

Guidelines *for* Growth

2011 COMPREHENSIVE PLAN



The Willistown Township Planning Commission served as the Steering Committee for this project. Assistance was provided by the Township's Park and Recreation Board, Environmental Advisory Council, Historic Commission, Open Space Review Board, Land Conservancy Authority Board, Recycling Commission, Board of Supervisors, municipal staff, and residents.

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Adopting Resolution

MARCH 2011

**WILLISTOWN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA**

Resolution No. 13 of 2011

**A RESOLUTION ADOPTING THE 2011 COMPREHENSIVE PLAN
FOR WILLISTOWN TOWNSHIP**

WHEREAS, the Board of Supervisors of Willistown Township endeavors to protect the health, safety, and welfare of those persons living and working in the Township, and

WHEREAS, the Board recognizes the importance of thoughtful short-term and long-term planning in order to effectively fulfill its endeavors, and

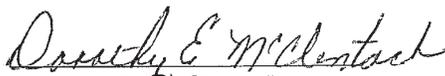
WHEREAS, the Pennsylvania Legislature has authorized and empowered municipalities to adopt and execute a comprehensive plan as provided in Article III of the Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247 as reenacted and amended;

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the Township of Willistown hereby adopts the 2011 Comprehensive Plan, and resolves to consider the Plan when making decisions.

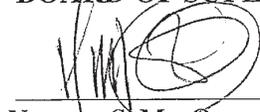
A complete copy of the Plan is attached hereto and made a part here of.

ADOPTED, this fourteenth day of March, 2011.

ATTEST


Dorothy E. McClintock
Secretary

**WILLISTOWN TOWNSHIP
BOARD OF SUPERVISORS**


Norman S. MacQueen, Chairman


William R. Shoemaker, Vice Chairman

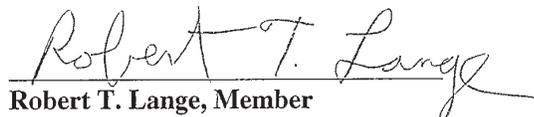

Robert T. Lange, Member

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Chapter I

INTRODUCTION

I.1 | PURPOSE AND SCOPE OF THE COMPREHENSIVE PLAN

Guidelines for Growth is Willistown Township’s comprehensive plan. Its purpose is to provide a rational basis for municipal decision-making on matters which relate to Willistown’s future, be it in terms of protecting community values, guiding growth, or providing adequate community services. The plan describes goals and policies which together constitute a set of guidelines for municipal action and further provides strategies by which the plan’s policies can be implemented.

The Pennsylvania Municipalities Planning Code (Act 247 of 1968, as amended) gives municipalities in the Commonwealth the responsibility and authority to plan for their own future. According to the Code, a comprehensive plan shall include but need not be limited to the following related basic elements:

1. A statement of objectives of the municipality concerning its future development;
2. A plan for land use, which may include the amount, intensity, and character of land use proposed for residence, industry, business, agriculture, major traffic and transit facilities, public grounds, flood plains and other areas of special hazards and similar uses;
3. A plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality; which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels;
4. A plan for movement of people and goods, which may include expressways, highways, local street systems, parking facilities, mass transit routes, terminals, airfields, port facilities and other similar facilities or uses;

5. A plan for community facilities and utilities, which may include public and private education, recreation, municipal buildings, fire and police stations, libraries, hospitals, water supply and distribution, sewage and waste treatment, solid waste management, storm drainage, flood plain management, utility corridors and associated facilities, and other similar facilities or uses;
6. A statement of the interrelationships among the various plan components, which may include an estimate of the environmental, energy conservation, fiscal, economic development and social consequences on the municipality;
7. A discussion of short- and long-range plan implementation strategies, which may include implications for capital improvements programming, new or updated development regulations, and identification of public funds potentially available;
8. A statement indicating the relationship of existing and proposed development of the municipality to the existing and proposed development and plans in contiguous municipalities, to the objectives and plans for development in the county of which it is a part (indicating that the existing and proposed development of the municipality is generally consistent with the objectives and plans of the county comprehensive plan), and to regional trends.
9. A plan for the protection of natural and historic resources to the extent not preempted by federal or state law.

The Code states that during the preparation of the comprehensive plan, the planning agency shall make careful surveys and studies of existing conditions and prospects for future growth in the municipality. Once adopted by the governing body of a municipality, a comprehensive plan can be implemented through ordinances and other methods.

On May 18, 1971, Article I of the Pennsylvania Constitution was amended by the addition of Section 27, Natural Resources and the Public Estate. This Article states that:

The people have a right to clear air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people.

Through this comprehensive plan, Willistown Township recognizes its responsibility to protect those public natural resources within the Township.

1.2 | PLANNING IN WILLISTOWN TOWNSHIP

Willistown Township's comprehensive plan, *Guidelines For Growth*, was originally completed in 1961 and adopted in 1962. In 1968, the plan underwent its first revision to reflect changes that had occurred during the seven intervening years.

Guidelines for Growth was amended again, beginning in 1979 and ending with adoption by the Township Supervisors in 1980. That update process was driven by significant changes in Willistown Township and in the immediate vicinity, including the relocation of US Route 202, the installation of a public sewer system in the northeastern section of the Township, the extension of the water system into the northwestern section of the Township, the consolidation of the Township's public school system into the Great Valley School District, and the construction of townhouse developments within the Township.

The 1997 planning document represented the third update to the Township's comprehensive plan. Philosophically that plan retained its basic focus, however changes were made to reflect changing demographics, traffic congestion, natural resource protection strategies, and open space and recreation planning. Demographic changes such as longer life expectancies, a movement away from the nuclear family, delayed marriage, and women working outside the home indicated the need for more housing choices. Development in neighboring municipalities increased traffic and congestion in Willistown Township. Recognition of serious threats to the natural environment prompted the development of new regulatory techniques to help minimize damage. The 1997 plan followed on the

heels of the 1993 Open Space, Recreation, and Environmental Resources Plan. That plan included an extensive inventory of Willistown Township's natural, scenic, biotic, and water resources. It also contained a plan for recreation, based on a very detailed analysis of needs.

In 2001, Willistown and Tredyffrin Townships completed work on the Paoli Community Master Plan, a joint municipal planning effort for the Paoli Community supportive of a multi-modal transportation center and growth management needs of the surrounding neighborhoods.

Recognition of agricultural uses and purposes prompted the Board of Supervisors to amend the comprehensive plan again in 2002. This amendment attests to the significant role played by agriculture in the Township, recognizing agriculture as a leading industry and significant land use.

In 2006, the Township published the Okehocking Preserve Management Plan, the intent of which was (and is) to assist with the management and improvement of the Township's first nature preserve. This document is referenced appropriately in this planning effort.

This edition of *Guidelines for Growth* is a direct outgrowth of past planning efforts, including the 1997 plan and the 1993 open space plan. In fact, it is this plan's mission to meld the two planning documents into one plan oriented to the provision of growth management, environmental resource protection, and recreation planning. As such, the plan places significant emphasis on goals and policies for future growth and the provision of services, protection of community values, provision of adequate community facilities, including parks and recreation, and guidance for implementation.

1.3 | PREPARATION OF THIS PLAN

The planning process for this comprehensive plan involved the assistance of many community residents. Participants included the Board of Supervisors, the Planning Commission (which served as the Steering Committee for this effort), the Environmental Advisory Council, the Historical Commission, the Park and Recreation Board, the Open Space Review Board, the Recycling Commission, municipal staff, and citizens at large. Many of the Township's staff and volunteers participated in past planning efforts and their assistance provided valuable continuity to this process.

It should be noted that this effort was partially funded by and supported through a Chester County Vision Partnership Grant. Chester County's grant program is intended to support the Township's planning efforts as well as ensure the Township's planning policies are consistent

with the objectives of *Landscapes* (including *Landscapes 2, Watersheds, and Linking Landscapes*). County Planning staff worked closely with the Township and provided useful guidance where needed.

Finally, several public information/review meetings and a public hearing were held during the planning process; discussions held and comments received were reflected in the plan’s content and ultimately contributed greatly to the process.



Chapter 2

SUMMARY OF GOALS AND POLICIES

Three fundamental goals underlie Willistown Township’s planning efforts. These goals were first articulated in the 1980 *Guidelines for Growth* and have remained the Township’s goals throughout this planning process. They are echoed in, and advanced by the Township’s recent planning activities and reflected in the Township’s Zoning Ordinance (Chapter 139), Subdivision and Land Development Ordinance (Chapter 123), and Environmental Protection Ordinance (Chapter 73). The Township’s three fundamental goals are:

Goal 1 - Protect Community Values;

Goal 2 - Guide Future Growth, and;

Goal 3 - Provide Community Facilities and Services.

Much of the information contained in this Plan is a reflection of past planning efforts and the extent to which past goals have been acted on or revised to reflect current thinking.

Community input was sought during the drafting of *Guidelines for Growth*. These goals and policies reflect Willistown Township residents’ values.

The following is a summary of the policies ascribed to each of the goals listed above; additional detail is provided in Chapters 4, 5, and 6.

2.1 | GOAL I - PROTECTING COMMUNITY VALUES

General policies for protecting community values emphasize the Township’s desire to protect those natural and man-made environmental features which either enhance the rural character, are limited and irreplaceable, or which are ecologically sensitive. Resource-based policies described in Chapter 4 address such issues as natural topography, ground water, surface water, soils, vegetation and wildlife, historic and cultural resources, and neighborhoods and housing stock.

2.1.1 GENERAL POLICIES FOR PRESERVING ENVIRONMENTALLY SENSITIVE LANDS AND NATURAL RESOURCES

- Continue to develop techniques by which to guide and encourage the conservation of land and promote its connectivity.
- Reexamine priorities for the conservation of land within the Township, e.g. woodlands and other vegetation, wetlands, habitat areas, surface water and ground water recharge/supply areas, steep slopes, etc.
- Encourage creative and innovative site planning using conservation design principles that maximize the protection of key land and environmental resources; evaluate and maintain site hydrology; preserve and/or enhance significant concentrations of natural resources, open space, wildlife habitat, biodiversity corridors, and greenways (interconnected open space); incorporate unique natural, scenic, and historic site features into the lot configuration; preserve the integral characteristics of the site as viewed from adjacent roads; and ensure flexibility in development design to meet community needs for complementary and aesthetically pleasing development. Assist property owners, as appropriate, with land conservation and development alternatives during the sketch plan review of subdivision and land development proposals.
- Continue to protect individual environmental resources such as wetlands, floodplains and other hydrological resources, areas of steep slope, and woodlands. Monitor efficacy of regulatory provisions and update and refine as needed.

- Continue to support the Environmental Advisory Council and Planning Commission in appropriately filling their roles in a manner that protects resources. Consider training, workshops, and other techniques for ensuring these voluntary bodies have the support and tools they need.

2.1.2 GENERAL POLICIES FOR PRESERVING AREAS OF SIGNIFICANT PHYSICAL, HISTORIC AND SCENIC VALUE

- Encourage the dedication of protective easements for historic or cultural resources.
- Encourage future development to reinforce the Township’s historic settlement pattern and continued use of land for agricultural purposes.

- Monitor efficacy of regulatory provisions related to scenic quality protection, including, for example, any landscaping, buffering and screening standards.
- Monitor efficacy of regulatory provisions related to historic resource protection and documentation.
- Promote techniques for creative land planning and design consistent with conservation design principles to reserve scenic resources in the Township.
- Assist in the implementation of the recommendations made in the 2006 Okehocking Preserve Management Plan.

2.1.3 GENERAL POLICIES FOR PROTECTING NEIGHBORHOODS AND HOUSING STOCK

- Protect and enhance the established neighborhoods within Willistown Township.
- Allow for a variety of housing types and densities in those areas where infrastructure exists to support such growth, consistent with existing and future land use policies and guided by the need to protect environmental resources and existing community character. Promote green building technologies intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.
- Promote safe housing conditions.
- Promote housing opportunities consistent with the 2001 Paoli Community Master Plan, as reflected in Chapter 139, Zoning, Article XXXI, Transportation District (TD) and Article XXXII, Town Center District (TCD).

2.2 | GOAL 2 - GUIDING FUTURE GROWTH

A variety of land uses including residential, institutional, commercial, and industrial land uses shall be provided consistent with the protection of the Township's community values.

2.2.1 POLICIES FOR RESIDENTIAL LAND USES

- The locations, types and densities of future residential development shall be consistent with the intent of the Township's residential districts as set forth in its current Zoning Ordinance. Therefore, residential land uses as

permitted in the Township's current Zoning Ordinance shall continue to serve as a general guide for residential development.

- In the interest of protecting the character of the Township, providing for a diversity of housing opportunities, and encouraging imaginative and environmentally-sensitive site planning practices, Willistown shall focus on redevelopment and infill opportunities in the northern portion of the Township. The intent of this policy is to address the housing needs of future Willistown residents (particularly a growing elderly population and a diverse mobile population), complement the public transit investments being made in this area, provide housing opportunities that do not require large land areas (and so further protect open space and wildlife habitat), and benefit from the Township's efforts and those of Malvern Borough and Tredyffrin Township to enhance the vitality, livability, and walkability of their "town" cores.
- Residential growth occurring in agricultural/residential zoning districts shall utilize the conservation design principles espoused herein and in Chapter 139, Zoning, Article XXVI, Open Space Conservation (OSC), the intent being to accommodate new residential development in a manner that complements the Township's efforts to preserve and protect agricultural land and open space through innovation and flexibility in site design.

2.2.2 POLICIES FOR INSTITUTIONAL LAND USES

- Willistown Township shall accommodate future institutional development as permitted in select zoning districts or as conditional uses or special exceptions in areas where it is deemed appropriate and/or can be demonstrated to the satisfaction of the Township that such uses would be harmonious with the character of surrounding land uses, be consistent with local landscape character, protect community values, and have adequate infrastructure available. Institutional uses will be considered in the rural portions of the Township only when they contribute to the permanent preservation of significant amounts of open space.
- In order to best accommodate institutional uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.

Due to the potential for greater impact associated with institutional uses, and the variety of activities that fit this category, the Township intends to scrutinize such uses more carefully than it does residential uses.

2.2.3 POLICIES FOR COMMERCIAL AND OFFICE LAND USES

- Willistown Township shall accommodate future commercial development as permitted along the Route 30 business corridor (including King and Central Avenues east of Malvern), along the Paoli Pike corridor west of Sugartown Road, and along the Route 3 planned highway corridor extending along Route 3.
- In order to best accommodate commercial uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.

2.2.4 POLICIES FOR INDUSTRIAL LAND USES

- Willistown Township intends to remain consistent with County and regional land use plans in guiding future industrial development along the Route 30 transportation corridor. Future industrial uses within the Township shall be limited to its existing industrial park. If at some future date, the Township participates in regional studies which determine that industrial demand exceeds areas planned for industrial uses, further consideration will be given to expanding industrial areas within the Township.
- In order to best accommodate industrial uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.

sources permit, the Township shall intervene to improve service delivery to meet the needs and/or address the safety of Township residents.

2.3.1 POLICIES FOR FIRE PROTECTION

- Continue to financially support volunteer fire companies providing fire protection services to Willistown Township residents.

2.3.2 POLICIES FOR POLICE PROTECTION

- Continue to operate and fund the Willistown Township Police Department.
- Periodically examine whether services are adequate for needs.
- Continue to support the mission of the Department to enhance the safety and security of all the people of Willistown Township and work in partnership with the public to maintain their confidence and trust.

2.3.3 POLICIES FOR EMERGENCY MEDICAL ASSISTANCE

- Continue to cooperate with Chester County in the provision of '911' services.

2.3.4 POLICIES FOR ROADS

- Continue to clarify and plan for those roads intended to transmit through traffic and those roads designed primarily for local traffic. Discourage through traffic on roads not intended for or incapable of such traffic.
- Continue working to improve the regional transportation network to provide for efficient movement of through traffic, including the use of innovative transportation strategies such as roundabouts as alternatives to new signalized intersections. Encourage ride sharing where feasible and appropriate. Both direct municipal action and continuing dialogue with PennDOT are necessary to accomplish the policies contained herein.
- Continue to ensure that new development minimizes impact to the existing road network. Ensure that the local road network provides adequate internal circulation to meet the needs of Willistown Township residents. Consider traffic calming strategies as appropriate to ensure safety and promote better circulation.

2.3 | GOAL 3 - PROVIDING COMMUNITY FACILITIES AND SERVICES

Community facilities and services shall be provided as appropriate for a second class township and shall meet the needs of Willistown's current and future residents. Where services are provided by others, the Township shall periodically monitor the quality and cost of such services. If required and appropriate, and if municipal re-

- Develop strategies to correct any identified circulation and parking problems, and assign priorities to any needed improvements.
- Discourage haphazard development along Route 30 and Route 3. Continue implementation of the mutually acceptable local and regional transportation components of the Paoli Community Master Plan, including the creation of a multi-modal transportation center with corresponding circulation improvements (both roads and pedestrian facilities) to improve and enhance transportation choices in and around Paoli.
- Provide regular road maintenance to ensure that local roads are maintained in optimum condition and minimize, as needed, potential safety hazards.
- Consider recognition of and protection for those roads identified by the Township as Scenic Roads. Work to protect the intrinsic natural, scenic and historic qualities of such roads.
- Examine opportunities for safe bicycling along identified roads and road shoulders in the Township. Consider the recommendations and vision statements identified in Chester County’s Linking Landscapes Plan.

2.3.5 POLICIES FOR PUBLIC TRANSPORTATION

- Encourage any new development constructed within ½ mile of public transportation centers to establish pedestrian linkages on those parcels undergoing development.
- Encourage pedestrian linkages throughout the Township as appropriate to access public transportation and reduce reliance on automobiles.
- Encourage land use patterns that increase choices for residents and accommodate but do not require private automobiles for all trips.
- Promote the expansion of public transportation and pedestrian environment improvements including continued support for and implementation of the Paoli Community Master Plan.

2.3.6 POLICIES FOR MUNICIPAL SERVICES AND FACILITIES

- Monitor municipal administrative needs to provide services in the most efficient manner possible. Consider auditing energy use in government buildings and improve

energy efficiency by utilizing green building technologies that reduce energy consumption.

2.3.7 POLICIES FOR WATER SUPPLY

- Protect and safeguard sources of water supply in order to ensure that an adequate supply of potable water is available for domestic use and fire protection.
- Promote the protection of ground water quality and emphasize ground water recharge to meet water supply needs.
- Monitor regional river basin commission activities pursuant to monthly notifications and ensure that water withdrawal permits do not negatively impact local supplies.
- Promote watershed protection consistent with Chester County’s integrated water resources plan *Watersheds* and the PA State Water Plan.

2.3.8 POLICIES FOR SEWAGE DISPOSAL

- Coordinate land use planning with sewage facilities (‘Act 537’) planning.
- Coordinate the extension of public sewer service to existing developed areas of the Township where existing needs have been documented.
- Continue to coordinate development activity with existing sewage facilities where capacity exists and growth is appropriate; restrict the extension of public facilities in those areas identified for preservation.

In addition, the Township believes the following policies should guide future actions:

- Sewage facilities should use the best available technology at the time of installation and should be properly operated and maintained. The Township recognizes that innovative technology is constantly being developed in the field of wastewater treatment and will consider incorporating newly developed types of treatment facilities when there is sufficient evidence presented to the satisfaction of the Township to support the use of such new technology.
- Treated wastewater shall be disposed as close to its generation source as practicable. Ground water recharge shall be promoted to the greatest degree possible and

the beneficial reuse of treated wastewater shall be investigated and implemented where practical.

- Individual residential onsite sewage disposal systems shall be operated and maintained by the property owner using best management practices for the system in place.
- All non-residential and community sewerage systems shall be operated and maintained by a responsible management entity.

