodate driveways and utilities only, with maximum disturbance levels still maintained.

The Township's definition of lot area requires that sloping lands be excluded from

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minimum lot area. As a result, sloping lots have a de facto penalty for impervious and lot area. The Township will examine whether these penalties are effective means of limiting slope disturbance and if not, consider more explicit regulations for development on sloping lots.

Woodlands

Currently, Tredyffrin's Code has general language about specimen tree protection as well as a general limit on tree disturbance. However, as written, these provisions are rarely implemented and are difficult to enforce. The Township will consider adopting enforceable tree removal limitations, which recognizes that a certain amount of tree removal is necessary and appropriate to accommodate development. Generally, most tree protection ordinances apply only to those lots with a minimum number of trees per square foot and allow a certain percent of those trees to be removed without penalty (25% to 35% is a common guideline). After that threshold is reached, replacement planting requirements could then apply. To be effective, these planting requirements should be in addition to general landscape planting requirements.

In addition, regulation of specimen tree removal may be improved with more specificity of application and by limiting removal to cases with safety or financial hardship.

Landscape Requirements

Tredyffrin will review and revise its landscape requirements. The current landscape ordinance has significant requirements for plant material in parking areas while property line and street tree requirements are less onerous and are often fulfilled by an applicant's preservation of existing trees on a property. These requirements will be improved by adjusting the planting requirements and limiting the type and location of existing trees that will be used to meet planting requirements. In addition, the Township will consider adopting language that promotes the use of native plant species and prohibits the use of invasive plants. A list of desirable and prohibited plant species, including street trees, could be included in the ordinance appendix.

Revision of the landscape requirements should be completed early in the implementation schedule as it will have a strong impacts on the outcome of redevelopment as recommended in the Comprehensive Plan.

Ridgeline and Scenic Viewsheds

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The existing landscape of the Township, both natural and man-made, defines to a large extent what Tredyffrin is to many people. As development occurs, this landscape will inevitably change. However, the extent to which it changes and how it changes are affected by controlling the placement of homes and buildings as they relate to the viewshed in which they are to be located. For example, a scenic view of a wooded hillside will be less affected by development if new houses are placed below the ridgeline of the hill so that the top of the ridge is maintained in its natural state. Similarly, a scenic view of a long meadow will be less affected if new homes are set back from the roadway such that a good portion of the long view is preserved. Tredyffrin Township will consider adding requirements to the subdivision and land development code that scenic views/viewsheds and ridgelines be required elements of the existing features in order for the Planning Commission to take those elements into consideration when reviewing proposed development plans.

Environmental Protection Code

The existing environmental protection provisions in Tredyffrin Township's Code are dispersed throughout the Zoning and Subdivision and Land Development Codes, which makes it difficult for property owners and developers to have a complete understanding of the Township's requirements, as well as make it difficult for the Township to enforce. As additional environmental protection provisions are developed and existing provisions are revised, the Township also will consolidate the environmental protection provisions into a single, freestanding environmental protection code. Each section of the code will apply by reference to either the zoning code or the subdivision and land development code. Those incorporated into the zoning ordinance would then apply to all land in the Township whereas the SALDO related provisions would only apply when land is being subdivided or developed.

Chapter Three: Growth Management Plan PARKS, RECREATION AND OPEN SPACE PLAN

SECTION 3.7: PARKS, RECREATION AND OPEN SPACE PLAN

GOAL:

Establish additional recreation sites and develop additional recreational facilities at appropriate existing parks to help meet active and other recreation needs while conserving the Township's sensitive natural resources and preserving undeveloped land.

OBJECTIVES:

1. Provide an adequate supply and mix of accessible parks, playgrounds, and other recreation facilities, both active and passive, to serve the existing and projected population of Tredyffrin Township.
2. Support the acquisition of open space resources within the Township, with a focus on areas contiguous to existing open space or natural features corridors.

The Tredyffrin Township Comprehensive Plan includes the *Park, Recreation and Open Space Plan (2005)* that has been adopted by the Township. This section supports the Township's intent to develop and maintain existing and prospective community recreational facilities for their use and enjoyment by Township residents. In addition, the Township will provide an adequate supply and mix of accessible parks, playground, and other recreation facilities, both active and passive, to serve the existing and projected population of Tredyffrin Township (see Figure 3.2.3 for details).

Park and Recreation Facilities

Over the planning period, some relatively small civic spaces and parks may need to be developed near the locations where concentrations of residents and employees are expected. The Rail Station Mixed-Use Center near the Paoli station is an appropriate location for this facility. Developing it will provide needed open and/or green space in highly-developed locations and provide opportunities for residents, employees, shoppers, and transit users to enjoy greenery in close proximity to residences, offices, stores, and transit stops as the station area will incorporate both retail/commercial activities as well as residential uses. These civic spaces and small parks would also provide connections to nearby Township parks, greenways, and trails making travel between them feasible and convenient.