2.3.9 POLICIES FOR STORMWATER MANAGEMENT

- Encourage and maximize the storage of rainfall and ground water recharge in order to sustain ground water supplies and stream baseflow.
- Minimize increases in surface water runoff volumes that contribute to downstream flooding, additional submerged land, eroded streambanks, and other flood related health-welfare-property losses.
- Encourage utilization of ecologically sound stormwater management facilities through the implementation of Best Management Practices.
- Implement the requirements of the Pennsylvania Act 167 Stormwater Management Plans for the Crum Creek, Ridley Creek, and Valley Creek Watersheds, as available; continue to work with Chester County as it prepares a county-wide Act 167 Plan; implement the requirements of the National Pollutant Discharge Elimination System Phase II (NPDES II) program.

2.3.10 POLICY FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING

- Monitor cost and quality of privately provided trash collection services to ensure residents' needs are met; regulate accordingly pursuant to the authority granted under the "Municipal Waste Planning, Recycling, and Waste Reduction Act" (Act 101).

2.3.11 POLICY FOR EDUCATION

- Monitor Great Valley School District plans which might affect local land use planning.

2.3.12 POLICY FOR LIBRARY SERVICES

- Continue to financially support local public library services.

2.3.13 POLICIES FOR PARKS AND RECREATION

- Ensure Willistown is an attractive place to live, work and visit through the provision of parkland and recreational facilities, as well as administrative and programming services that highlight Willistown's park and recreation assets.
- Provide parks and recreation facilities and programming for the benefit of the physical, social and mental health of the Willistown community. (Note: See Chapter 4, Protecting Community Values, Section 4.2.2 for park and recreation and trail resource protection priorities.)
- Provide parks and recreation facilities and services within an effective budgetary and fiscal planning program, as outlined in the Township budget for parks and recreation.
- Continue outreach to and solicit feedback from Township residents about their park and recreation system and program offerings.
- Implement the Okehocking Preserve Management Plan and revise and update the plan as necessary over time.

Establish trail and recreation interconnections throughout the Township and identify likely interconnections to adjoining municipalities.

2.3.14 POLICIES FOR OPEN SPACE PRESERVATION, LANDOWNER ASSISTANCE AND PRIVATE LAND STEWARDSHIP

- Continue to support ongoing dialogue with and initiatives by private landowners and community groups championing land protection and land stewardship. Continue to provide information to residents about the Township's comprehensive planning efforts, including efforts to preserve land and protect the Township's natural resources for future generations.
- Continue Township efforts to protect natural and man-made resources, preserve land and interconnect open space through innovative site design and natural resource protection efforts, open space purchases, and park and recreation facilities, among others.
- Partner with and support action by local land trusts such as the Willistown Conservation Trust to assist landowners in the protection of environmentally sensitive lands and

areas of significant physical, historic, and scenic value, as well as recreational assets such as pedestrian and equestrian trails.

- Continue to support and collaborate with local land trusts and environmental organizations to support the sound stewardship of the area’s private lands.
- Partner with local land trusts to serve as a community educational resource for residents on matters concerning land conservation and stewardship.

2.3.15 POLICY FOR TRANSMISSION PIPELINES

- Monitor existing and future pipeline activity and coordinate with pipeline companies to protect the public health, safety and welfare of Willistown Township residents.



Chapter 3

COMMUNITY BACKGROUND

3.1 | REGIONAL CONTEXT AND INFLUENCES

3.1.1 LOCATION

Willistown Township is located in the eastern portion of Chester County, five miles east of West Chester and approximately 20 miles from Philadelphia and Wilmington, Delaware. Socially and economically the Township has a greater orientation to Philadelphia than to Wilmington. The 1980 comprehensive plan described the Township as within the “rural fringe of the Philadelphia metro area,” however the western advance of development since that plan led to the conclusion in the 1997 comprehensive plan that the Township “has the appearance of being a rural island surrounded by a sea of intense development”. In many respects, this assessment holds true today although from the standpoint of orderly growth, the Township has continued a development pattern of dense to less dense “concentric circles” emanating from the town centers of Paoli and Malvern.

3.1.2 CHESTER COUNTY INFLUENCE

Willistown Township is strongly influenced by its setting in Chester County, a relatively affluent suburban county of Philadelphia. A majority of the social and economic factors influencing Chester County also play a significant role in Willistown Township.

Chester County has traditionally been a strong economic engine for southeastern Pennsylvania. The County has enjoyed relatively low unemployment rates, historically under 5% since the early 1980’s. Chester County is also relatively affluent and well educated. The County has consistently had some of the highest percentages of high school and college graduates in the State, as well as some of the highest household and family incomes in the state. Finally, the median housing value has been and remains one of the highest in the state.

Chester County is particularly scenic. The gently rolling hills of the Piedmont Plateau supported the creation of a rich agricultural heritage and the County is fortunate to have a citizenry that is strongly committed to the preservation of open space and scenic landscapes. Residents of this region were among the first to champion the use of conservation easements. Many local govern-

ments (Willistown among them) have successfully experimented with innovative planning techniques for managing growth and preserving unique regional features. Residents of Chester County voted to support the first county-wide, open space preservation program in Pennsylvania and have consistently voted in favor of utilizing tax monies for preservation efforts.

Chester County appears well positioned for the future, having seen strong economic growth in industries related to home shopping, computer technology, health services, and pharmaceuticals. Manufacturing, defense industries, and extractive industries, although not entirely absent in Chester County, have not been significant factors in its history and are not anticipated to play a meaningful role in the future.

At the same time, an attractive landscape and healthy economy will likely continue to attract new growth to Chester County in the years to come. The County’s population is expected to increase over 43% from year 2000 to 2035. If not managed appropriately, this new growth will threaten the very qualities which attracted it in the first place.

Chester County adopted its Comprehensive Plan, *Landscapes*, in July 1996 and recently updated the plan with *Landscapes2* in November of 2009. *Landscapes2* encourages county municipalities to manage anticipated growth in a manner that does not jeopardize their character and quality of life. Chester County’s planning efforts have strived to assist municipalities in preserving and enhancing the unique character of the county by concentrating growth in appropriate areas. According to the county’s assessment, Willistown Township contains urban, suburban, natural and rural land uses radiating from north to south.

3.1.3 REGIONAL TRANSPORTATION NETWORKS

The most important regional transportation components of the Township are the presence of Routes 3 and 30 which traverse the Township at its northern and southern borders. These routes are major transportation corridors for southeastern Pennsylvania and are very important influences on the Township’s character, both historically and today.

Willistown Township is also somewhat influenced by regional rail systems, with easy access to both SEPTA and Amtrak at the Paoli station. The SEPTA line connects Philadelphia and Main Line communities to western Chester County, terminating in Parkesburg. The Amtrak line connects to both Harrisburg and Philadelphia (in fact, the line connecting to Philadelphia also continues on to

New York City). In addition, SEPTA operates several bus lines that provide service to portions of the Township, among them: #104 and #120 (serving portions of Routes 3 and 926), #105 (serving Route 30 to Paoli with connections to #92, #204, #205 and #206), #92 (linking Paoli to Malvern, Exton and West Chester), #204 (linking Paoli to Exton and beyond), #205 (linking Paoli to Central Avenue, Cedar Hollow Road and beyond), and #206 (linking Paoli to Route 29 and beyond).

The Philadelphia International Airport is approximately 45 minutes by car from Willistown Township. While no direct rail lines connect Paoli to the airport, commuters can take the train to Center City and transfer to the airport line. Airport shuttles are also readily available for door-to-door service.

3.1.4 SURROUNDING MUNICIPALITIES AND THEIR PLANS FOR THE FUTURE

Malvern Borough, Chester County

Willistown Township surrounds Malvern Borough on three sides. In fact, Malvern Borough was incorporated out of Willistown Township in 1889. Clearly, the economic and social histories of Willistown Township and Malvern Borough have been linked for many years, with Malvern serving historically as a market center and transportation hub for traditionally rural Willistown Township. As auto-dependent suburban development dispersed shopping patterns and lessened the importance of rail traffic, the corresponding links between Malvern and Willistown weakened somewhat over time. Despite this, the development character of the two communities continues to be closely linked today.

Malvern Borough completed its most recent comprehensive plan in 1999. The plan's main goal is to maintain the Borough's "small-town character, which makes Malvern a unique and special place." Towards this end, the Borough has invested significant energies, including funding support, to revitalize its downtown. In the fall of 2008 the Chester County Planning Commission started work to fully update the Borough's comprehensive plan and update a list of projects reflected in their revitalization planning efforts; as of this writing the plan is near completion. Recent major land development applications have been submitted to redevelop portions of East King Street; the ultimate acceptance of these applications, and their success in contributing to and enhancing the Borough, is as yet unknown.

In recent years, several developers have created "theme" retail centers, including the Malvern Design Center, where furniture crafts, home decorating, and re-

lated shops are associated. In addition, private entrepreneurs have opened a number of shops along King Street, catering to the antique, craft and boutique shopper.

Two large, substantially undeveloped parcels abut Willistown Township just north of its shared border with Malvern Borough. The first parcel, owned by Malvern Preparatory School, is approximately 97 acres (the site of the Paoli Massacre, a 44 acre battlefield/massacre site north of Malvern Preparatory School was purchased from the school and is now jointly owned and managed as a passive open space community park by Malvern Borough, the Paoli Battlefield Preservation Fund, and the Paoli Memorial Association). The second parcel is currently owned by the St. Josephs Retreat. While the Borough's comprehensive plan includes recommendations for appropriate land uses should the St. Josephs Retreat site ever be sold, the Borough's clear policy and intent is to work with St. Josephs' to maintain the current (or similar) institutional use and character of the site. Both the St. Josephs and Paoli Battlefield sites serve as gateways to the Borough, and retaining the existing open space character of these sites is a priority of the Borough. Should the St. Josephs parcel ever be developed, traffic along South Warren Avenue and Paoli Pike could increase, perhaps substantially.

East Whiteland Township, Chester County

East Whiteland Township shares two short lengths of its borders with Willistown Township. They are the northern borders of the Township on the north and west side of Malvern Borough. Significant development activity has occurred in this Township in recent years and the results will likely impact Willistown for years to come. The southern portion of East Whiteland Township (the portion closest to Willistown Township) is strongly affected by the U.S. Route 30 corridor, which traverses the Township from east to west. Additionally, developing portions of the Route 202 corridor will impact both East Whiteland and Willistown.

East Whiteland's original Zoning Ordinance was adopted in 1966 and it has been updated regularly since. Almost the entire length of the southern border (that which is shared with Willistown Township) is zoned for residential uses and a majority of this land is significantly built out. The portion of the border abutting Willistown Township to the west of Malvern Borough is zoned R-2, considered a "low-density residential district."

Tredyffrin Township, Chester County

Willistown Township shares portions of its northern and eastern borders with Tredyffrin Township. Although

the length of the shared border is relatively small by comparison to other neighbors, Tredyffrin (and the Paoli community in general) exerts a strong influence on Willistown Township. As a regional employment center, it provides employment for some Willistown residents and contributes to the commuter traffic volume through and to Willistown Township. As a result of this interrelationship, Willistown and Tredyffrin cooperated on a special planning district study entitled the *Paoli Community Master Plan*. The genesis for this planning effort stemmed from Amtrak's decision to relocate its train storage and maintenance operations adjacent to the Paoli station, thus providing opportunities for urban redevelopment of the site. Initial planning efforts led to the creation of the *Paoli Rail Yard and Transportation Center Plan*, undertaken by the Townships in conjunction with Chester County, SEPTA and Amtrak. This effort, and its advancement, led the communities to prepare the long range development plan referenced above for the Paoli Community. Completed in 2001, this plan has been the subject of implementation efforts ever since. Future redevelopment of the rail station site (including on and off-site transportation improvements), coupled with recently adopted community zoning and subdivision regulations, are intended to contribute to the livability and community character of Paoli for many years to come.

Tredyffrin Township recently updated its comprehensive plan and historic preservation plan in March 2009. As discussed above, Tredyffrin is placing significant emphasis on its planning efforts with Willistown in Paoli.

Easttown Township, Chester County

Easttown Township, Chester County, shares much of Willistown Township's eastern border. Easttown is currently updating its comprehensive plan and it is anticipated that the new plan will continue to take a strong resource protection stance.

The most recent version of the Township's zoning ordinance was adopted in 2007. The majority of the lands abutting Willistown Township are zoned AA, the Township's lowest density residential use, and "intended to provide for farming, conservation, recreation and low density single-family detached dwellings on lots of sufficient size for on-lot sewage disposal systems." Minimum lot sizes in this district are 80,000 square feet, although the Township has a lot averaging option which permits smaller net lot sizes, (in the case of AA, 56,000 square feet).

Much of the land area in Easttown Township along the Willistown-Easttown shared border has been subdivided into large lots. Several areas (those portions lying

west of Darby Paoli Road) appear to be protected either by conservation easements or deed restrictions. The remaining large parcel (north of Grubbs Mill Road) is utilized for a country club; ownership and use appears relatively stable.

Newtown Township, Delaware County

Newtown Township shares Willistown Township's border along Crum Creek, in the southeastern corner of the Township. The shared border is also the dividing line between Chester County and Delaware County. Traveling east on Goshen Road, away from Willistown Township and toward Newtown Square, land uses become more intense in coverage and density. Current land uses along Goshen Road and the vicinity of the shared border with Willistown Township are primarily residential. Although much of the land bordering Willistown has been developed, several parcels remain open and it is likely these parcels will eventually be developed according to the Township's suburban density residential zoning (1-2 acres per unit).

Edgmont Township, Delaware County

Edgmont Township borders Willistown Township on the south side. The shared border also forms the boundary between Chester and Delaware County.

The land along the border between Edgmont Township and Willistown is currently used by the Edgmont Country Club, providing a relatively open and undeveloped landscape along Route 3. Significant land use change seems unlikely, although the zoning ordinance does permit other uses in proximity to the county club, particularly R-1 residential, of which much land has already been developed at 2 acre or larger lots.

Westtown Township, Chester County

Westtown Township lies to the west of Willistown Township and shares a small portion of Willistown Township's border at the very southern limits of Willistown's western border.

Westtown Township's comprehensive plan designates land areas abutting Willistown Township as rural suburban, suburban, or semi-urban. Those lands closest to Route 3 are designated for the more intensive use, with lands further away designated for lower density land uses. The comprehensive plan strongly endorses "flexible residential development" and "single family cluster development" as a means of providing for housing variety while preserving open space and attractive site features.

Most of the land areas abutting Willistown Township within Westtown Township are developed. A small parcel of land on the south side of Route 3 and directly abutting Willistown Township is used for multi-family development. Several commercial uses are located to the east. Land use along the remaining border is single family residential.

One of the main commuter routes into Willistown Township is Route 926, which travels along the border of Thornbury Township (Chester County) and Westtown Township just prior to entering Willistown Township. Traffic on Route 926 is likely to continue increasing in the years to come.

East Goshen Township, Chester County

Willistown Township shares almost its entire western border, along Township Line Road, with East Goshen Township.

East Goshen Township updated its comprehensive plan in 2005. Its zoning ordinance was originally adopted in 1952 and the latest version was adopted in 2008. A majority of the land bordering Willistown Township is zoned R-2 Low Density Suburban Residential (principally 1 acre residential zoning). While a majority of this land has been built out, several large tracts to the southeast remain open along Ridley Creek. Of interest is the I-2 zoning district existing west of Line Road between Paoli Pike and East Boot Road; the I-2 zoning permits a wide variety of planned business, research, limited industrial, park and residential development, although much of the land zoned for these uses is impacted by Ridley Creek. The Applebrook subdivision, which contains a substantial amount of open space, occupies a portion of this zoning district closest to Line Road.

3.2 | HISTORIC DEVELOPMENT

3.2.1 HISTORIC SETTLEMENT THEMES

Willistown Township illustrates several major historical themes, as documented by local historians. Among them are *settlement along a watershed*, first by Native Americans, then by settlers for industrial and agricultural reasons; *interface of early settlers with Native Americans* as part of the settlement process, as evidenced by the district containing the site of William Penn's first and only land grant for an Indian reservation; *Quaker settlement within a compact area for proximity to a "meeting"*; *agricultural land use over three centuries*; and *vernacular and regional architecture* as interpreted by the Quakers and later land owners.

3.2.2 EXPLORATION AND SETTLEMENT

The Holmes Map of 1681 holds the first written reference to Willistown as Willeston.

Willistown was a part of the 50,000 acre Welsh Tract surveyed for William Penn in 1684. It was to be reserved for settlement by persons from North and South Wales and adjacent counties of Haverfordshire, Shropshire, and Cheshire. Penn made six grants within the Township, but there is doubt that the grantees ever lived on the land other than the Okehocking tribe of the Lenni Lanape to whom he granted a 500-acre reservation.

Native Americans

William Penn's respect for and protection of the Native Americans found in Pennsylvania is well documented. He used a variety of mechanisms on their behalf, including legal purchase of land, establishment of courts to adjudicate Native American complaints, and creation of manors as places of refuge. The Okehocking Historic District, listed on the National Register of Historic Places in 1993, is in the heart of Willistown. It is the sole example of Penn's creation of a place of refuge (reservation) for Native Americans. It was possibly the first reservation in the country and the only one established in Pennsylvania. From its creation in 1702 until its abandonment in 1735, it was known as Okehocking Indian Town.

Despite the good intent of its creators, the reservation's boundaries were poorly conceived for the Okehocking tribes' purposes. The hilliest tract was without water much of the time. In 1710 neighboring farmers succeeded in having a road laid out through the middle of the tract, rather than along their own property lines. The road did nothing to foster a lasting bond with this particular land for the Native Americans. The Okehocking tribe chose to leave the land as forest. They occupied it only intermittently and left it for extended periods each year during hunting season. By 1735 they ended their occupancy of the land. Under terms of the deed, the land reverted to the Proprietary. In 1737, the land was reallocated to Quaker brothers Amos and Mordecai Yarnall.

Quaker Settlement

Much of Willistown Township's historic pastoral landscape and patterns of early 18th century settlement by English Quakers remains. The rural Quaker lifestyle was reflected by the strong, agriculturally-oriented communities of families located within a half-day's distance of a meeting house, the site of all their religious life.

Three English Quaker extended families dominated the history of much of Willistown Township; the Yarnalls, the Smedleys and the Garretts. The written record paints them as agriculturally-oriented and more interested in natural science than the “frivolous” pursuits of art, music and literature. As Quakers, they held a respect for history, cherished their homesteads, and kept family and community records.

In the same year that the Okehockings were deeded their reservation (1702), 400 acres abutting the Native American land were sold to Charles Whitaker. His purchase included most of the watercourses and fertile bottom land denied to the Native Americans. In turn, he sold the 400 acre tract to Francis Yarnall, his brother-in-law, who obtained by patent another 150 acres west of his original purchase in 1713. His sons, Mordecai and Amos, inherited much of his lands and added to them.

Following the reversion of the Native American lands to the Proprietary in 1737, the brothers Mordecai and Amos obtained the Okehocking lands. The Yarnalls intermarried with other Quaker families and occupied farms on the original purchases through the 1800’s.

The Smedley family settled in Willistown and intermarried with the Yarnalls and other Quakers. George Smedley, born in Derbyshire, England, established a plantation on 400 acres to the west of Francis Yarnall’s holdings in 1706. In 1713, he and son Thomas acquired another 200 acres immediately to the east. Thomas inherited his father’s holdings in 1723. In addition to farming, he operated a bark mill and tanyard on portions of his land which straddled Ridley Creek. At his death in 1758, the plantation and holdings in other parts of the Township were divided among his several sons; the tanyard was left to the family to hold jointly for 10 years. Succeeding generations of Smedleys lived on the land, acquired other nearby parcels, built additional houses and operated farms and mills well into the mid 19th century.

The third major Quaker family to settle Willistown Township was the Garrett’s. William Garrett (originally Garat) emigrated from Leicester, England to Darby, Pennsylvania in 1684. By 1739, William’s grandson, Isaac, held a mortgage on 141 acres of Mordecai Yarnall’s land along Ridley Creek. This parcel was deeded to his son Isaac II in 1793. The Garrett family eventually held Yarnall land through the marriage of Amos Yarnall to Sarah Garrett, the widow of Samuel Garrett (first cousin to Isaac). Two of her sons married Yarnall women and another, Aaron, inherited the Amos Yarnall homestead.