Community Mixed-Use and the Office and Business Park Centers are also appropriate

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places for creation of additional park/open space amenities such as those described and will provide the same opportunities as offered at the rail station mixed-use centers.

According to the PROS Plan, while Tredyffrin Township has a surplus of community parkland, it is currently either deficient or moderately deficient in its supply of neighborhood parkland and mini-parkland respectively. This deficiency is expected to worsen in the future (2005 pg. 50). The small parks and civic squares that are intended to be implemented as part of the implementation of the Centers described above provide an opportunity to reduce that deficit.

Trails

The Park, Recreation and Open Space Plan (PROS) public survey had more than 800 responses and showed that a strong majority of citizens wished to see the development of an expanded trail system (2005 pp 52-54). Of those respondents, 78.5% said they would use a multi-use trail with a starting point at Valley Forge National Historical Park. The PROS plan describes the suitability of various paths and sidewalks as part of a trail network connecting the parks and recreation facilities to each other and to other areas of the community.

Three trails are planned for Tredyffrin Township, including the Chester County owned Chester Valley Trail on the abandoned railroad right-of-way near the US Route 202 corridor. The second is the Cedar Hollow Trail, a Township trail planned to follow the abandoned freight rail spur that used to serve the Warner Quarry, and connect with the Chester Valley Trail. The third planned trail is the Patriots Path that will start in Valley Forge National Historical Park and connect to the Chester Valley Trail and eventually to the Paoli Massacre site in Malvern and the Battle of the Clouds site in East Whiteland Township.

Tredyffrin Township is a critical partner in the planning, advocacy and, in the case of the Cedar Hollow Trail and portions of the Patriot's Path, even construction of these trails. The Township will continue to support and advocate for the realization of these trails and implement what can be done at the Township level. The Township will also consider the development of additional trails using the existing PECO right-of-way. These trails are an important part of the Comprehensive Plans goal to connect recreational facilities to residential, commercial, institutional, and mixed-use areas and to form a system for non-vehicular circulation throughout the community.

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Open Space

The Environmental Advisory Council will develop a definition for open space that is intended for passive recreation to the Board of Supervisors. In addition, the Council will recommend what portions of Township-owned property should be limited to passive recreation use.

Large parcels of land are not required to add civic or private open space. The Land Use Plan promotes a network of interconnected open space areas. Although some of these spaces are limited, they can still be developed in a number of different ways, including the following:

1. Outright purchase by the municipality or county or by a private, not-for-profit organization among whose purpose is the conservation of open space land and/or operation of park and recreation facilities;
2. Dedication of property to the municipality through the land development process;
3. Acquisition of an easement for open space and/ or park and recreation uses by the municipality or county or by a private, not-for-profit organization; or
4. Donation of property or easement to the municipality or county or to a private, not-for-profit organization.

Tredyffrin Township is fortunate to have substantial park, recreational and open space lands. The challenge for the planning period ahead will be to maintain those lands and selectively add or support the addition to those resources in a fiscally responsible manner.

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COMMUNITY FACILITIES & UTILITIES PLAN

SECTION 3.8: COMMUNITY FACILITIES & UTILITIES PLAN

GOAL:

Provide public services, facilities, and utilities in the most cost effective and environmentally sensitive manner, taking into account the existing and future residential and non-residential needs of the community.

OBJECTIVES:

1. Locate community facilities such as libraries, parks, and emergency service providers at strategic locations within the Township to meet existing and future needs.
2. Direct more intensive development to areas that currently receive central water and sewer service.

Schools

The Tredyffrin-Easttown School District does not have immediate plans to build any new schools, but in light of continuing enrollment increases, the status quo in facilities may not be viable through the planning period. Should a new school be needed, it could be located either in Tredyffrin Township or Easttown Township. In any case, Tredyffrin Township expects the continued maintenance, renovation, and some expansion of schools within the Township such as the recent work at the Valley Forge Middle School and Conestoga High School. The school district administration headquarters moved from Easttown Township to Tredyffrin Township in 2008.

The Township has developed a strategic plan in order to implement the sidewalks and trails recommendations set forth by the Township's *Park, Recreation and Open Space Plan* and has appointed the Sidewalk, Trail and Path committee (STAP) to guide that implementation. The first phase of this project is to develop the sidewalks adjacent to the Conestoga High School and the Tredyffrin-Easttown Middle School. The goal is to provide a safe route for students to walk to school without using private property or unsafe road crossings. The plans include developing new sidewalks where none existed, making improvements to the current sidewalk network, and adding traffic calming elements to the surrounding streets to further improve pedestrian safety. Tredyffrin Township will continue to support this project and subsequent phases of implementing the sidewalks project, including Phase II, for which the Township received a grant to

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COMMUNITY FACILITIES & UTILITIES PLAN

begin the planning study.