Scattered villages emerged in the late 1700’s as businesses grew, usually at major crossroads, and contained schools, taverns, general stores and craft shops. Prime

early examples of these are Sugartown, White Horse and Plumsock. Sugartown was listed in the National Register of Historic Places in 1984.

Religion and Education

Initially, early settlers were members of meetings in other townships but by 1753, enough Quakers had settled in this area of Willistown to justify a school in which to educate their children. In that year, land was deeded by Francis and Ann Smedley to various local Quakers for the purpose of building a “commodious school” and hiring a teacher. Quaker meetings were held there until 1798 and it was used by the Orthodox group for meetings between 1828 and 1873.

In the 1780s, the Quaker population had swelled to the point that a larger meeting house was required. Permission was sought to hold a Preparative Meeting through the 1780’s and in 1793 permission was granted to build a two-story stone meetinghouse which was erected adjacent to the school in 1798 on land deeded by Ann Smedley, Francis’ widow. This deed also provided for a burying ground which in 1809 was walled in stone from monies raised by subscription. The large meetinghouse, six bays wide with two entrances, adequately served the needs of the local Quaker community until the 1870’s when some minor changes were made. In 1956, an addition containing classrooms was built.

Popular tradition and some written accounts hold the area and early peoples of part of Willistown as being involved in the 19th century’s Underground Railroad movement. William Hibbard Jr. (of Plumsock Farm) is noted in the *History of the Underground Railroad* by R.C.Smedley (1883) along with Davis Garrett for taking slaves to Philadelphia in two one-horse dearborns. The Rising Sun Tavern still has tunnels on its property that are said to have been involved in this massive, Quaker-supported movement, although no evidence supports this. Members of the Garrett family of Willistown were also relatives of Thomas Garrett, a noted abolitionist of Wilmington, Delaware.

The Revolutionary War

The Battle of Paoli, fought on the evening of September 20, 1777, spanned parts of northern Willistown, including what is now the Borough of Malvern. British troops encamped in Tredyffrin descended upon unsuspecting Continentals camped in modern day Malvern. In fact, much of the fighting took place southwest of the intersection of Monument and Warren Avenues in Malvern. In retreating, the Continental Army (and the pursuing British) crossed much of northwest Willistown. The battle

became known as the “Paoli Massacre” for the brutal and one-sided defeat of forces under American General Anthony Wayne and is thought to have become a rallying cry for the American cause. The Paoli Memorial Grounds, located in the Borough, is the burial site for dozens of soldiers who died during the battle.

Recently, Chester County received a grant from the American Battlefield Protection Program to fund a project to study and map Revolutionary War troop movements, recommend archaeological sites for further investigation, and identify existing historic resources that contribute to our understanding of the Paoli Battlefield area. The County hopes to produce a Battle of Paoli historic resource atlas, an animated battle map, and historic resources atlases for Willistown, Easttown, Tredyffrin, East Whiteland and East Goshen Townships. Malvern Borough’s atlas was completed in 2008. Although education is a key component of this project, the ultimate purpose is to identify, preserve and interpret historic resources related to the battle that can influence land use planning at the municipal level. Several undeveloped pieces still exist in Willistown and Chester County has developed maps that identify troop encampments and troop movements in relation to remaining open space parcels.

Transportation

Transportation and milling were early factors in the settlement and development of Willistown. The first roads in Willistown were Indian trails. As the Township grew, new routes were needed. Goshen Road was laid out in 1710 as the main road between Willistown and Philadelphia, followed by Boot Road (1710) and Sugartown Road (1710 and 1732).

In the 1800s, railways became important to the development of Willistown. In 1832, the first operating railroad in Pennsylvania was completed with its eastern terminus in Willistown. It linked West Chester to the Philadelphia and Columbia Railroad (later the Pennsylvania Railroad) at Malvern Borough. A trolley line linked Philadelphia to West Chester over what is now the West Chester Pike.

Through the 1870’s, a stagecoach also traveled from West Chester to White Horse via Sugartown three days a week, delivering mail and passengers.

The electrification of the Paoli and Philadelphia commuter railways in the 1920’s increased suburbanization in the area. Vehicle Routes 76, 202 and 476 have spurred this development since the second half of the 20th century.

Commerce

In 1796, the following trades were represented in the Township: 5 cordwainers, 2 carpenters, 2 tanners, 2 masons, 3 wheelwrights, a weaver, a saddler, 3 storekeepers, a cooper, 2 fullers, an innkeeper, a clock and watchmaker, 2 millers, a tailor, a chairmaker, and a smith.

Mills were an important industry in the Township through the 1800s. Thus, much of the Township’s settlement occurred along the Ridley Creek watershed. Between 1720 and 1900 the Okehocking area contained Willistown Township’s most active milling enterprises. The full gamut of milling occurred here, including bark mills, fulling mills, saw mills, grist mills, tilt mills, and paper mills. Only scattered ruins make evident the existence of these mills today.

Blacksmith and wheelwright operations, inns, and other services grew up along the major routes of travel. Standing examples include Goshen Road’s Rising Sun Tavern and the State Road’s (now West Chester Pike) Willistown and William Penn Inns.

In 1865, one of the country’s first platinum refineries was located in Sugartown. It was destroyed by fire in 1903.

Agriculture

Agriculture was one of the most important industries in the Township from the period of first settlement until the 1950’s. While not nearly as significant today, agriculture does continue to dominate the local landscape character. Much of the Township’s historic architecture reflects its agricultural roots and the changes that occurred in that industry over the last 250 years.

The agricultural evolution began with 18th-century family farms producing a variety of crops, among them grains, such as wheat and corn, or orchards. By mid-19th century, farms grew larger and included crops of wheat, Indian corn, oats, potatoes, hops, hay, butter, as well as livestock such as horses, sheep, cows, beef cattle, and swine. Mid-19th century barns reflect these expansions with large forebays and shed additions to accommodate a larger variety of crops and livestock. From the latter decades of the 1800s to the mid-20th century, dairy farming was prevalent throughout much of the Township.

In the early 1900’s Dr. Thomas G. Ashton of Philadelphia acquired many small farms and assembled them into the mammoth Ridley Valley Farm, known today as the Delchester Farm. Ashton assembled more than 1,400 acres of land in about 1913, and joined the ranks of the area’s “millionaire-owned” breeding establishments.

Ashton established a model horse breeding operation at Del-Chester Stock Farm along Ridley Creek, with initial efforts centering on Percheron horses and some cattle. By the 1930's, Delchester Farm, while maintaining its horse breeding, had shifted its major focus to dairying and was distributing milk it produced (as well as milk it obtained from other farmers) locally. In the 1940's, Delchester joined other dairy farms in selling directly to Abbot's Dairy in Philadelphia. The herd was sold after a disastrous fire in 1943.

On October 2, 1909, Charles E. Coxe, the owner of Willisbrook Farm, deeded land and a building to the Township for the first permanent Township Office and Meeting Room.

In 1996, Willisbrook Farm was designated by the Commonwealth as a Century Farm to honor continuous farming by the same family for over one hundred years. The owners of this farm have also participated in Chester County's Agricultural Lands Preservation Program.

In 1981 the State Legislature adopted Act 43 which authorized a borough or township to establish an Agricultural Security Area in its municipality. Two hundred and fifty (250) or more acres of viable farmland, not necessarily contiguous, may be included at the request of landowners. Including farmland in an Agricultural Security Area protects farmers from ordinances that would restrict their farming practices; in addition, it makes it more difficult for state and local agencies to acquire the farmland through the power of eminent domain. Membership in an Agricultural Security Area is required for farmers to become eligible for both State and County "purchase of development rights" programs.

Architecture

Willistown has a splendid collection of rural vernacular architecture dating from 1720. Most noteworthy are the Township's massive stone "Pennsylvania" bank barns.

Many of the residential structures in the Township can be characterized as Pennsylvania additive farmhouses which started with modest stone cores and grew as family size demanded and economic prosperity permitted. Materials were locally obtained and plans were modest and utilitarian. Only a few significant historic houses vary from the more utilitarian examples. One is the frame Victorian Harvey Garret house, with its Gothic crossed-gables and bits of bargeboard; another is the A. Atwater Kent House, designed in the Georgian Revival style. Both of these exceptions are testaments to the late 19th and early 20th century styles.

Historic Resources and Districts

The Township has no individual resources listed on the National Register of Historic Places. As mentioned above, however, three historic districts, Sugartown, Okehocking, and White Horse, are listed on the National Register.

The Willistown Township Historic Commission is charged with gathering information, documenting, and helping to preserve the Township's resources through planning efforts such as this and, in recent years, in working with the Township's planning consultant to draft the Township's Historic Preservation Ordinance, Article XXIX of Chapter 139, Zoning. The Historic Commission is an advisory agency to the Township.

3.3 | LAND USE PATTERNS

3.3.1 GENERAL DESCRIPTION OF LAND USES

The land use patterns in Willistown Township reflect the Township's rural, agricultural origins in the south and the development of markets and rail transportation in the north (see Map 1: Existing Land Use, 2008). Although only a handful of farmers still operate within the Township, the nature of large farming operations is to create and sustain a very rural landscape. Thus active farming and/or large residential uses (over 6 acres per unit) comprise approximately 5,242.91 acres (44.86%) of the Township's land area. Agricultural/rural uses remain the largest uses of land in Willistown Township and are a testament to the enduring use of land for agricultural purposes. Substantial acreage has been permanently preserved throughout the southern portion of Willistown Township. These lands continue to perpetuate the Township's rural landscape character even though agriculture as a leading industry ended in the 1950's.

In addition to being fairly open, buildings in the rural portion of the Township are few and widely separated from one another except in the villages of Sugartown, White Horse, and Okehocking. Buildings are often old and true to Willistown's rural roots. This is a landscape that has maintained its historic integrity. Signs and other visual intrusions are rare. In today's world, this landscape is a rare jewel, especially as the broader landscape becomes more developed and auto-oriented. Clearly, the actions of Willistown and many of its partner conservation organizations have contributed greatly to the preservation of land in this and other portions of the Township.

It must be noted that the land uses along Route 3 in the southern part of the Township demonstrate a more in-

MAP 1

front

MAP 1

back

tensely developed pattern than does the rural heart, although not at the same level as does Route 30 or Paoli Pike. Nevertheless, Route 3 contains isolated commercial uses (such as restaurants) and townhouse complexes. Where permitted, additional commercial and higher density residential uses will likely be drawn to this accessible corridor. However, the Township has taken great pains to ensure that such uses do not overwhelm adjacent lands, that access is carefully managed, and that limits are placed on the extent to which such uses are permitted to encroach on the rural heart of the Township. It has been the Township's energy and vision that have largely contributed to the protection of viewsheds along the Route 3 corridor and its continued vigilance will be needed if these viewsheds are to be preserved in the future.

Heading north toward Paoli Pike, land use becomes more suburban, reflecting the Township's growth period between 1950 and 1970. Although lots are smaller (often between one-half acre and two acres), the land uses are predominantly residential in nature. Within many of these residential developments, particularly those where density is higher and houses are closer to one another, the

sense of community is strong. In fact, Willistown Township was described as a community of neighborhoods in the 1980 *Guidelines for Growth*; such neighborhoods include Paoli Manor, Ronnie Park, Stonehenge, and Willistown Acres, among others. Large parcels in these areas of the Township are often utilized for institutional, educational, or religious purposes. Such uses do not tend to detract from the residential character, but contribute to it.

Land use in the northernmost portion of the Township is more varied and intense than that in the south. It is characterized as suburban and urban in some places, particularly around Malvern Borough and near Paoli. North of Devon Road and Paoli Pike on both sides of Malvern Borough, land uses are even more intense, both in terms of density and variety of land uses. Commercial, retail, transportation centers, and quasi-industrial uses are found. Land adjacent to Route 30 and Paoli Pike east of Malvern is strongly oriented to vehicular traffic.

Table 3-1: Summary of Land Uses in Willistown Township, 1980, 1995, and 2008

| Land Use | 1980 Acres (%) | 1995 Acres (%) | 2008 Acres (%) |
|--------------------------------------|----------------------|----------------------|----------------------|
| Agricultural/Residential (6+ acres) | 6,590 (55.9) | 6,387 (54.2) | 5,242.91 (44.86) |
| Agricultural/Residential (4-6 acres) | 810 (6.9) | 1,218 (10.4) | 1,341.62 (11.48) |
| Agricultural/Residential (2-4 acres) | 1,640 (13.9) | 1,689 (14.4) | 1,576.15 (13.49) |
| Residential (1-2 acres) | 450 (3.8) | 1,211 (10.3) | 550.88 (4.71) |
| Residential (< 1 acre) | 510 (4.3) | 73 (0.62) | 579.64 (4.96) |
| Multifamily | 60 (0.5) | 162 (1.38) | 418.81 (3.58) |
| Institutional (Semi-public) | 1,200 (10.2) | 755 (6.4) | 863.56 (7.39) |
| Institutional (Public) | 70 (0.6) | 38 (0.33) | 48.18 (0.41) |
| Industrial | 70 (0.6) | 90 (0.76) | 106.50 (0.91) |
| Commercial | 60 (0.5) | 73 (0.62) | 188.42 (1.61) |
| Parkland | 30 (0.2) | 71 (0.6) | 415.82 (3.56) |
| Roads | 280 (2.4) | — | 355.63 (3.04) |
| Total | 11,770 (100%) | 11,770 (100%) | 11,770 (100%) |

It is useful to look closely at Table 3-1: Summary of Land Uses in Willistown Township, 1980, 1995, and 2008. One distinction from the last plan is the allocation of what had been called “vacant land” into the Agricultural/Residential category. The main reason for this reallocation is that it became clear there is no real distinction between what had been labeled “vacant” and what had been open land on larger agricultural/residential properties. Map 8: Protected and Developed Lands differentiates developed from undeveloped or uncommitted lands in order to more fully understand what land is truly “vacant.”

Changes in other categories also warrant explanation. For example, the residential 1-2 acre category shows a marked increase from 1980 to 1995; although it is tempting to explain this as a partial consolidation of lots due to a decline in residential <1 acre, a thorough evaluation of current GIS data assembled from local and county databases indicates a much closer allocation of acreage in both categories for 2008. The most likely explanation for this anomaly is the misallocation of acreages for these two categories in 1995. Another interesting anomaly is the decline in institutional (public) land from 1980 to 1995, followed by a slight increase in 2008. The explanation here is attributed to a slight increase in land for this category from 1995 to 2008. Furthermore, the Township has seen increases in land used for industrial and commercial purposes (a good indication of the success of the Township’s efforts to provide a fair share of such uses). Also worth noting is the large jump in parkland from 1995 to 2008 (much of which is attributable to recent acquisitions such as the Okehocking Preserve).

In general, the Township has seen a decline in land attributable to agricultural/residential (6+ acres) consistent with increases in land allocated to other residential categories [agricultural/residential (4-6 acres), residential (1-2 acres), residential (<1 acre), and multifamily]. This is likely attributable to several things: simple subdivision (where applicable), changes in zoning categories, and the use of overlay provisions that provide for higher density development in select zoning districts.

It should also be noted that the methods of accounting used from 1980 to 2008 may have contributed to slight differences in data sets. This type of variation may always be an issue although the use of GIS for calculating acreages may reduce inconsistencies in the future.

3.3.2 NOTABLE LAND USES

Many institutional uses are located within Willistown Township. In fact, prior planning efforts note that other than residential or agricultural uses, institutional uses accounted for the largest proportion of land uses. This category appears to have increased substantially during the 1960’s. Uses include the American Institute for Property and Liability Underwriters, Bryn Mawr Rehabilitation Hospital, Daylesford Abbey, the Devereux School, Norbertine Seminary, Paoli Memorial Hospital, Phelps School, the Radnor Hunt Club, Villa Maria Academy, the White Manor Country Club, and the General Wayne and Sugartown schools.

As noted above, most of these institutional uses do not diminish neighborhood character. Rather, they often enhance quality of life for neighbors by ensuring sufficient property maintenance, keeping large portions of properties “green”, and by making properties available to neighbors to enjoy. Such institutions tend to be good neighbors.

Yet these land uses also have great potential for impacting landscape character. They occupy large parcels of land, yet may be significantly under-utilized. During difficult economic times, some of these institutions may seek to ease financial woes by selling off or developing portions of their land. In fact, proposals like this have been presented to the Township recently (most notably, the residential development approved on lands formerly owned by Bryn Mawr Rehabilitation Hospital). While planning efforts such as this cannot anticipate such development proposals, the Township would do well to maintain a dialogue with local institutions in the future.

It should be noted that a significant amount of Township land, particularly in the southern portion of the Township, is set aside as open space, either through ownership (such as the Okehocking Preserve) or through the voluntary donation of conservation easements. Taken as a whole, land either protected or already developed makes up a large percentage of the Township’s overall land area; as such, the Township’s uncommitted or undeveloped land (potentially available for future development) has diminished greatly in recent years. As development pressures intensify regionally, Willistown will likely see its remaining uncommitted lands developed; furthermore, it is likely the Township will experience increased redevelopment as the scarcity of “green fields” intensifies.

3.4 | DEMOGRAPHIC PROFILE

3.4.I POPULATION ANALYSIS

Population Growth

Since 1950, Willistown Township has experienced a substantial population increase. By the year 2000, its net gain of 7,302 residents represented a growth rate of 270% during that 50-year period. On a decade-to-decade basis, the rate of growth has fluctuated. In the 1950's, a rather modest population base more than doubled, as Willistown's northern end felt the impacts of post-war suburbanization, spurred in this case by rail access to center city from Paoli. During the 1970's, the Township actually lost population. More recently, as reflected in data from the U.S. Census for 1990 and 2000, the growth in population has become more moderate and less volatile. This places Willistown in a comparable position to several of its neighboring municipalities as a maturing community with a diminishing reservoir of developable land.

Census figures for the Township through the year 2000, including the rate of growth during each decade, are as follows:

| Year | Number (%) |
|------|---------------|
| 1950 | 2,709 |
| 1960 | 6,492 (139.6) |
| 1970 | 9,128 (40.6) |
| 1980 | 8,282 (-9.2) |
| 1990 | 9,380 (13.2) |
| 2000 | 10,011 (9.4) |

Table 3-2: Population Growth and Percentage Rate of Growth for Willistown Township

For the period 1960-2000, the U.S. Census documents the overall rate of growth in Chester County and Willistown Township as follows:

| Location | Percentage |
|---------------------|------------|
| Chester County | 106% |
| Willistown Township | 65% |

Table 3-3: Rate of Growth in Chester County and Willistown Township

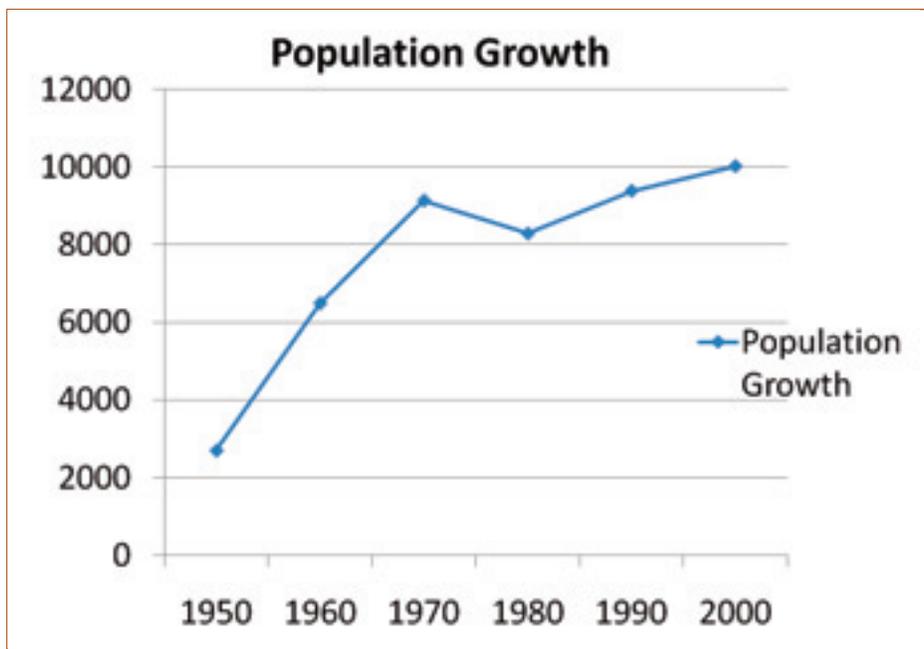


Figure 3-1: Willistown Township Population, 1950-2000

Population changes for the most recent two decades (based on U.S. Census information from 2000 and Chester County Planning Commission estimates for 2007) place Willistown roughly in the middle of its Chester County municipal neighbors with respect to growth rates, well behind Charlestown and East Whiteland (along with Chester County as a whole) while modestly outpacing Malvern, Easttown and Tredyffrin. The amounts and rates of population growth in the County, Willistown, and its neighboring municipalities compare as follows:

If all approved dwelling units are eventually built on these tracts, a total of 199 new residences would result. Applying the current 2.55 average household size, this would yield an additional population increment of 507, or a 4.6% increase in the currently estimated Township total.

Population Characteristics

Data from the 2000 U.S. Census offer a statistical depiction of a variety of aspects of the Township’s residents, as well as the ability to make comparisons over

| Location | 1990 | 2000 | %Increase 1990-2000 | July 2007 (estimate) | %Increase 2000-2007 |
|----------------|---------|---------|---------------------|----------------------|---------------------|
| Chester County | 376,736 | 433,501 | 15.2 | 486,345 | 12.2 |
| Willistown | 9,380 | 10,011 | 9.4 | 10,741 | 7.3 |
| Charlestown | 2,754 | 4,051 | 47.1 | 6,352 | 56.8 |
| Easttown | 9,570 | 10,270 | 7.3 | 10,493 | 2.2 |
| East Whiteland | 8,398 | 9,333 | 11.1 | 10,581 | 13.4 |
| Malvern | 2,944 | 3,059 | 3.9 | 3,099 | 1.3 |
| Tredyffrin | 28,028 | 29,062 | 3.7 | 28,948 | -0.4 |

Table 3-4: Population Growth and Rate of Growth for Chester County, Willistown and Neighboring Communities

time and with the population of Chester County. Among them are the following:

Between January 2007 and November 2008, the Township issued permits for 22 new residential units. At an average household size of 2.55 (as reported in the 2000 Census), the new dwellings represented by these permits could be expected to add an increment of 56 to the estimated 2007 population of 10,741, producing an estimated current population of 10,797.

One other indicator of potential population growth is the extent of residential subdivision and land development applications that have received final approval but have yet to secure building permits for some or any of the approved dwelling units. Tracts that are in this situation, and the number of additional dwelling units for which building permits have not yet been obtained at each location, include the following:

- Applebrook Meadows – 144 dwelling units
- Daylesford Abbey Property – 55 dwelling units

| Township Population Density (persons per sq. mile; 18.5 sq. mi. total) | | | |
|--|-------|-------|-----------------|
| 1980 | 1990 | 2000 | 2007 (estimate) |
| 455.2 | 515.4 | 541.1 | 580.6 |

Table 3-5: Willistown Township Population Density

This measure can be seen as a surrogate for tracking population growth. As noted in the 1997 comprehensive plan, it has a bearing on such matters as planning for recreation facilities. In that regard, it continues to be true that the Township’s overall population density consists of the relatively dense northern sector and the far less dense southern area. For purposes of context, the 2000 population densities among Willistown’s neighbors included Charlestown (270 persons per sq. mi.), Easttown (1,252),

East Whiteland (778), Malvern (2,549), and Tredyffrin (1,460).

The following data offer a snapshot of the ethnicity, age composition, and education levels of the Township population in 2000.

| Township Population by Race | 1990 (%) | 2000 (%) |
|-----------------------------|--------------|--------------|
| White | 9,117 (97.2) | 9,618 (96.1) |
| Black | 184 (2.0) | 225 (2.2) |
| Asian, Pacific Islander | 72 (0.8) | 149 (1.5) |
| Other | 7 (0.1) | 49 (0.4) |

Table 3-6: Willistown Township Population by Race

| Township Population by Age group, 2000 | | |
|--|-------|-------|
| Under 5 years | 589 | 5.9% |
| 5 to 9 years | 609 | 6.1% |
| 10 to 14 years | 703 | 7.0% |
| 15 to 19 years | 602 | 6.0% |
| 20 to 24 years | 278 | 2.8% |
| 25 to 34 years | 989 | 9.9% |
| 35 to 44 years | 1,638 | 16.4% |
| 45 to 54 years | 1,756 | 17.5% |
| 55 to 59 years | 721 | 7.2% |
| 60 to 64 years | 552 | 5.5% |
| 65 to 74 years | 968 | 9.7% |
| 75 to 84 years | 516 | 5.2% |
| 85 years and over | 90 | 0.9% |
| 18 years and over | 7,668 | 76.6% |
| 21 years and over | 7,463 | 74.5% |
| 62 years and over | 1,907 | 19.0% |

Table 3-8: Willistown Township Population By Age Group

In 2000, Chester County’s population was distributed across these groups as follows: White, 89.2%; Black, 6.2%; Asian, Pacific Islander, 2.0%; Other, 1.4%.

| Hispanic or Latino Population (of any race) 2000 | |
|--|----------------|
| Willistown Township | 81 (0.8%) |
| Chester County | 16,126 (3.7 %) |

Table 3-7: Hispanic or Latino Population in Chester County and Willistown Township

The Hispanic or Latino population is recognized on the basis of national origin (i.e., Mexican, Puerto Rican, Cuban, or other), and not race. In this way, Table 3-7 presents different, but not mutually exclusive, information from Table 3-6.

Census data make clear that, since 1980, the Township’s population not only has a median age that is older than Chester County’s, but the difference between the two figures is actually widening. This is further borne out when comparing the County’s cohorts of 18-and-over (%), 21-and-over (%), and 62-and-over (%) with those of the Township. While the Township percentages seem to correlate with, and quite likely are attributable to, the cost of housing in Willistown, the increased housing diversity that has emerged during the past two decades should eventually have some impact on this trend.

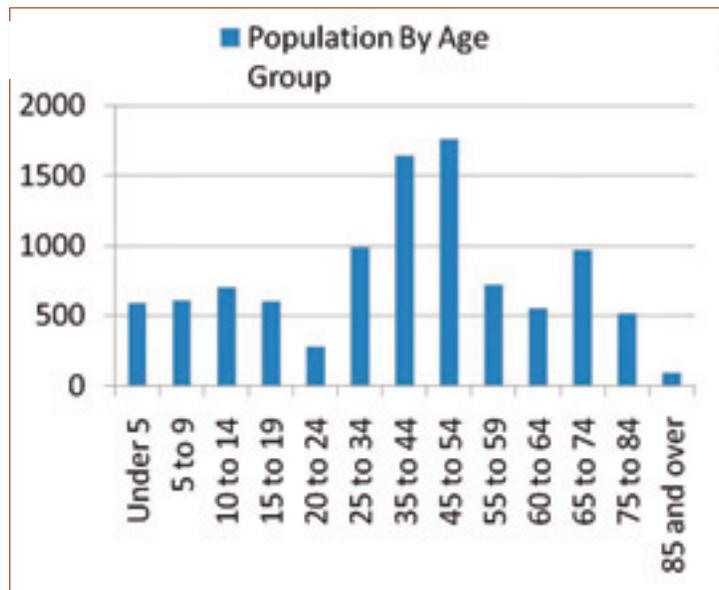


Figure 3-2: Willistown Township Population, by age group, 2000

| Median Age | 1980 | 1990 | 2000 |
|---------------------|------------|------------|------------|
| Willistown Township | 34.7 years | 39.4 years | 42.8 years |
| Chester County | 30.5 years | 33.8 years | 37.0 years |

Table 3-9: Median Age for Chester County and Willistown Township

| Township Population by Gender, 2000 | | |
|-------------------------------------|-------|-------|
| Male | 4,841 | 48.4% |
| Female | 5,170 | 51.6% |

Table 3-10: Willistown Township Population By Gender

This distribution of the Township's population in 2000 was only slightly at variance with Chester County's, in which males comprised 49.1% and females 50.9%.

| Township Population Educational Attainment, 2000 | |
|--|-------|
| High school graduate or higher | 95.3% |
| Bachelor's degree or higher | 56.6% |
| Graduate or professional degree | 22.8% |

Table 3-11: Educational Attainment in Willistown Township, 2000

| Location | 2000 | 2020 | 2035 | Change (#,%) 2000-2035 |
|----------------|---------|---------|---------|---------------------------|
| Willistown | 10,011 | 11,580 | 12,149 | 2,138 (21.4%) |
| Charlestown | 4,051 | 7,505 | 8,944 | 4,893 (120.8%) |
| Easttown | 10,270 | 11,506 | 12,577 | 2,307 (22.5%) |
| East Whiteland | 9,333 | 11,844 | 13,173 | 3,840 (41.1%) |
| Malvern | 3,059 | 3,358 | 3,603 | 544 (17.8%) |
| Tredyffrin | 29,062 | 30,983 | 32,778 | 3,716 (12.8%) |
| Chester County | 433,501 | 557,623 | 622,498 | 188,997 (43.6%) |

Table 3-12: Population Forecasts for Chester County, Willistown and Neighboring Communities

Not unexpectedly, educational levels attained by Willistown residents exceeded those of Chester County in 2000. For the County's population, 89.3% were high school graduates, 42.5% had a bachelor's degree, and 15.9% had a graduate or professional degree.

Population Forecasts

Forecasts of municipal population are prepared periodically by the Delaware Valley Regional Planning Commission in collaboration with the Chester County Planning Commission. The most current forecasts are based on the 2000 U.S. Census data, and take account of birth, death, and migration rates, as well as land use regulations and anticipated future development. The DVRPC/CCPC forecasts to the year 2035 for Willistown and its neighboring municipalities, and for the County as a whole, are as follows in Table 3-12.

Consistent with the estimated populations for 2007, the rate of growth in Willistown's population to 2035 is expected to lag well behind that of Charlestown, East Whiteland, and Chester County as a whole, but to remain generally compatible with rates in Easttown, Malvern, and Tredyffrin. These forecasts serve as one benchmark in the development of future land use policies in Chapter 5, where they can be examined in comparison to the results of a build-out analysis.

Average Household Size (persons per household)

| Location | 1980 | 1990 | 2000 |
|---------------------|------|------|------|
| Willistown Township | 3.08 | 2.73 | 2.55 |
| Chester County | 2.90 | 2.70 | 2.70 |

The steady decline in average household size in Willistown continues to be attributable to the corresponding increase in the diversity of the housing stock, as shown in Subsection 3.4.2, below. Based on the building permits issued since 2000, this trend should continue but at a less precipitous rate.

Table 3-13: Average Household Size in Willistown Township

3.4.2 HOUSING ANALYSIS

The following information relates to housing growth, mix of units, ownership and value.

Township Population and Housing Unit Growth, 1980-2006

| | 1980 | 2000 | 2006 (estimate) | % Change |
|---------------|-------|--------|--------------------|----------|
| Population | 8,282 | 10,011 | 10,687 | 29% |
| Housing Units | 2,745 | 3,932 | 4,412 | 60.7% |

These comparative figures offer another look at the ongoing diversification in Willistown's household size and composition, which largely is a consequence of its enhanced mix of dwelling types. The 1997 comprehensive plan documented departures from the traditional makeup of families in the Township, leading to greater demand for, in this case, townhouse dwellings. As noted above, the dwelling unit mix is still moving in that direction.

Table 3-14: Willistown Township Population and Housing Unit Growth

Township Housing Stock by % mix of dwelling unit types, 1980-2000

| | 1980 | 1990 | 2000 |
|------------------------|------|------|------|
| Single-family detached | 89 | 81 | 75 |
| Townhouse | 3 | 15 | 21 |
| Apartment | 8 | 3 | 4 |
| Mobile home | — | 1 | — |

Table 3-15: Willistown Township Housing Stock by Mix of Dwelling Units

During the period 2000-2006, based on data from the Chester County Department of Assessment as prepared by the Chester County Planning Commission, a total of 480 new residential units were built in Willistown Township. This represents a rate of growth in the housing stock of 12.4% for the six-year period. For the years 2004-2006, 217 new dwelling units were added; of these, 194 were townhouse units and the remaining 23 single-family detached. The County data do not include the mix of new dwelling units for the period 2000-2003, but the 2004-2006 data offer clear evidence that the share of the housing stock represented by townhouses continues to increase.

| Township Housing Stock Rate of home ownership | | |
|--|-------|-------|
| 1980 | 1990 | 2000 |
| 87.4% | 88.7% | 89.1% |

Table 3-16: Willistown Township Rate of Home Ownership

The Willistown community remains firmly based in the owner-occupancy of its dwelling units. Recently, this continuing upward trend appears attributable to the addition of townhouse units, and not apartments, to the housing stock. County-wide in 2000, the home ownership rate stood at 76.3%. Among Willistown’s neighbors, only

Township Housing Stock Median value of owner-occupied units

| | |
|------|-----------|
| 2000 | \$211,800 |
|------|-----------|

Table 3-17: Willistown Township Median Value of Owner-Occupied Units

Charlestown Township, at 92.2%, had a higher rate of home ownership.

For Chester County as a whole, the median value of owner-occupied dwelling units in 2000 was \$182,500. Data provided in the Township’s 1997 *Guidelines for Growth* show that, in 1991, the median sale price of a home in Willistown was \$155,000, as compared to the County’s median of \$146,000. The 1997 plan makes the point that, to the extent residences in the Township are affordable, it is attributable to the income levels of current residents. “Affordability,” as a vehicle to attract greater diversity among future Township residents, continues to lag.

Among all housing units in the Township in 2000, 96.8% were occupied, leaving a vacancy rate of 3.2%. Within this group of 126 units, 17 (0.4%) were deemed to be for seasonal, recreational, or occasional use. The overall vacancy rate of 3.2% constitutes a decline from the 4.0% of 1990 and 3.9% in 1980. The 2000 vacancy rate also was widely divergent on the basis of tenure, with the for-sale rate at 0.8% and the rental rate at 8.4%.

3.4.3 ECONOMIC PROFILE

Data from the 2000 U.S. Census also provide indicators of certain economic characteristics of Willistown Township residents. These include types and locations of occupations, the means by which employed residents travel to their place of employment, and selected data on income levels.

Among the Township’s 7,983 residents aged 16 years and older, 5,091 (63.8%) were in the civilian labor force. Of these, 4,898 were employed; while 193 individuals (3.8% of the civilian labor force) were unemployed. This total work force was comprised of the following occupations:

| | | |
|---|-------|-------|
| Management, professional, and related occupations | 2,749 | 56.1% |
| Sales and office occupations | 1,291 | 26.4% |
| Service occupations | 359 | 7.3% |
| Production, transportation, and material moving occupations | 284 | 5.8% |
| Construction, extraction, and maintenance occupations | 196 | 4.0% |
| Farming, fishing, and forestry occupations | 10 | 0.4% |

Table 3-18: Willistown Township Workforce Occupations

Census data reported 4,785 workers who described their commute to work according to the following options:

| | | |
|----------------------------|-------|-------|
| Car/truck/van, drove alone | 4,001 | 83.6% |
| Car/truck/van, carpooled | 319 | 6.7% |
| Public transportation | 163 | 3.4% |
| Walked | 54 | 1.1% |
| Other means | 5 | 0.1% |
| Worked at home | 243 | 5.1% |

Table 3-19: Willistown Township Workforce Commuting Options

The mean travel time to work was 25.4 minutes.

In 1999, a total of 50 Willistown families were reported to be in poverty status; of these, 39 included children under age 18. It is important to note that although the Township’s median household income is higher than the County’s, more than 60% of the Township’s population has household income of under \$100,000.

| Household income, 1999 | | | | |
|------------------------|-----------|-------------------|-----------------------|----------|
| | <\$50,000 | \$50,000–\$99,999 | \$100,000 and greater | Median |
| Chester County | | | | \$65,295 |
| Willistown Township | 31.1% | 30.6% | 38.4% | \$77,555 |

Table 3-20: Willistown Township Household Income

3.5 | DEMOGRAPHIC IMPLICATIONS FOR PLANNING

The Township’s 1997 *Guidelines for Growth* identified the “globalization” of the national economy and the uncertainty instilled in many workers regarding job security and long term earning potential. Clearly the current financial crisis and its reverberations around the world attest both to the fragility of global markets and the potential for greater cooperation in the years to come. Nevertheless, financial uncertainty today continues to leave many workers unsure of their job stability. In 1997, the first wave of “baby boomers” was turning 50; clearly that generation is now contemplating retirement, although under unanticipated and disquieting conditions for many.

We have seen and will continue to see rapid changes in technology that promise to change the way we work, play, and relate to the world. In addition, the high cost of fossil fuels and their impact on air quality and contributions to climate change will surely influence our use of

the automobile and affect land use in the coming years.

Willistown Township remains a healthy community. The potential to expand employment opportunities is directly related to a well educated population and while the Township’s population is certainly aging, the historic trend towards valuing education continues. Other advantages exist as well, including: proximity to Philadelphia with its social opportunities and regional transportation systems (which appear slated for improvements in the coming years); modest yet still significant additions to the Township’s housing stock, particularly those units geared to the aging population and young professionals; and a large population of adults (generally a stable, responsible, committed, and involved population group).

In 1997, *Guidelines for Growth* addressed areas in which Willistown’s then-current and projected demographic trends could have potential implications for the Township’s future. Each of these has taken a distinct course over the intervening years and forms the basis for future trends.

3.5.1 GROWTH IN POPULATION

The anticipated slowdown in Willistown's rate of growth was verified by the 2000 Census and Chester County Planning Commission's estimate of the 2007 population; the slope of decline, however, has proven less precipitous than was anticipated. The reduction in average household size also continued through 2000 (from 2.73 persons to 2.55 during that decade), but gave signs of bottoming out. The net increase in the housing stock, and especially the continually expanding availability of dwelling types other than single-family detached, should continue to facilitate the moderate rate of population growth now being experienced. The DVRPC forecast of 12,149 as Willistown's 2035 population, therefore, would appear plausible. This would constitute a 21.4% increase over the 2000 population. Clearly, the Township is not looking at a stagnation of its resident population over this period, and thus the issues of resource protection, future land use, and the provision of services and facilities with which this plan deals should retain much of their relevance, as well.

3.5.2 IMBALANCE BETWEEN DEMOGRAPHICS AND HOUSING STOCK

Seen as a problem in 1997, the fit between housing demand and supply seems to have improved since then. The 2000 Census documented the continued increase in townhouses as a component of the housing stock, from 3% in 1980 to 21% in 2000. Since then, the rate of growth in housing units (12.4% through 2006) continued to outpace population growth (estimated at 7.3% through 2007). With the vast majority of the recent dwelling units as townhouses, and with that same pattern marking currently approved but unbuilt plans, the diversity in the Township's housing stock that was offered as an objective in 1997 now appears much more within reach. The expanded and more varied housing choices, resulting both from market forces and Township land use regulatory policy, should better meet the needs of downsizing older adults, first-time homebuyers, and other housing consumers for whom Willistown previously offered very little realistic opportunity. Furthermore, additional housing choices help the Township meet its "fair share" of such uses within its borders. And, as the great majority of the new units will likely be owner-occupied, this traditional barometer of the Township's stable population and attendant robust levels of community involvement should continue to be a strength.

3.5.3 DIGITAL REVOLUTION

The 1997 discussion of this impending trend was rather prescient, but the pace of change in this direction has perhaps been less accelerated than was perceived at the time. The pursuit of home occupations undoubtedly has expanded among Willistown's residents, and regulatory language in that regard has received and is likely to require periodic review. Cell phone and other wireless device technology are undergoing rapid change and, here, too, the Township will likely need to continually examine its accommodation. Furthermore, consideration will need to be given to those workers permitted and/or encouraged to work from home several days a week.