Library

The public library of Tredyffrin Township is undertaking renovations and expansions of their facility on Upper Gulph Road. The library should consider expanding or relocating the Paoli branch library to provide a strong civic/community component for the revitalized Rail Station Mixed-Use Center.

Emergency Services

In the 1990s a new Township Building was erected with space and equipment appropriate for a large, established municipality. The facility includes the police department functions.

The police force currently has sufficient manpower for the level of population and employment in the community, but the Township will periodically consider whether additional officers and equipment are needed. The three fire companies that serve Tredyffrin are also viewed as adequate in terms of service. As development continues, the need for additional personnel and equipment will be monitored. As largely-volunteer organizations, fire companies may face increased staffing problems over the planning period. In addition, dispersed work locations for firefighters and traffic congestion may induce greater response times to emergency calls. The Township will continue to make sure that emergency service providers are in the right position and have the resources to meet the needs of the entire Township.

Tredyffrin Township is served by two regional hospitals located in the nearby Townships of Willistown and Lower Merion. These hospitals have the current capacity to serve the local population but as the median age of the municipality continues to rise, the Township will consider encouraging the development of additional elder care facilities within the community.

Emergency Operations planning for all types of emergencies is important for the future of Tredyffrin Township. Township history shows how emergency resources and shelters were helpful in the mid-1990s when severe snowstorms caused extended power outages and delays in home heating fuel deliveries. In addition to planning for how emergencies could affect Township residents, Township staff is working with the major corporations in the Township to plan for emergencies. Tredyffrin Township adopted its

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Emergency Operations Plan on March 3, 2008. The Township will continue to expand its capability to respond to emergencies on its own and in conjunction with other municipal, county, state and federal partners.

Wastewater Disposal

Tredyffrin Township's wastewater is currently disposed mainly through a central sewer system run by the Township. On-lot systems are also used, mainly in the northwestern portion of the Township. The public sewer system operates 133 miles of sewer lines and numerous pumping stations. Much of the central sewer lines feed into the Valley Creek Trunk Sewer (VCTS) which conveys the wastewater to the Valley Forge Sewer Authority (VFSA).

As development in Tredyffrin and neighboring Townships has increased, the wastewater flow has increased through the VCTS. Much of the VCTS needs to be expanded and replaced due to the age of the infrastructure and in order to handle the increased flow that the VFSA is projecting.

The Wilson Road Pumping Station, located in Tredyffrin Township, is a critical component of the VCTS system that pumps wastewater to the treatment plants. This pumping station should have capacity for the next five years; however, this pumping station will need to be replaced soon after that five year-period.

On-lot sewage systems are found mainly in the northwestern corner of the Township. This region of Tredyffrin includes approximately 500 on-lot sewage systems with all but 10 to 15 serving individual homes. Due to their age, most predate the current design standards. In some of these locations, due to their large lot sizes, it is likely that the aging systems can be repaired.

Soil suitability plays an important role in the determination of whether on-lot sewage will work or if public sewer lines are necessary. Factors such as slope, soil depth and soil moisture are key when determining the suitability for on-lot sewage treatment. According to the Act 537 Sewage Facilities Plan, the soils that make up the range in this area from suitable to unsuitable. There are seven soil associations found in this area, two of which are suitable for on-lot disposal, two are marginally suitable, one is suitable but with hazard of groundwater pollution and the last two are deemed unsuitable.

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Tredyffrin Township does not intend to extend central sewage (or water) to areas that are not currently served. New development will be focused where these services are currently available.

Water Supply

The majority of Tredyffrin Township is served by Aqua America, a large regional provider that draws upon both surface and groundwater sources. In addition, some water needs are met through private wells. The system of piped and on-site wells has the capacity to serve the future needs of the Township. Although the capacity should suffice, monitoring the usage and amount of development occurring in the Township will make sure the community does not run into future problems.

One concern regarding property owners who have on-site wells is the potential for groundwater contamination. In particular, some of the wells in Tredyffrin are older and past their life expectancy or they may be negatively affected by contamination from failing on-lot wastewater disposal systems. Tredyffrin Township will encourage property owners that use well water to periodically monitor their water quality.

Storm Sewers

Tredyffrin Township will continue to maintain and improve its storm sewer system and to provide education and outreach to residents and businesses on ways they can contribute to reducing stormwater runoff.