3.5.4 INCREASINGLY HEALTH CONSCIOUS POPULATION

As predicted, one manifestation of this awareness is the quest of baby-boomers to "maintain their energy, vitality, and mobility." While these needs will be met, in part, by private and non-profit fitness facilities, the Township's provision of, and continued planning for, trails and other forms of passive recreation will remain essential. A more diverse population, however, will desire more varied recreation opportunities, including active sports options, youth league programs, and the like. These issues are examined in greater detail in Section 6.13.

3.5.5 OTHER POTENTIAL IMPLICATIONS FOR TOWNSHIP POLICY

- As noted, the prospects for increased diversity in the age, income levels, and family structures among the Township's future population are favorable. In the short term, such a trend may be further stimulated by the difficult housing market and the potential for increased housing availability at relatively affordable prices. If, however, near-term data (e.g., the 2010 Census) do not corroborate these changes, the Township may wish to examine how affirmatively it desires to facilitate them and take policy positions accordingly.
- Improvements in and around the Paoli rail station could contribute to the diversification of Willistown's population. This, in turn, should yield benefits in reduced auto commutation and the vibrancy of a pedestrian-friendly, mixed-use environment.
- If current economic and employment uncertainties persist for any extended period, revenue sources important to the Township, including the earned income tax and federal/state funding for road improvements and maintenance, may be strained.



Chapter 4

PROTECTING COMMUNITY VALUES: GOAL I

The first of Willistown's three fundamental planning goals is to protect the quality of Willistown's natural and man-made environments as a function of the community values and quality of life Township residents hold dear. Protection efforts should be concentrated on those natural and man-made resources which are limited and irreplaceable, and/or are ecologically sensitive.

The Township's 1997 comprehensive planning effort followed on the heels of the 1993 *Open Space, Recreation, and Environmental Resources Plan*. In fact, the 1997 plan directly extracted much of the information used for this chapter from the 1993 planning effort. While this version of *Guidelines for Growth* is a direct outgrowth of these past planning efforts, its mission is to update those plans and meld them into one cohesive planning document oriented to the provision of growth management, environmental resource protection, and recreation planning. As such, this chapter greatly expands on the information contained in both the 1997 *Guidelines for Growth* and the 1993 *Open Space, Recreation, and Environmental Resources Plan*.

General policies for protecting community values emphasize protecting those natural and man-made environmental features which either enhance the rural character, are limited and irreplaceable, or which are ecologically sensitive. Resource-based policies address such issues as natural topography, ground water, surface water, soils, vegetation and wildlife, historic and cultural resources, including local landmarks, parks and trails, and neighborhoods and housing stock.

4.I | GENERAL POLICIES FOR PRESERVING ENVIRONMENTALLY SENSITIVE LANDS AND NATURAL RESOURCES

- Continue to develop techniques by which to guide and encourage the conservation of land and promote its connectivity.
- Reexamine priorities for the conservation of land within the Township, e.g. woodlands and other vegetation, wetlands, habitat areas, surface water and ground water recharge/supply areas, steep slopes, etc.
- Encourage creative and innovative site planning using conservation design principles that maximize the

protection of key land and environmental resources; evaluate and maintain site hydrology; preserve and/or enhance significant concentrations of natural resources, open space, wildlife habitat, biodiversity corridors, and greenways (interconnected open space); incorporate unique natural, scenic, and historic site features into the lot configuration; preserve the integral characteristics of the site as viewed from adjacent roads; and ensure flexibility in development design to meet community needs for complementary and aesthetically pleasing development. Assist property owners, as appropriate, with land conservation and development alternatives during the sketch plan review of subdivision and land development proposals.

- Continue to protect individual environmental resources such as wetlands, floodplains and other hydrological resources, areas of steep slope, and woodlands. Monitor efficacy of regulatory provisions and update and refine as needed.
- Continue to support the Environmental Advisory Council and Planning Commission in appropriately filling their roles in a manner that protects resources. Consider training, workshops, and other techniques for ensuring these voluntary bodies have the support and tools they need.

4.I.I WATER RESOURCES

1. Resource-Based Policy

Continue to preserve and protect the Township's water resources, which include surface water resources (headwaters areas, flood plains, wetlands, hydric soils, and riparian buffer areas), and ground water resources.

2. Existing Conditions/ Background

Surface Water Resources

- Willistown Township falls within the headwaters of Ridley and Crum Creeks, both of which serve as significant sources of water for downstream urban areas (see Map 2: Water Resources). A small portion of the Township, that segment in the northeast corner which borders the borough of Malvern, drains into the Little Valley Creek.

MAP 2 FRONT

MAP 2 BACK

Headwaters areas include springs and marshes which exist at the uppermost terminus of stream corridors.

The water quality of the Township's streams and ponds has remained relatively high over the years, supporting healthy aquatic communities. As the Township comprises significant headwater areas, any man-induced impacts (primarily from land use practices) will have significant impacts on the quality of its surface water, thus potentially impacting downstream users. Headwaters areas recharge streams during periods of low flow, but are susceptible to pollution impacts, sedimentation and erosion, and runoff.

Stream order in Willistown Township, as mapped by the U.S. Geological Survey, consists of first-order or perennial streams, which constitute the headwater areas discussed above; second-order streams, which have first-order stream tributaries; third-order streams, which have second order (and possibly first-order) tributaries; and fourth-order streams, often referred to as main stems, which are made up of third-order (and lower) tributaries. Four orders of the Crum Creek, two orders of the Ridley Creek, and one order of the Little Valley Creek exist in the Township. As first-order streams are fed by springs or ephemeral streams, these streams are more impacted by direct runoff than are higher order streams.

Water use designations, to which certain water quality criteria apply, have been established by the PA Department of Environmental Protection. The West Branch of the Crum Creek is designated as Exceptional Value (EV) (the highest designation possible and the one with the most stringent water quality criteria), while the remainder of the Creek in the Township is listed as High Quality (HQ). The majority of the Ridley Creek in Willistown is designated High Quality (HQ). Although the Valley Creek is designated EV, pollution has been a source of concern on the Little Valley Creek (while all three streams show some impairments, the Little Valley is the only creek to which a Total Maximum Daily Load (TMDL) standard has been applied).

- Floodplain areas, in particular the 100-year floodplain as mapped by the Federal Emergency Management Agency (FEMA) for the Flood Insurance Program, are areas considered by FEMA to be susceptible to flooding events (the 100-year flood is considered the base flood along streams). Alluvial soils are those soils that result from repeated deposition of flood waters throughout long periods of time; alluvial soils indicate not only past flooding events but probable future flooding events. In Willistown Township, alluvial soils are the Calvert, Chewacla, Guthrie, Wehadkee, and Worsham soils.

- Wetlands have been increasingly recognized in recent years for their important ecological functions. They provide significant wildlife habitat and are important as storage areas for surface and ground water resources. Furthermore, such areas help filter and purify runoff that potentially enters streams and ground water aquifers. Wetlands also provide important nesting areas for birds and provide habitat for many other species of aquatic and terrestrial species. The U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection (PADEP) have established criteria for the delineation of wetlands; such criteria are based on soil type, hydrologic regime, and vegetation. Soils typical to wetland areas have been classified as hydric soils, e.g., those soils that have been formed under saturated (or anaerobic) conditions. In Willistown Township, hydric soils are the Calvert, Guthrie, Watchung, Wehadkee and Worsham soils.

- Riparian buffer areas have become recognized in recent years as contributing significantly to the health of watersheds and stream ecosystems. Riparian areas consist of land which forms a transition zone between aquatic and terrestrial environments; such areas serve to filter and remove pollution-laden runoff from entering water bodies, protect against streambank erosion and tree loss, provide shade that maintains cool water for healthy aquatic ecosystems, promote stabilized streambanks which reduce downstream transport of eroded sediment and pollutants, and provide food, cover and thermal protection for aquatic organisms and other wildlife.

Ground Water Resources

- The Township is underlain primarily by Gabbro (g), Gabbroic Gneiss (g) and Granite Gneiss (gn), with bands of Serpentine (Xs) and Wissahickon formation (Xwc and Xw). Gabbro and Gabbroic Gneiss, while highly resistant to weathering, provide good surface drainage. Wells in these formations have been found to yield an average of 15 gallons per minute, adequate for domestic residential use at low to moderate densities.

The Township's Serpentine formations, while also resistant to weathering (and providing good surface drainage), are rare geologic formations due to their composition and the fact that they were heavily mined in years past. As serpentine bedrock weathers, it forms soils enriched with magnesium, chromium, and nickel, but lacking in other essential nutrients. Such limitations have resulted in rare flora being found to exist in areas of Serpentine rock. As such, portions of these areas have been

placed on the Pennsylvania Natural Diversity Inventory (PNDI) (see discussion below).

Wissahickon formations are moderately resistant to weathering, provide good drainage and are capable of yielding an average of 75 gallons of water per minute.

The Township also contains several dikes and one fault. Due to the potential for increased fractures in fault zones, the ground water yields in these areas may exceed that of the surrounding areas. Conversely, such areas are more susceptible to ground water contamination and may pose stability questions for building foundations. Since such areas often indicate shifts in geology, care should be taken when digging or where other kinds of earth disturbance activities are anticipated.

As with any geologic structure, care must be taken to prevent pollution impacts to ground water.

- In recent years, radon has become an issue of concern in Chester County. In a study titled “Radon in Ground Water in Chester County, Pennsylvania,” (USGS, 1998) the median concentration of radon-222 in ground water from wells sampled throughout the county was 1,400 pCi/L (picocuries per liter). About 89 percent of the wells sampled contained radon-222 at concentrations greater than 300 pCi/L, and about 11 percent of the wells sampled contained radon-222 at concentrations greater than 5,000 pCi/L. The highest concentration measured was 53,000 pCi/L. Radon is a naturally occurring gas formed from the decay of radium, a common element in soils and geologic rock structures. Radon is a colorless and odorless gas that can be found dissolved in ground water or can seep through building foundations into homes as a gas. It should be noted that other isotopes of radium in addition to radon-222 may also be found in ground water. As of now, the EPA is recommending that individual water systems reduce radon levels in drinking water to 4,000 pCi/L or lower (public water supplies should reduce levels to 300 pCi/L or lower). Indoor airborne levels should be below 4 pCi/L; remedial action is suggested above this level. Because Chester County typically has high levels of radon, residents are encouraged to have their air and water tested.

3. Basis for Policy

- Surface waters provide amenity value, offer opportunities for recreation, help manage and channel flood waters, provide habitat for aquatic and terrestrial life, enhance biological diversity, and are sources of drinking water.

- Ground water is an important source of water supply and contributes to streamflow. Together, the Township’s water resources constitute a dynamic, interdependent system vital to the Township’s long term welfare and quality of life.

- Headwaters areas should be protected from the negative impact caused by sedimentation, erosion, and runoff. Wetlands and hydric soils provide important ecological functions and should therefore remain substantially undisturbed. To the extent possible, floodplain areas should remain undeveloped and undisturbed — for obvious safety reasons — and to limit the potential for erosion, downstream sedimentation, and obstruction or alteration of the floodway.

- Water quality and quantity can be directly and indirectly impacted by land use development and the modification of natural patterns of runoff.

- Withdrawals and discharges of water directly affect surface and ground water resources. Ground water withdrawals should not exceed sustainable supplies or contribute to reductions in streamflow. Given ground water yield (average of 15 gallons per minute) in the majority of the Township, those areas not served by public water should maintain low to moderate zoning densities; without proper planning, such areas’ ground water needs could exceed available supplies, particularly during periods of prolonged drought.

- Riparian buffer areas contribute significantly to the health of watersheds and stream ecosystems.

- Significant analysis of and guidelines for water resources protection comes from *Watersheds*, the water resources element of the County’s comprehensive plan prepared by the Chester County Water Resources Authority (CCWRA) in 2002. The plan outlines specific strategies, criteria, and recommendations for municipalities and others to protect water resources while accommodating for planned growth. To assist with implementation, CCWRA also prepared Watershed Action Plans (WAPs) “to assist municipalities, watershed and conservation organizations, and other stakeholders in understanding what needs to be done to protect and restore the water resources of each watershed.” These documents indicate the need to protect the resources of the watershed at the municipal level through stormwater management, riparian buffer protection, cultural and recreational resource protection, source water protection, and integrated water re-

sources planning. In addition, Township's are encouraged to increase public access to streams, where feasible, and assist in the restoration of impaired stream segments.

4. Township Planning and Regulation Today

- The Township's Environmental Protection Ordinance (EPO), Chapter 73, contains net-out provisions that assess potential impacts to sensitive natural resources through subdivision and land development and protects such resources by minimizing their disturbance. The provisions require the application of a resource protection ratio to protected land in order to calculate developable land. Natural resources protected through these provisions are: floodplains/floodways, wetlands, steep slopes, woodlands, hydric soils, and riparian buffer areas.
- Willistown Township has floodplain regulations that are also part of the Township's EPO. Floodplain regulations address the floodway, the flood-fringe, and the general floodplain area as documented in Flood Insurance Studies prepared by FEMA or as otherwise identified by alluvial soils.
- Wetland delineation and protection standards also exist within the Township's EPO. Delineation, as well as protection, is required for all wetlands in the Township.
- In 2000, the Township recognized the importance of riparian protection by enacting riparian buffer regulations. These standards, contained in the EPO, govern riparian corridor identification, permitted uses, corridor protection, riparian area management plans and selective planting enhancements where disturbance occurs or native vegetation does not exist.
- Individual sewage disposal systems, a potential threat to both surface and ground waters, are addressed in the Township's Subdivision and Land Development Ordinance.
- Water supply testing, distribution, and maintenance requirements exist within the Township's Subdivision and Land Development Ordinance.
- The Township's sewage facilities planning, as mandated under Act 537, the Sewage Facilities Planning Act, is discussed in the community facilities and services section of Chapter 6.
- In 2007, the Township adopted new stormwater man-

agement standards, contained in the EPO. Among the items addressed in the new standards are water quality, peak rate control, volume and infiltration issues. The Township also continues to participate in Act 167 (the Pennsylvania Stormwater Management Act) planning efforts with Chester County and others.

- The Township's EPO requires erosion and sedimentation control during land disturbance. Among other things are requirements for conservation plans, permits, preservation of top soil, site grading, and sedimentation and erosion control. The ordinance also contains additional conservation practices aimed at limiting the impacts of site construction activities; among these is the protection of vegetation and valued woodlands.
- The Township's Zoning Ordinance, Chapter 139, provides protection for water resources (both ground and surface) in several ways: impervious cover standards were adopted in recent years to address research that suggests watershed imperviousness contributes to stream degradation (Schueler, 1995, et. al.); the Township's agricultural zoning district (the RU Rural District) strives in part to facilitate the conservation and proper utilization of ground water supplies and control of surface water flooding; finally, the Township's Open Space Conservation District provides incentives for recharge-based land treatment and stormwater management facilities, encourages less impervious surfaces than conventional development, contributes to a reduction in pollutants from surface water runoff and helps maintain high levels of ground water recharge.
- The Township's Subdivision and Land Development Ordinance, Chapter 123, contains provisions for determining adequate water supply and sanitary sewage disposal.
- As is the case with water resources, regulation by the county (Public Health Department), the state (PA-DEP, PUC) and the federal government (US-EPA, DRBC) provide additional protection for water resources.

5. Recommendations for Policy Implementation/ Actions to Implement

- Continue to enforce the Environmental Protection Ordinance (EPO) and periodically refine and expand, as needed, the resource protection strategies contained therein. Encourage public and private landowners to adhere to the management and protection strategies contained in the EPO even on those lands not undergoing

development; continue to promote wise land management practices.

- Review and, where necessary, revise the Township’s development regulations to further encourage innovative site design, especially within headwaters regions.
- Consider additional public education and outreach activities specified in the NPDES Phase II rule for reducing pollutants and protecting water quality. Consideration should be given to working with watershed organizations that have created programs to assist municipalities in meeting these requirements.

The U.S. EPA’s NPDES Phase II rule identifies a specific management program for municipal separate storm sewer systems, or MS4s. Because most stormwater systems discharge directly into local streams and rivers without water quality controls, the EPA has made identified municipalities responsible for reducing pollutants and protecting water quality. While Willistown’s stormwater management ordinance goes a long way towards achieving this goal, the Township should consider additional public education and outreach activities specified in the Phase II rule.

- Consideration as warranted must be given to Total Maximum Daily Load (TMDL) issues identified by the U.S. EPA and PADEP for impaired stream segments within the Township. Although neither the Ridley Creek nor Crum Creek currently have established TMDLs, the Little Valley Creek (and Valley Creek) in the northern part of the Township have TMDLs established to address impaired water quality due to Polychlorinated Biphenyls (PCBs). As such, the Township should continue to monitor and participate in the TMDL as additional steps may be needed to mitigate pollution impacts to the Little Valley Creek.
- Utilize Chester County’s *Watersheds* plan and accompanying Watershed Action Plans (WAPs) for the Ridley, Crum and Valley Creeks to further protect resources and promote a better understanding of surface and ground water resource issues.
- Maintain the Township’s current sewage treatment and disposal emphasis on land application in rural areas to avoid stream discharge, consistent with the intent of the NPDES program.

The National Pollutant Discharge Elimination System (NPDES) program was created initially to reduce the amount of sewage effluent going into the nation’s streams

and rivers. The intent was to eventually eliminate all stream discharges in an effort to better protect streams from pollution. While numerous stream discharges exist today, the policy of reducing, if not eliminating stream discharges remains. As such, the Township should actively seek opportunities to eliminate remaining stream discharges over time and continue to encourage land application. This philosophy should be explicitly stated in the Township’s sewage facilities plan and pursued as appropriate.

- Encourage the donation of conservation easements in headwaters and flood plain areas.

4.1.2 LAND RESOURCES

1. Resource-Based Policy

Continue to guide and encourage the conservation of land. Continue to preserve and protect the natural resources of Willistown Township and promote techniques for land conservation, creative land planning and design.

2. Existing Conditions/ Background

Land resources of significance in Willistown Township include soils and steep slopes, as depicted on Map 3: Land Resources.

Soils

- The Township’s soils fall predominantly into sixteen soil series: Aldino, Brandywine, Calvert, Chester, Chewacla, Chrome, Conowingo, Edgemont, Glenelg, Glenville, Guthrie, Manor, Neshaminy, Watchung, Wehadkee, and Worsham. Several of these are alluvial soils (Calvert, Chewacla, Guthrie, Wehadkee, and Worsham); several of these are hydric soils (Calvert, Guthrie, Watchung, Wehadkee, and Worsham). Almost all of the upland soils of the Township are Class 1 and 2 prime agricultural soils.
- Soils generally have several properties which offer opportunities and constraints for their use. With regard to constraints, some soils have limitations for building, may be wet or flood-prone soils, may be indicators of wetlands and/or riparian areas, and may be subject to erodibility. Conversely, some soils are particularly suitable (opportunities) for construction and agricultural purposes.

MAP 3 FRONT

MAP 3 BACK

- Prime agricultural soils are formed by processes of mineral weathering and decomposition of organic matter; formation of these soils takes place over centuries. Prime agricultural soils are extremely fertile and produce high yield crops. Unfortunately, what makes these soils suitable for crops also makes them attractive for development and on-site septic systems. Development atop fertile soils renders them incapable of supporting crops, other vegetation, and wildlife. Given the nature of such soils, their removal is an irretrievable loss.

Steep Slopes

- In Willistown Township, steep slopes are largely related to stream corridors. Moderate to severe erosion can result from development in areas of steep slope. Such erosion can increase sediment loads in nearby streams, thus negatively impacting aquatic life. In addition, undisturbed sloped areas adjacent to streams contribute both to ground water recharge and stream base flows.

Wooded slopes contribute immensely to Township character; furthermore, such slopes perform important natural functions, particularly in conjunction with stream corridors, by intercepting runoff, reducing erosion, shading streams, improving air quality, and providing habitat for terrestrial and aquatic species.

3. Basis for Policy

- Starting in 1982 there has been a series of Governor's Executive Orders stating that the policy of the Commonwealth of Pennsylvania is to protect prime agricultural soils. Given the large amount of these soils and the steep slopes located in Willistown Township, the Township should continue to encourage innovative site design and the protection of prime agricultural lands.

- Use of land must take full account of the opportunities and constraints posed by the soils in the Township and seek to minimize soil loss under any circumstances.

- Development on sloped lands should only be done in accordance with standards that protect against structural instability, excessive erosion and sedimentation, and the loss of important ecological, visual, solar, and open space resources. On south-facing slopes, access to solar energy can represent a resource for which builders of new dwellings may, at their option, wish to avail themselves.

- Land preservation techniques can protect irreplaceable resources and be part of innovative site design that promotes resource conservation.

- Stewardship of land and environmental resources continues to be a major focus of Township efforts.

4. Township Planning and Regulation Today

- The Township's Environmental Protection Ordinance (EPO), Chapter 73, provides protection to soils and slopes in numerous ways. Floodplain (alluvial) and wetland (hydric) soils are protected through the Floodplain Conservation District and Riparian Buffer Area Conservation District, respectively. In addition, standards also exist to protect topsoil during construction. Soil erosion and sediment pollution control standards work in conjunction with stormwater management standards to minimize the impacts of runoff, erosion, and sedimentation. As part of its stormwater management standards, the Township created a soil use guide to assist with proper facility design and construction. The steep slope conservation district provides protection to prohibitive slopes (those in excess of 25%) and precautionary slopes (those between 15% and 25%). Finally, other standards regarding conservation of vegetation, wetlands protection, and landscaping contribute to the protection of the Township's soils and slopes.

With regard to the conservation of land and the protection of natural resources, the EPO also contains net-out provisions intended to calculate the amount of natural resource land that must be protected during the development process.

- The Township's Zoning Ordinance, Chapter 139, contains both an agricultural zoning district (the RU Rural District) and an open space district (the OSC Open Space Conservation District). Among other things, the RU District is intended to facilitate agricultural, conservation and recreation purposes, and protect and preserve natural and historic resources. The OSC District provides opportunities for compact development using creative site design that conserves land and protects open space.

5. Recommendations for Policy Implementation/ Actions to Implement

- Continue to enforce the Environmental Protection Ordinance (EPO) and periodically refine and expand, as needed, the resource protection strategies contain therein.

- Encourage the donation of conservation easements in, and appropriate stewardship of, steeply sloping stream corridors, wetlands and agricultural lands containing prime agricultural soils.

- Consideration should be given to expanding the Soil Use Guide contained in the EPO in order to facilitate increased use. Among other things, the Guide should address the appropriateness of certain types of uses, infiltration characteristics, aquifer recharge, depth to seasonal high water, hydrologic soil group, erodibility, alluvial properties and hydric properties. The Guide offers a useful reference tool for better understanding the soils that exist in the Township and could be used as a “first-cut” soils analysis planning tool, e.g., the Planning Commission could use the Guide when evaluating site plans during the plan review process and the stormwater management ordinance could reference the Guide for soils information (particularly with regard to soil properties such as infiltration characteristics, etc.).
- Promote the use of alternative “green technology” stormwater best management practices that promote infiltration and reduce runoff. Simple management techniques, such as disconnection (diverting downspouts to pervious surfaces so as to avoid concentrating storm flows) contribute to soil preservation and reduce soil compaction.
- Further promote the use of “minimum disturbance/minimum maintenance” as a methodology for limiting disturbance and compaction on development sites, thus preserving soils and natural site drainage characteristics.
- Review and, where necessary, revise the Township’s development regulations to further encourage innovative site design, especially within sloped areas and on prime agricultural soils. Township efforts at promoting protection and regulating accordingly form the foundation for preserving remaining rural/agricultural lands.
- Continue to support and fund the Township’s open space acquisition program administered by the Open Space Review Board.

4.1.3 BIOTIC RESOURCES

1. Resource-Based Policy

Continue to preserve and protect environmentally sensitive lands and areas of significant biotic resources.

2. Existing Conditions/ Background

Biotic Resources are depicted on Map 4: Biotic Resources.

Woodlands

• Willistown has a sizable amount of woodlands scattered relatively evenly throughout the Township. A comparison of woodlands mapping from the 1980 comprehensive plan and the aerial coverage utilized for this comprehensive plan indicates that woodlands have remained relatively stable over the last 29 years. While some loss has certainly occurred, such loss is relatively indiscernible. Today, woodlands comprise approximately 3,913 acres of Township land, or approximately 33% of the Township.

Much of the Township’s woodlands are concentrated along Ridley and Crum Creeks and their associated tributaries. Trees play a particularly important role in these areas in terms of stabilizing slopes, protecting floodplains and providing riparian habitat for wildlife. Riparian areas also provide an important transition zone between the aquatic and terrestrial environments; such areas provide both food and shelter for the majority of the Township’s remaining aquatic species.

Wooded areas also provide critical habitat area for native vegetation and wildlife. Several of the larger, more mature forest stands in Willistown, even though greatly altered by humans over time, are likely to support a considerable variety of species. Certain species of forest plants and wildlife depend specifically on the unique conditions of a healthy forest ecosystem. For example, many species of songbirds, particularly the colorful warblers, are specifically adapted to forest-interior conditions and will not nest elsewhere. In addition, numerous species of spring ephemeral wildflowers only bloom on the rich, moist soils of the forest floor. Such examples underscore the critical role that woodlands play in sustaining the natural variety of the landscape.

Woodlands also fulfill numerous other ecological functions, including their ability to reduce the rate of surface runoff, filter nutrients and sediment that might otherwise pollute streams, reduce thermal pollution to streams, moderate wind speeds, reduce air temperatures, improve air quality, reduce climatic stress, and abate glare, dust and noise. Further, woodlands offer opportunities for passive recreation and quiet reflection.

Pennsylvania Natural Diversity Inventory Sites

• The Township contains two impact zones for state-determined endangered species as part of the Pennsylvania Natural Diversity Inventory. Both areas are geological structures known as serpentine barrens: the Malvern or Sugartown Serpentine Barren and the Willistown Serpentine Barren (also referred to as the Cedar Barren). In

MAP 4 FRONT

MAP 4 BACK

order to preserve the integrity of such areas, the state does not generally give the exact location of such sites. As such, the sites indicated on the Biotic Resources Map are only approximations of the actual barrens themselves.

Serpentine barrens are rare geologic structures that have a unique mineral content. These structures provide habitat for an assortment of rare plant species, as well as species in danger of extinction. In addition, periodic fires have historically served to minimize the dominance of woody shrubs and trees on barrens. The resulting plant community is a rare, sparse collection of grasses, wildflowers, and stunted conifers and oaks. Natural succession to hardwood forest is stalled on these sites, with the adapted vegetation more closely resembling a savannah landscape.

Important to remember is that the uncommon structure and assortment of plants growing in serpentine barrens provides important habitat for wildlife. Most local species of mammals, songbirds, and birds of prey frequent the barrens habitat. In addition, barrens favor less common species, particularly ring-necked pheasant, American woodcock, savannah sparrow, blue-winged warbler, and yellow-breasted chat.

Since Willistown contains two barrens, it is also worth noting that interrelationships among barrens can be important. The long-term survival of certain populations of endemic plants (common to these habitats but uncommon elsewhere) may depend on “genetic exchange” between barrens, including pollination and seed dispersal.

Chester County Natural Areas Inventory

- The *Chester County Pennsylvania Natural Areas Inventory*, published in 1994 and updated in 2000, identified sites in the County that provide habitat for species of special concern or are considered exemplary natural communities. In 1994, several sites of statewide significance were identified in Willistown Township: the Malvern or Sugartown Serpentine Barrens (which contains nine plants of special concern), the “Crum Creek Barrens” (containing small populations of two wildflower plant species – SP551 & SP552 along a very small serpentine outcrop), and the “Mill Road Site” (containing fair populations of a single wildflower plant species – SP551). This study also identifies one species of local significance in Willistown Township: the Dutton Mill Marsh (a small cattail-sweet flag marsh and wet meadow with a diversity of sedges and wildflowers). Information updated in 2000 indicated the identification of a new site of statewide significance, the “Dutton Mill Woods” (containing two plant species – SP569 and SP567).

Locally Important Vegetation

- The Township also contains vegetation of local significance, e.g., specimen trees that are integral to the characteristic landscape of the Township. Defined as historic trees, these resources were identified by the Township’s Historical Commission in a publication entitled “Historic Trees in Willistown Township” and subsequently updated and refined as part of the Township’s Tricentennial Celebration in 2004 (see Map 4 - Biotic Resources and Appendix 1). The trees contained on this list (thirty in total) are believed to add character, beauty and a “sense of history” to the Township. It should be noted that of the sixteen trees originally surveyed, five no longer stand; however, the survey undertaken for the Tricentennial Celebration added nineteen trees to the list.

- Exotic, invasive vegetation are biotic resources not considered desirable for protection; such species can impact ecosystem processes and thereby out-compete or make unsuitable native habitat. The addition of invasive species and the reduction in number of native plants can affect both the structure and function of biological communities. Invasive plants can exclude native plant species by crowding for space or competing for nutrients, moisture and other resources, or can exhibit other qualities that make conditions unsuitable for natives. In addition, the loss of native plants and the proliferation of exotics can often lead to a loss of cover, food sources, nesting sites and other uses critical to the survival of native fauna.

Upper Ridley/Crum Important Bird Area

Nearly all of Willistown Township is located within the National Audubon Society designated Upper Ridley/Crum Important Bird Area (IBA). Audubon’s IBA program is a global conservation initiative that identifies and protects outstanding habitat for feeding, breeding, and migrating birds. The IBA, which was established in 2003, encompasses an area greater than 14,000 acres in Willistown and parts of neighboring townships, including all of Ridley Creek State Park and Tyler Arboretum. It is made up of the permanently conserved lands within the IBA, as well as unprotected large tracts deemed critical for conservation by municipalities and conservation organizations. The Upper Ridley/Crum IBA is one of 78 such areas in Pennsylvania, and is part of a global network of lands critical to bird habitat conservation. Audubon has identified the deciduous woodlands within the Township as critical habitat for woodland dwelling bird species such as the Kentucky Warbler, Wood Thrush,

Veery, and Scarlet Tanager. The old fields, hedgerows, and meadow habitats of the Okehocking Preserve are also home to important grassland bird species such as the Eastern Meadowlark, Field Sparrow, and Bobolink. Both woodland and grassland species are declining in population throughout southeastern Pennsylvania due to habitat fragmentation and loss caused primarily by suburban development. The size of protected habitat and its connectivity to neighboring natural areas are vital to the maintenance of these bird populations.

Deer Management

High deer populations have had dramatic negative effects on natural habitats in the form of degraded native plant communities, specifically woodland understory vegetation, which provides critical nesting and foraging habitat for migratory songbirds. Other challenging issues include increased deer-vehicle collisions, increased exposure to Lyme Disease and damage to crops and ornamental landscaping.

During the summer of 2007, the Willistown Conservation Trust (WCT), in partnership with Audubon Pennsylvania and Willistown Township, initiated the implementation of a deer management plan covering nearly 7,000 acres of the Upper Ridley/Crum Important Bird Area (IBA) and including over 125 (primarily) private landowners. In reviewing these group's land stewardship goals and priorities, the overabundance of white-tailed deer in the IBA presents the greatest ecological challenge. To meet this challenge an ecosystem approach to deer management was selected (as opposed to basing a strategy on deer counts alone). This broader-based, scientific approach has required WCT to work with a wide range of professionals, stakeholders and organizations such as the Pennsylvania Game Commission, wildlife biologists, ecologists, landowners, hunters, and conservation partners, to implement a plan. A steering committee was created to serve as ambassadors to local landowners and the Trust's outreach to the hunting community are critical pieces of the plan. Because landowners within the deer plan's focal area are the first line of communication with hunters operating on their properties, the Trust's relationships with them must be based upon mutual trust and respect. It is anticipated that the deer management plan will be implemented over several years and that physical manifestations of success will take time.

3. Basis for Policy

- The biotic resources of the Township represent valuable assets that sustain wildlife communities, contribute economic products, mitigate development impacts, offer recreational opportunities and provide outstanding living environments that contribute to the character of the community.

- The Township's biotic resources are a limited and indispensable element of its natural and rural charter and deserve protection.

- The Township's natural diversity remains generally good despite human disturbance associated with settlement and development. Maintaining natural diversity requires both a concentrated effort to retain an abundance of natural areas and a desire to preserve the ecological interconnectedness of such areas; in other words, not only the existence of natural areas but how they interconnect to form habitat networks that contribute to species diversity. As such, the Township has an obligation to present and future residents to preserve its remaining biotic resources and sensitive natural habitats.

4. Township Planning and Regulation Today

- The Township's Environmental Protection Ordinance (EPO), Chapter 73, provides protection to biotic resources in numerous ways. Among other things, the ordinance contains standards for the conservation of vegetation; the protection of wetlands; the preservation and enhancement of riparian buffer areas; the protection of woodlands; and the provision of landscaping. Floodplain and steep slope regulations also contribute to the protection of sensitive habitat areas that are home to various flora and fauna.

With regard to the conservation of land and the protection of natural resources, the EPO also contains net-out provisions intended to calculate the amount of natural resource land that must be protected during the development process.

Finally, the Township's stormwater management provisions within the EPO encourage Best Management Practices (BMPs) that utilize vegetation for water quantity and quality benefits, encourages minimum disturbance to soils and vegetation, and advocate low impact development practices that protect vegetation and reduce soil compaction.

- The Township’s Zoning Ordinance, Chapter 139, provides both a rural zoning district (the RU Rural District) and an open space district (the OSC Open Space Conservation District). Among other things, the RU District is intended to facilitate agricultural, conservation and recreation purposes, and protect and preserve natural and historic resources. The OSC District provides opportunities for compact development using creative site design that conserves land, protects open space, and provides opportunities for the interconnection of habitat areas (through the creation of biodiversity corridors).

5. Recommendations for Policy Implementation/ Actions to Implement

- Continue to enforce the Environmental Protection Ordinance (EPO). The ordinance provides direct protection of natural habitats through woodland/vegetation conservation standards, conservation plan requirements, and other related standards. Periodically assess and, if necessary, refine the resource protection strategies contained therein.
- Review and, where necessary, update the plant list contained in the Environmental Protection Ordinance (EPO)(Appendix B thereof). Continue to utilize this list as a reference to specify suitable native species for planting under varying site conditions; cross-reference this list, as needed, in other chapters of the Township Code. Consideration should also be given to updating invasive species lists (such as that contained in the Okehocking Preserve Management Plan of 2006) and providing guidance to manage and control the spread of such species.
- When configuring open space set-asides as part of development, consider ways to reduce wildlife habitat fragmentation and protect biodiversity corridors along streams and elsewhere.
- Continue to promote zoning, subdivision and land development, stormwater, and site design options that enhance the prospects for the retention of vegetation on sites undergoing development. Techniques such as “fingerprinting” (site planning techniques that limit the zones of disturbance), minimum disturbance/ minimum maintenance standards (which can reduce or eliminate the affects of land disturbance, clearing and grading), no-mow zones, vegetated filter strips, and other techniques should be encouraged.
- The Township should continue to encourage conservation easement donations that protect biotic resources.

4.2 | GENERAL POLICIES FOR PRESERVING AREAS OF SIGNIFICANT PHYSICAL, HISTORIC AND SCENIC VALUE

- Encourage the dedication of protective easements for historic or cultural resources.
- Encourage future development to reinforce the Township’s historic settlement pattern and continued use of land for agricultural purposes.
- Monitor efficacy of regulatory provisions related to scenic quality protection, including, for example, any landscaping, buffering and screening standards.
- Monitor efficacy of regulatory provisions related to historic resource protection and documentation.
- Monitor the usefulness of regulatory provisions related to historic resource protection and documentation.
- Promote techniques for creative land planning and design consistent with the Township’s conservation design principles to preserve scenic resources in the Township.
- Assist in the implementation of the recommendations made in the 2006 Okehocking Preserve Management Plan.

4.2.1 SCENIC, HISTORIC, AND CULTURAL RESOURCES

1. Resource-Based Policy

Continue to protect the quality of Willistown’s natural and man-made resource environments which enhance the overall character of the Township. Continue to preserve and protect areas of significant physical, historic, cultural, and scenic value. Minimize disturbance to scenic resources within the public viewshed as land undergoes change or is converted to other uses. Protect the integrity of sites and structures of historical or cultural significance.

2. Existing Conditions/ Background

Scenic Resources

- The Scenic, Historic & Cultural Resources Map (Map 5) quantifies and depicts the visual landscape of the Township as seen from public roads. The full inventory, done in considerable detail, documents visually significant lands in the public viewshed, vista points, historic

structures, and visual accents and intrusions. From a holistic perspective, the resources that comprise this landscape contribute significantly to the visual character of present-day Willistown and represent a significant component of the Township's heritage and sense of community. Further, the survival of such resources is a partial indication of Township and landowner commitment to preservation in light of continued growth.

- Visually significant lands are documented with regard to a visual boundary (referred to as the scenic boundary). Vista points designate broad, expansive views. Arrows leading from the vista points show the direction of the viewing opportunity. Thirteen vista points were selected on the basis of the depth and undisturbed quality of landscapes representative of Willistown Township's character. It should be noted that three additional vista points were identified as part of this planning process (in addition to the ten identified in the 1993 study).

Visual accents are those manmade objects or structures (or natural habitats) which enhance or contribute to the landscape; visual intrusions are those manmade objects or structures which detract from the landscape. Examples of accents are stone walls, ruins and villages. Intrusions include such items as transformer facilities, silt fences and roadside trash. Twenty-seven accents and four intrusions were identified (see Appendix 2). It should be noted that the twenty-seven accents identified for this planning effort match those identified in 1993 for the Township's "Open Space, Recreation, and Environmental Resources Plan." While two intrusions were identified in the 1993 study, the intrusion identified on Devon Road in 1993 is no longer considered by the Township to be an intrusion. Three new intrusions have been identified, however, including: a utility station/transformer identified on the south side of West Chester Pike (Rt. 3) across from the intersection of Dutton Mill Road; a cell tower located on the north side of West Chester Pike (Rt. 3) just west of Plumsock Road; and a cell tower located on the south side of Paoli Pike just west of Sugartown Road.

The visual landscape is highlighted by the natural, scenic, and historic resources of the Township within the context of public roads and vista points; contributing vegetation, topographic features, and man-made structures all influence the visibility of the landscape. Furthermore, the interrelatedness of these resources and their importance to the local community underscores the importance of continued protection efforts.

- For the purposes of identifying scenic roads, the Township utilized the methodology contained in its 1993 Open Space, Recreation and Environmental Resources Plan. This approach continues to provide a useful tool for evaluating scenic roads and resources; perhaps as significant, such an approach makes possible a clear evaluation of change over time.

Scenic roads are those roads having a high degree of natural beauty and historic or cultural value. As a first step in identifying scenic roads within the Township, criteria taken in part from the Federal Highway Administration (FHA) publication *Scenic Byways* (and subsequent publications of the FHA) and from the methodology used to develop the Scenic, Historic and Cultural Resources Map, were applied to the Township's roads through field investigations. These criteria were further refined as a result of the field investigations and are contained in Appendix 3.

Using the refined selection criteria, an analysis of the scenic, historic and cultural resources inventory and the natural resources inventories (water, land and biotic resources) was next performed on each road that had been preliminarily identified in the field. The purpose of this analysis was to quantify the amount of scenic value each road possessed based on applying the refined selection criteria to the resource inventories prepared. Along with further fine-tuning of the preliminary designations, this analysis aided in pointing out the positive or negative attributes of each road and how such attributes contribute to or detract from the scenic quality of each road.

The result is a roster of nineteen roads that are considered worthy of scenic road designation. Appendix 3 lists and describes these roads, as well as points out the qualities or attributes that make these roads integral to the scenic fabric of the Township. To a degree, each has its own set of qualities worth protecting; arguably, though, they collectively serve as a means of public enjoyment within the Township. It should be noted that the Township no longer considers two road corridors identified in the 1993 study, Forest Lane and Line Road, to meet the criteria for scenic road status; conversely, the entire length of White Horse Road (between South Valley Road and Grubbs Mill Road) now meets the criteria for scenic road status.

Although the road corridors identified on Map 5 portray a uniform width (which acknowledges the immediate frontage of each road), in reality the scenic perimeters of these roads are a function of the Township's rolling topography, vegetative features, and built environment (hence, the designation of scenic vistas or outlooks of significant depth).

MAP 5 FRONT

MAP 5 BACK

Historic and Cultural Resources

Willistown Township has 104 documented historic structures, not all of which are located within the documented scenic viewshed (see Map 5). The structures were identified in part from Chester County's Historic Sites Survey, as amended, and through research undertaken by the Township's Historic Commission. While no individual resources are listed on the National Register of Historic Places, three historic districts do exist: the Sugartown Historic District, the Okehocking Historic District and the Whitehorse Historic District. Structures shown as Contributing Resources (Breou Map 1883, commonly referred to as the Breous Map or Farm Atlas) contribute to the historic character of the overall Township. Appendix 4 lists the Township's historic resources (the identification number also being used as the reference for each resource on Map 5).

3. Basis for Policy

Scenic, historical and cultural resources are irreplaceable to the community and add immeasurably to the Township's quality of life. These resources should be preserved for future generations. Where direct management of a resource is not feasible, creative regulatory approaches can provide preservation incentives to property owners and others.

4. Township Planning and Regulation Today

- The Township's Environmental Protection Ordinance (EPO), Chapter 73, provides protection to water, land and biotic resources that in large measure make up the scenic quality of the Township as it exists today. Among other things, the ordinance contains standards for the conservation of vegetation, the protection of woodlands, the protection of steep slopes, and the preservation of other natural resources that contribute to scenic quality. Furthermore, the ordinance contains provisions for landscaping and other land and resource management tools to enhance the natural (and scenic) landscape.
- The Township's Zoning Ordinance, Chapter 139, provides both a rural zoning district (the RU Rural District) and an open space district (the OSC Open Space Conservation District). Among other things, the RU District is intended to facilitate agricultural, conservation and recreation purposes, and protect and preserve natural and historic resources. The OSC District provides opportunities for compact development using creative site design that

conserves land, protects open space, and provides opportunities for the protection of scenic road corridors through setbacks, buffering and innovative design.

- As part of the Township's Zoning Ordinance, Chapter 139, the Township adopted historic preservation ordinance provisions in 2001. The ordinance provides a "clear process by which proposed land use changes affecting historic resources can be reviewed by the Township", encourage continued use and preservation of historic resources, discourage unnecessary demolition of historic resources, and provide guidance to help mitigate negative effects of proposed land use changes.

5. Recommendations for Policy Implementation/ Actions to Implement

- Continue to enforce the Environmental Protection Ordinance (EPO) which regulates landscaping, buffering, and screening, among other things. Continue to enforce the Historic Preservation Ordinance, which provides a clear process by which to encourage protection of historic resources.
- Consider formal scenic road designation, either through local efforts or through the state scenic byway program; consider appropriate signage and education.
- Consider adopting a broad scenic roads overlay district which would address site planning and design within a scenic road corridor, primarily through the siting of common open space, landscaping/buffering measures, and sensitive treatment of visual accents.
- Consider preparation of a brochure intended to outline the scenic qualities of identified scenic roads, including possible Historic Commission research regarding the history and use of each road.
- Consider additional landscaping policies or regulations designed to specifically protect or enhance existing viewsheds and scenic roads.
- Consider a scenic easement acquisition program and/or encourage the donation of conservation easements. Encourage the dedication or easement (including façade easements) of historic and cultural resources.
- Map landmarks of historical or cultural significance.

4.2.2 PARKS AND RECREATION TRAILS

1. Resource-Based Policy

Preserve and protect the existing parks and recreation resources in Willistown Township by managing, maintaining, and funding these resources. Preserve the continuity of Willistown's existing trail network for walking, horseback riding, and road bicycling. (Note: The term "trail" includes sidewalks in the more densely developed areas of the Township.)

2. Existing Conditions/ Background

Park, recreation and trail resources in Willistown Township are depicted on Map 6: Existing Recreation Sites, Publically Accessible Open Spaces, and Trails.

Existing park and recreation resources include Greentree Park, 28 Duffryn Road (currently unnamed), Mill Road Park, Crum Creek Lands (currently unnamed), Line Road Field, Sugartown Preserve, Garrett Mill Park, Okehocking Preserve, and Kirkwood Preserve (see Appendix 5 for the location and description of each facility).

Existing trail resources in the Township include both public and private trails that provide for a variety of uses, including pedestrian and/or bicycle trails and equestrian trails. Many private trails are intended for equestrian use only. As stated above, the term "trail" encompasses sidewalks in the densely populated portions of the Township. Public trails are composed of mown trails, gravel trails and paved trails, depending on location.

3. Basis for Policy

Parks, recreation resources and trails provide an essential community service in Willistown Township and are valuable cultural assets that play a important role in enhancing the quality of life of Township residents. Parks and recreation contribute to a healthy lifestyle and provide documented mental, physical and societal health benefits to individuals and communities. Access to trails promotes physical activity. Walking and bicycling provide documented quality of life, health, economic, transportation, and environmental benefits. Many of these benefits apply to horseback riding as well. Trails also offer residents a choice in their mode of transportation. As such, parks, recreation resources and trails in Willistown Township warrant protection and qualify as wise investments. Together, they also create a sense of identity and place and make the Township an attractive place to live, work and visit. For additional information regarding

the benefits of recreation facilities, see Appendix 6: Benefits of Parks, Recreation Facilities and Trails.

4. Township Planning and Regulation Today

Park and Recreation Resources

- As stated in the Township Parks and Recreation Code the Township Park and Recreation Board shall have general supervision of all Township parks and all maintenance thereof, including replacements of property and equipment. The Code also outlines prohibited and permitted uses and activities that protect the parks.

Trail Resources

- The Township's Parks and Recreation code does not include any references to trails.
- The Subdivision and Land Development Ordinance, Chapter 123, states that at the discretion of the Board of Supervisors, with recommendations from the Planning Commission, a system of bicycle, equestrian and/or pedestrian paths for public use generally unrelated to and separate from streets shall be established and secured by dedication or easement. The paths and trails are to encourage the formation of an interconnecting trail network both within and beyond the Township. The code further protects existing paths by stating a path may be relocated if a connection with a path on an adjoining property is established. The code also includes sidewalk specifications for all subdivisions and land development on Lancaster Avenue.

- The Zoning Ordinance, Chapter 139, identifies specific policies directed toward the protection and continuity of the existing trail network, and opportunities for additions thereto. It also dictates that land designated as open space shall be configured so as to maximize conservation of site features identified as having recreational values, including pedestrian and equestrian trails. It further dictates that equestrian or pedestrian trail linkages identified by the Township shall not be disturbed unless the property cannot otherwise be developed and then only when relocation of the trails is approved by the Planning Commission. It states that specific uses are permitted in the common open space, including pedestrian or equestrian trails, and requires a management plan for the disposition, use, maintenance and insurance of the common open space; included here are provisions that funding be provided and approved by the Township Planning Commission and Township Solicitor prior to plan approval.

MAP 6 FRONT

MAP 6 BACK

For unified development plans, the ordinance dictates that the applicant shall endeavor to incorporate a trail system through residential portions of the development. The Open Space Conservation District provides opportunities for, among other things, reduced sidewalk requirements (with the creation of trail systems as an alternative).

- Chapter 73, Environmental Protection, provides for recreational trails as a conditional use in the Riparian Buffer Area Conservation District, provided such trails are no wider than eight feet and are not surfaced with impervious materials. Relocation of preexisting trails, where necessary, is at the discretion of the Board of Supervisors, with the advice of the Planning Commission.

5. Recommendations for Policy Implementation/ Actions to Implement

Park and Recreation Resources

- Monitor and update park planning efforts as needed to guide the management, maintenance and funding of existing park properties.
- Coordinate with the Public Works Department in creating infrastructure management components of park plans that include timelines for maintenance and replacement work. Assign cost estimates to improvements and ongoing maintenance; insert in the Parks and Recreation Budget. Execute the plans.

Trail Resources

- Update existing trail planning efforts to identify existing and potential trails and guide the creation, linkage, management, maintenance and funding of existing trails and potential trails. Incorporate the Parks and Recreation Board in the various ordinances of the Township as appropriate to advise the Board of Supervisors. Consider pedestrian, bicycle, and equestrian mobility. Update the Willistown Township Code to reference trail planning maps, and consider updating the Parks and Recreation code section with trail language.
- Create a comprehensive Township trail plan. Establish a trail and sidewalk system that links neighborhoods with existing trails and sidewalks with such destinations as parks, public open space, shopping, mass transportation, schools, and other local nodes of activity.

- Coordinate with other Township boards and commissions, neighboring municipalities, local organizations such as the Willistown Area Trails Association, Willistown Conservation Trust and Chester-Ridley-Crum Watersheds Association, as well as Chester County and other planning organizations, on establishing a trail plan for the Township.

- Establish a trail coordination program including representatives from appropriate groups.
- Establish a communication protocol between the Parks and Recreation Board, the Planning Commission, and the Board of Supervisors on issues regarding trails.

4.3 | PROTECTING NEIGHBORHOODS AND HOUSING STOCK

4.3.1 POLICIES

- Protect and enhance the established neighborhoods within Willistown Township.
- Allow for a variety of housing types and densities in those areas where infrastructure exists to support such growth, consistent with existing and future land use policies and guided by the need to protect environmental resources and existing community character. Promote green building technologies intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.
- Promote safe housing conditions.
- Promote housing opportunities consistent with the 2001 Paoli Community Master Plan, as reflected in Chapter 139, Zoning, Article XXXI, Transportation District (TD) and Article XXXII, Town Center District (TCD).

4.3.2 EXISTING CONDITIONS/ BACKGROUND

As a composite of existing neighborhoods, the Township exhibits a reasonable degree of variety. Areas adjacent to Paoli contain some mixed-use development of a traditional village sort, along with uniform tracts of single-family detached dwellings on relatively small lots. The 2001 Paoli Community Master Plan, and its resulting transportation and town center districts, attempts to further facilitate this traditional village development pattern through consistent ordinance provisions regarding use,

setbacks, and streetscape amenities. Further to the south, newer developments have been clustered on tracts at a low gross density, again with single-family detached dwellings the sole dwelling type. Interspersed are several townhouse communities with enough dwelling units to comprise their own neighborhoods. Each of these neighborhoods is unique, owing to its location, similarities in housing stock, and residents. Several easily identified neighborhoods in Willistown are Stonehenge, Ronnie Park, Willistown Acres, and Paoli Manor.

With few exceptions, each of these locations has a genuine neighborhood quality, both from a physical and structural standpoint and as a social entity forming at least a basic link among its segment of the Willistown population. Many of these neighborhoods have their own form of self-governance through a community or homeowner association; these groups, in turn, help facilitate two-way communication with the Township.

Data from the 2000 U.S. Census offer several markers that confirm the stability of Willistown's neighborhoods and the quality of its housing stock. In 2000, the homeowner vacancy rate in the Township was 0.8%; for Chester County as a whole, the rate was 1.0%. High levels of home ownership also equate to neighborhood stability; in 2000, 89.1% of the Township's housing stock was owner-occupied, as compared to 76.3% for the County.

Willistown has a sizable inventory of historic structures, many of which are used for residential purposes. The attention given to their continued integrity can generate a corresponding sense of stewardship on the part of neighboring property owners.

4.3.3 BASIS FOR POLICY

The existence and direction of Township land use policy has a substantial bearing on a neighborhood's character and the quality of life of its residents. The effects can be positive or negative, and stem largely from the compatibility of adjacent land uses, the provision and maintenance of public services, and the approach (not always through public regulation) to individual property maintenance. Vehicular traffic volumes, both within and in the vicinity of existing neighborhoods, have a similar potential for impact.

Township and other public and quasi-public service providers should experience fewer demands where neighborhoods are stable and well-designed, and can communicate more effectively where residents participate in an established representative entity.

4.3.4 TOWNSHIP PLANNING AND REGULATION TODAY

- Willistown's two prior comprehensive plans have addressed the importance of protecting neighborhoods and preserving the quality of existing housing stock. This plan carries a similar emphasis and recognizes the greater diversity in neighborhood makeup and dwelling types than previously existed.
- The Township Zoning Ordinance, drawing from those prior plans, has been written and mapped to prevent incompatibilities among residential neighborhoods and between such neighborhoods and adjacent non-residential uses.
- The Township provides, or seeks to assure the provision of by other responsible entities, those public improvements and infrastructure facilities necessary for the continuing quality of its residential neighborhoods.
- The Township Code contains provisions related to property maintenance; given the strength and diversity of the Township's neighborhoods, these provisions should be reviewed periodically and revised as necessary to ensure their adequacy.

4.3.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ ACTIONS TO IMPLEMENT

- Administer and update the Township's Property Maintenance Code (the basis for which is the International Code Council's Property Maintenance Code - 2006, as amended) in a manner that minimizes regulatory impacts but also assures a sufficient standard of quality for residential structures and properties. The code aims to prevent "demolition by neglect" or the creation of unsafe, unhealthy, and/or visually detracting conditions.
- Zoning objectives that avoid land use incompatibilities but recognize the potential advantages of appropriate mixed-use settings should be sustained.
- Plan for the necessary and sufficient installation, maintenance, and/or refurbishment of public facilities that establish the optimum level of livability for all residential neighborhoods but do not result in unwanted growth inducement or strip/linear development.
- Maintain appropriate regulatory opportunities for accessory dwellings, conversion of single-family dwellings for multi-family use, and home occupations that protect the integrity of the neighborhood in which they may be proposed.

- Review the Zoning Ordinance and building/housing codes to maximize opportunities and incentives for green building technologies and sustainable development. Among the issues to be considered is the desirability of incorporating additional LEED (Leadership in Energy and Environmental Design – a certification program started by the U.S. Green Building Council) or LEED-type standards into the Township code, such as LEED-ND for neighborhood development.

4.4 | COMPOSITE OF RESOURCES AND PRIORITIES FOR PROTECTION

Introduction

A large portion of this chapter is devoted to an analysis and inventory of the natural, scenic and historic resources of Willistown Township. The result constitutes a resource base that should be considered for most any decision regarding the future use of land in the Township. Only with a clear understanding of these resources – their location and characteristics – can the potential impacts from land use changes be assessed.

In order to fully protect the Township’s community values and guide future growth, it is important to analyze where the Township’s resources fall in relation to each other, to areas already developed, to locations where resource protection has already been achieved, and to portions of the Township where future growth is anticipated. This type of refinement is the purpose of this section and culminates in a proposed set of resources considered priorities for protection.

Clearly, the type of resources and the methods by which to protect them can vary substantially; for example, the approach taken to protect a stream corridor generally will differ significantly from that used to protect an historic building. On the other hand, there are many areas where a convergence of mutually-enhancing resources occurs and areas where sensitive development patterns can assist in interconnecting preserved and undeveloped lands and resources. Such areas of concentration and convergence become an important focal point for protection strategies.

One other key determinant of priority within a protection strategy is the degree of protection already afforded a resource. While various levels of protection exist, from regulatory protection to public ownership, the focus of this section is on ownership patterns (or the existence of conservation or agricultural easements) as the basis for graphically depicting protected and non-pro-

TECTED LANDS. Lands already protected due to ownership or easements need little additional protection measures for the foreseeable future; on the other hand, lands not protected in this manner clearly can be prioritized for future protective actions.

To arrive at these priorities, the following steps were taken:

- The resource inventories were refined to depict those of greatest significance to the Township;
- A composite of the refined resource inventories was made to illustrate relationships and areas of overlap or “concentration”;
- Developed land and land protected through ownership or easement were identified to show areas that have some level of resource protection; and
- The network of identified scenic roads was added as an additional resource category worthy of attention and protection.

The outcome of this process is a proposed set of targeted resources in need of protection.

Refinements to Resource Inventories

- Natural Resources – undertaking a process not unlike that used in the 1997 plan, it is possible to identify *critical* resources and *sensitive* resources. Critical resources are those natural resources that place clear constraints on land use and development. Included here are water resources (stream corridors, floodplains and wetlands) and steep slopes over 15%. Sensitive resources, while not as constraining on land use, nevertheless are significant from the standpoint of resource protection and community character. These resources include: significant woodlands, locally important vegetation (historic trees), and PNDI sites.
- Scenic Resources – the Township’s most significant visual landscapes are defined as the scenic vista points identified in this chapter and the corresponding scenic boundaries associated with them. Scenic roads are also considered a key element of the visual landscape.
- Historic Resources – For the sake of this process, historic resources within the scenic boundary, as well as the Township’s National Register Districts, were identified.

Composite of Significant Resources

This process involved combining and overlaying the most significant resources described in the prior section to develop a Composite Map (see Map 7). Those areas where concentrations of natural, scenic and historic resources occur together are distinguishable on the map.

Protected and Developed Lands

The next step in the prioritization process involved essentially discounting lands depicted on the Protected and Developed Lands Map (Map 8). In this step, the composite map and the protected and developed lands map are compared: those resources found to exist on protected lands are eliminated (the assumption being that such resources receive some level of protection given their location, e.g., on protected lands); furthermore, those resources found to exist on developed land are also eliminated. Filtering out such lands allows the Township to focus protection efforts where needed. For example, this process outlines those resources immediately adjacent to properties defined as protected; the successful protection of these resources can then extend and enhance the security established on eased or publically-owned lands.

Resources Targeted for Protection

The final product of the prioritization process is Map 9, Resources Targeted for Protection. Shown herein are those first priority resources areas (be they natural, scenic or historic resources) not currently protected, and the identified scenic road corridors.

It should be noted that this process does not attempt to evaluate regulatory protections offered under the Township's Code simply because such protections are not easily quantifiable or mapped. Clearly, however, the Township Code does provide significant protections for many of the resources prioritized herein. For example, the Environmental Protection Ordinance (EPO) provides significant protection for an array of natural resources: §73-11.1 provides full (100%) protection to floodplains/floodways, wetlands, steep slopes (greater than 25%), and riparian buffer areas; in addition, partial (50-75%) protection is provided to steep slopes (15-25%), woodlands, and hydric soils.

At its core, the prioritization process attempts to highlight areas of resource concentrations and underscore the potential for additional protection measures, be they public purchases, easement acquisition or new regulatory

approaches that can essentially protect resources and associated landscapes or contributing resources (e.g., resources within a broader context that provide interconnection or connectivity).

MAP 7 FRONT

MAP 7 BACK

MAP 8 FRONT

MAP 8 BACK

MAP 9 FRONT

MAP 9 BACK

The second major goal of this plan is to guide future growth in a planned and orderly fashion and provide for a range of land uses consistent with the protection of the community values identified in Chapter 4. Future residential, institutional, commercial and industrial development shall be respectful of existing land use patterns yet innovative in response to new planning and design practices, deferential to the carrying capacity of the Township's roads and the desire to reduce vehicle miles traveled, consistent with available water supplies and sewage treatment facilities and cognizant of environmental opportunities and constraints. In particular, Willistown acknowledges its responsibility to protect the stability of residential areas, both within the Township and in its neighboring municipalities, from being adversely affected by incompatible and poorly planned land uses.

Willistown Township is prepared to accommodate its fair share of population growth, employing sound planning practices to insure that it occurs in the best interest of present and future residents of the Township. Toward that end, the Township has considered the population and household projections outlined in Chapter 3, taking into account the Township's regional location and its anticipated growth from now until the year 2035.

5.1 | RESIDENTIAL DEVELOPMENT

5.1.1 POLICIES

- The locations, types and densities of future residential development shall be consistent with the intent of the Township's residential districts as set forth in its current Zoning Ordinance. Therefore, residential land uses as permitted in the Township's current Zoning Ordinance shall continue to serve as a general guide for residential development.
- In the interest of protecting the character of the Township, providing for a diversity of housing opportunities, and encouraging imaginative and environmentally-sensitive site planning practices, Willistown shall focus on redevelopment and infill opportunities in the northern portion of the Township. The intent of this policy is to address the housing needs of future Willistown residents (particularly a growing elderly population and a diverse mobile population), complement the public transit invest-

ments being made in this area, provide housing opportunities that do not require large land areas (and so further protect open space and wildlife habitat), and benefit from the Township's efforts and those of Malvern Borough and Tredyffrin Township to enhance the vitality, livability, and walkability of their "town" cores.

- Residential growth occurring in agricultural/residential zoning districts shall utilize the conservation design principles espoused herein and in Chapter 139, Zoning, Article XXVI, Open Space Conservation (OSC), the intent being to accommodate new residential development in a manner that complements the Township's efforts to preserve and protect agricultural land and open space through innovation and flexibility in site design.

5.1.2 EXISTING CONDITIONS/ BACKGROUND

Both single-family and multi-family types of residential development are allowed in Willistown Township under the current Zoning Ordinance. Single family residential development is permitted in the R-3, R-2, R-1, RA-1, RA and RU zoning districts, where gross densities range from approximately .25 to 4 units per acre. Multi-family residential development is allowed as a conditional use, with gross densities ranging from 1.5 to 12 units per acre. The Township's Open Space Conservation District is a form of density neutral compact development defined to include all parcels over 15 acres in any residential zoning district; a minimum open space requirement is intended to "preserve open land, sensitive natural, scenic and historic areas and rural community character that would be lost under conventional development." The Unified Area Development District is an overlay on the RA district for parcels of not less than 150 acres; permitted uses include single and multi-family residential development (up to 70% of a tract @ 2.25 units per acre), as well as non-residential uses such as physical rehabilitation and professional office, to name a few.

Recently adopted Transportation and Town Center Districts provide specific opportunities for compact mixed use and transit-oriented development in and around the Paoli area of the Township (similar standards also exist in the Tredyffrin Township portion of the Paoli area). Development in these areas is intended to incorporate a combination of existing buildings, adaptively-

reused structures and new buildings that mix ground floor retail establishments with office and residential uses above. New construction in this historic area is intended to build upon and enhance the positive attributes of Paoli. As such, recommended uses include mixed-use multi-story buildings, commercial uses interspersed with community uses (day care, senior center, post office, educational center, etc), residential uses within walking distance of services, pedestrian-oriented buildings accessible via sidewalks and designed with appropriate landscaping, lighting and benches; uses not recommended include “big-box” retail or office uses, one story single-use retail buildings, large surface parking lots, and sparse or non-existent landscaping.

The highest gross densities for single family residential development are allowed in the northeastern portion of the Township, the first area to become suburbanized due to its proximity to commuter rail service. In general, permitted gross densities decrease as a function of distance from this populated core area, also the point of origin for most community facilities and services.

5.1.3 BASIS FOR POLICIES

Willistown Township has a responsibility to provide opportunities for a range of housing types and densities. Future emphasis on the northern portion of the Township is intended to provide additional opportunities for mixed use development in order to encourage transit oriented and walkable communities. It is projected that growth occurring in the agricultural/residential areas will utilize the conservation design principles espoused in the Open Space Conservation District for reasons outlined above, including the desire to protect natural resources and habitat areas and further promote agriculture and open space.

Willistown Township needs to encourage varied and imaginative forms of residential development that are sustainable, protect community values, reduce energy consumption and decrease the impacts of climate change.

5.1.4 TOWNSHIP PLANNING AND REGULATION TODAY

- The Township’s Zoning Ordinance, Chapter 139, permits residential development at densities based upon the availability of community facilities and services, relationships to the existing pattern of land use, and environmental opportunities and constraints.

- A multi-family district designation was added to the Zoning Ordinance in 1970 to provide for a wider range of housing types within the Township. In 1975, the Zoning

Ordinance was amended to further provide for opportunities for a diversity of housing types. Recent amendments in 1999, 2003 and 2007 further provide opportunities for open space preservation, mixed use and transit-oriented development, respectively.

5.1.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ ACTIONS TO IMPLEMENT

- Periodically review the Zoning Ordinance to ensure that the Township continues to provide opportunities for a range of dwelling types and densities that are sustainable, protect community values, reduce energy consumption and decrease the impacts of climate change.

- Continue to examine code incentives and preservation opportunities by which to accommodate appropriate development while maintaining open space in sparsely developed areas. Continue to promote the use of land in the rural preservation area (predominately the RU zoning classification but including portions of the RA and other residential zoning classifications) for agricultural uses. Provide for active and passive recreation uses near to or adjacent to residential areas. Provide opportunities for pedestrian trails and sidewalks to interconnect Township neighborhoods and zoning districts, reducing the need for vehicular travel and providing opportunities for recreation and exercise.

- Continue to participate in regional planning efforts that permit the concentration of residential development in areas within walking distance of public transportation (such as efforts currently underway in Paoli) and promote an appropriate regional distribution of residential development.

5.2 | INSTITUTIONAL DEVELOPMENT

5.2.1 POLICIES

- Willistown Township shall accommodate future institutional development as permitted in select zoning districts or as conditional uses or special exceptions in areas where it is deemed appropriate and/or can be demonstrated to the satisfaction of the Township that such uses would be harmonious with the character of surrounding land uses, be consistent with local landscape character, protect community values, and have adequate infrastructure available. Institutional uses will be considered in the rural portions of the Township only when they contribute to the permanent preservation of significant amounts of open space.

- In order to best accommodate institutional uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.
- Due to the potential for greater impact associated with institutional uses, and the variety of activities that fit this category, the Township intends to scrutinize such uses more carefully than it does residential uses.

5.2.2 EXISTING CONDITIONS/ BACKGROUND

Institutional development includes public and semi-public land uses. Existing public institutions in Willistown include two public schools and the Township's police and municipal buildings. Existing semi-public institutions in Willistown include churches and religious complexes, private schools, health care facilities, clubs and various recreational/entertainment facilities.

It should be noted that in recent years the Township has expanded provisions and districts under which governmental, educational, or religious uses are permitted (particularly in the northern, more dense portions of the Township); for example, several zoning districts governing transportation and highway uses, office/professional uses, and unified development permit some institutional uses by right. Such provisions recognize the suitability of such uses in select areas of the Township as part of a mix of uses suitable for and in proximity to the needs of Township residents.

5.2.3 BASIS FOR POLICIES

While the Township has traditionally held that the varied nature of institutional uses necessitates that future location of such uses be considered on a case-by-case basis, and fundamentally continues to support this approach, recent planning efforts aimed at providing opportunities for mixed use development and/or transit-oriented development have resulted in the Township crafting additional provisions for institutional development within select newer zoning districts, among those Article XXX Unified Development Area District, Article XXXI Transportation District, and Article XXXII Town Center District. The intent in each of these districts is to provide mixed use opportunities in proximity to the Township's greatest population base.

5.2.4 TOWNSHIP PLANNING AND REGULATION TODAY

The current Zoning Ordinance permits institutional development in areas where its character bears a relationship to surrounding land uses and in areas where population density warrants additional opportunities for mixed use development within close proximity to Township residents. Recent amendments in 2003 and 2007 provide additional opportunities for health care facilities, government offices and libraries as part of mixed use and transit-oriented development.

5.2.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ ACTIONS TO IMPLEMENT

- Monitor the districts for which new provisions governing institutional uses exist; determine the viability of such uses for mixed use communities.
- Continue to accommodate those types of institutional development that preserve large amounts of open space while providing tax revenues, provided there is minimal adverse affect upon the provision of community facilities and services and upon surrounding areas.

5.3 | COMMERCIAL DEVELOPMENT

5.3.1 POLICIES

- Willistown Township shall accommodate future commercial development as permitted along the Route 30 business corridor (including King and Central Avenues east of Malvern), along the Paoli Pike corridor west of Sugartown Road, and along the Route 3 planned highway corridor extending along Route 3.

- In order to best accommodate commercial uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.

5.3.2 EXISTING CONDITIONS/ BACKGROUND

There are essentially two major types of commercial development in Willistown Township: retail establishments and professional offices. Retail establishments are permitted along US Route 30 in the Highway Business district, as well as in the recently adopted Transportation

and Town Center districts, and along Paoli Pike. Ancillary commercial uses are permitted along Route 3 when clearly designated as a support service within a planned office park.

Professional Office districts are located along and near the Route 30 transportation corridor, within a Unified Development Area district adjacent to Paoli Pike, and along Route 3 in the Planned Highway Corridor district.

As mentioned in the section on residential development, recently adopted Transportation and Town Center Districts provide specific opportunities for compact mixed use and transit-oriented development in and around the Paoli area of the Township (similar standards also exist in the Tredyffrin Township portion of the Paoli area). Development in these areas is intended to incorporate a combination of existing buildings, adaptively-reused structures and new buildings that mix ground floor retail establishments with office and residential uses above. New construction in this historic area is intended to build upon and enhance the positive attributes of Paoli. As such, recommended uses include mixed-use multi-story buildings, commercial uses interspersed with community uses (day care, senior center, post office, educational center, etc), residential uses within walking distance of services, pedestrian-oriented buildings accessible via sidewalks and designed with appropriate landscaping, lighting and benches; uses not recommended include “big-box” retail or office uses, one story single-use retail buildings, large surface parking lots, and sparse or non-existent landscaping.

5.3.3 BASIS FOR POLICIES

Due to the Township’s relative position in proximity to regional commercial and business centers, locations for commercial uses in Willistown are predominately found along or adjacent to Route 30, Paoli Pike west of Sugartown Road, and PA Route 3.

5.3.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township’s Zoning Ordinance, Chapter 139, permits commercial uses along and adjacent to Route 30, Paoli Pike and Route 3 where the existing pattern of land uses and traffic capacities can best accommodate commercial development. It should be noted that recent efforts to plan for the future of the Paoli area have led to the creation of new provisions for mixed use and/or transit-oriented development in and around the Paoli Rail Yard. The intent of these provisions is to provide further opportunities for mixed use development, encourage multi-

modal transportation opportunities, improve the walkability and economic viability of the Paoli community and promote development that is less energy consumptive and more sustainable.

5.3.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ ACTIONS TO IMPLEMENT

- Monitor the districts for which provisions governing commercial uses exist; determine the viability of such uses within these districts.
- Monitor the Paoli community for which new provisions governing commercial uses exist; determine the viability of such uses as components of mixed use communities.
- Continue to participate in regional planning activities to promote an appropriate regional distribution of commercial development.

5.4 | INDUSTRIAL DEVELOPMENT

5.4.1 POLICIES

• Willistown Township intends to remain consistent with County and regional land use plans in guiding future industrial development along the Route 30 transportation corridor. Future industrial uses within the Township shall be limited to its existing industrial park. If at some future date, the Township participates in regional studies which determine that industrial demand exceeds areas planned for industrial uses, further consideration will be given to expanding industrial areas within the Township.

• In order to best accommodate industrial uses, the Township will promote green building technologies (including but not limited to LEEDs certification or other green building principles) intended to reduce consumption of energy and environmental resources, reduce the impacts of climate change, and encourage future development that is sustainable.

5.4.2 EXISTING CONDITIONS/ BACKGROUND

Industrial development is permitted in Willistown in an industrial district located adjacent to the US Route 30 transportation corridor. The types of industry which characterize the district are generally non-nuisance light manufacturing, research, office, assembly, processing or storage operations and hospital-related facilities.

5.4.3 BASIS FOR POLICIES

The Township's proximity to and linkages with important transportation facilities are not as favorable as other municipalities in the region, thereby making the Township less suitable for industrial development than adjoining municipalities.

The Township has been and will continue to be primarily a highly desirable residential community, and most industrial uses would be incompatible with Willistown's residential character.

5.4.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township's existing industrial district is properly located in an area which has facilities and services required for industrial use.

5.4.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ ACTIONS TO IMPLEMENT

- Consider expanding the uses permitted in the Township's industrial district to further permit and incentivize "green" industries that focus on renewable energy, recycling, and related job growth.
- Continue to monitor demands for and the available supply of industrial land.
- Continue to participate in regional planning activities that promote an appropriate regional distribution of industrial development.

What is important to note is the Township's adherence to the sound planning principle that zoning densities should decrease as a function of distance from a populated urban core, in appearance much like the concentric circles that emanate when a stone is thrown into a pond. This principle is the basis for the logical provision of public services and infrastructure and permits the Township to continue to provide opportunities for development consistent with its vision of a vibrant, dynamic community whose pattern of development accommodates a broad range of land uses consistent with the needs of Township residents.

5.5 | FUTURE LAND USE

In light of the policies contained herein, Map 10 identifies general locations in Willistown Township for future residential, commercial and industrial land uses. Depicted are simplified land use designations only; specific zoning provisions provide land use options for individual sites. While not illustrated here, the protection of natural resources can at times preempt classification for future land use; furthermore, lands classified as protected (through ownership or easement) may have restrictions in place that limit future development.



MAP 10 FRONT

MAP 10 BACK

Chapter 6

PROVIDING COMMUNITY FACILITIES & SERVICES: GOAL 3

The third of Willistown's fundamental planning goals is to provide those community facilities and services that are appropriate for a second class township, that meet the needs of current and future residents, and that can be reasonably provided to the extent of the Township's financial resources. Where such services are provided by others, the Township intends to periodically monitor the quality and cost of such services and intervene to improve such services should the need exist.

The Township has traditionally provided community facilities and services as they have been required. For example, population growth has been accompanied by the construction of a sewage collection and treatment system, the expansion of the Township's police force and administrative staff, and increased financial contributions for fire protection, emergency medical assistance and other services.

General policies for community facilities and services emphasize the need to monitor existing facilities and services and improve, support, and expand such offerings where warranted.

6.1 | FIRE PROTECTION

6.1.1 POLICY FOR FIRE PROTECTION

Continue to financially support volunteer fire companies that provide fire protection services to Willistown Township residents.

6.1.2 EXISTING CONDITIONS/BACKGROUND

Fire protection is provided to Willistown Township residents by four volunteer fire companies: Malvern, Paoli, Newtown Square, and Goshen Fire Companies. Of these four, Malvern and Paoli cover the majority of the Township. Both Malvern and Paoli Fire Companies also provide emergency ambulance services, although records of these services are separate from fire service records. Medical services are not provided. Fire service boundaries are shown on Map 11: Community Facilities and Services.

Fire protection facilities in Willistown Township consist of a network of fire hydrants in areas served by Aqua America's water mains. Willistown Township pays an annual fee to Aqua America for each fire hydrant.

All four fire companies derive funding support from local municipalities and from voluntary donations. Willistown Township provides support to each of these fire companies, at varying levels of support, depending on the assessed valuation of the territory which the Company covers.

Fire service and response time appear to be adequate for current needs. Because population in Willistown Township is not expected to increase drastically over the next twenty years, it is unlikely significant changes in service will be required.

6.1.3 BASIS FOR POLICY

The Township's policy is based on the responsibility to provide protection to the residents of Willistown Township, as well as visitors.

6.1.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township constantly monitors response times as well as shifts in housing and population. Funding is also reviewed during scheduled budget meetings.

6.1.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Ensure active and continuing fire service.
- Continue to financially support volunteer fire companies.
- Periodically examine fire response time for each of the four companies to ensure that services are adequate for needs.

6.2 | POLICE PROTECTION

6.2.1 POLICIES FOR POLICE PROTECTION

- Continue to operate and fund the Willistown Township Police Department.
- Periodically examine whether protective services are adequate for needs.

- Continue to support the mission of the Department to enhance the safety and security of all the people of Willistown Township and work in partnership with the public to maintain their confidence and trust.

6.2.2 EXISTING CONDITIONS/BACKGROUND

Willistown Township provides police services through the Willistown Police Department. The Department serves everyone in Willistown Township. Funding for the Department comes from the Township's general fund.

The Department currently employs seventeen full-time officers. The Township owns eight patrol cars, two administrative vehicles, and three detective vehicles for the Department's use. The former municipal building was rebuilt in 1992 to serve Police Department needs. The building location is shown on Map 11: Community Facilities and Services. The Department routinely considers major structural improvements, capital investments, or other major expenditures in order to meet current and projected needs and legal requirements. It is anticipated that the current police building will be remodeled in 2010-2011 to better meet Department needs.

Emergency calls to the Willistown Police Department are dispatched by the Chester County Department of Emergency Services.

Police service appears to be adequate at this time; staffing levels are monitored and constantly reviewed.

6.2.3 BASIS FOR POLICY

The Township's policy is based on the responsibility to provide protection to the residents of Willistown Township, as well as visitors.

6.2.4 TOWNSHIP PLANNING AND REGULATION TODAY

Police protection is evaluated by the Chief of Police in consideration of appropriate shifts in crime trends and deployment of personnel is adjusted to meet problems that arise or may arise in the Township.

6.2.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue to monitor police services to ensure they are adequate and ensure that the Department has funds to provide necessary services.

6.3 | EMERGENCY MEDICAL ASSISTANCE

6.3.1 POLICY FOR EMERGENCY MEDICAL ASSISTANCE

Continue to cooperate with Chester County in the provision of '911' services.

6.3.2 EXISTING CONDITIONS/BACKGROUND

Willistown Township residents are provided with emergency response services through cooperative efforts by local hospitals, local fire companies and Chester County's "911" Emergency Network.

Two hospitals are located within Willistown Township. Paoli Hospital provides emergency and other medical services, including varying levels of surgery. Maternity services were offered for the first time in 1995. In 2009 Paoli Hospital expanded and opened a new Emergency Room and parking facilities. Paoli Hospital was recently approved as a Trauma Center and is currently functioning under a mandated one year trial period (initiated January 1, 2010). The hospital is located on Lancaster Avenue in Paoli.

Bryn Mawr Rehabilitation, a 111-bed hospital, provides physical rehabilitation services on both an in- and out-patient basis. Transitional and home rehabilitation services are also provided. Bryn Mawr Rehabilitation Hospital is located on Paoli Pike.

Chester County's Emergency Management Services Office coordinates disaster and evacuation planning. The County-wide "911" system is completely functional throughout the County. The "911" system allows any person to obtain police, medical and other emergency assistance by dialing one, easy-to-remember phone number. Upon receiving an emergency call, the County 911 dispatcher contacts the appropriate ambulance company, police department, and/or fire company. If an ambulance is dispatched, the user pays for the service. The County's 911 service is funded by general County funds and a monthly line charge (currently \$1.25, which will be reduced to \$1.00 when the population reaches 500,000) collected through telephone bills. A VOIP (Voice Over Internet Protocol) surcharge of \$1.00 is paid to the state (Pennsylvania Emergency Management Agency or PEMA), through which counties can apply for wireless funds as another source of revenue. Note: The Wireless funds are submitted by the wireless providers to the state. Each year counties complete an application for funding and wireless money is distributed based on applications and funds available.

MAP 11 FRONT

MAP 11 back

6.3.3 BASIS FOR POLICY

The Township's policy is based on the responsibility to provide protection to the residents of Willistown Township, as well as visitors.

6.3.4 TOWNSHIP PLANNING AND REGULATION TODAY

EMS response times are periodically monitored through police reporting procedures.

6.3.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue to cooperate with Chester County in the provision of "911" services.
- Routinely monitor response times for ambulance services to ensure that services are adequate for needs.

6.4 | ROADS AND GENERAL CIRCULATION

6.4.1 POLICIES FOR ROADS

- Continue to clarify and plan for those roads intended to transmit through traffic and those roads designed primarily for local traffic. Discourage through traffic on roads not intended for or incapable of such traffic.
- Continue working to improve the regional transportation network to provide for efficient movement of through traffic, including the use of innovative transportation strategies such as roundabouts as alternatives to new signalized intersections. Encourage ride sharing where feasible and appropriate. Both direct municipal action and continuing dialogue with PennDOT are necessary to accomplish the policies contained herein.
- Continue to ensure that new development minimizes impacts to the existing road network. Ensure that the local road network provides adequate internal circulation to meet the needs of Willistown Township residents. Consider traffic calming strategies as appropriate to ensure safety and promote better circulation.
- Develop strategies to correct any identified circulation and parking problems, and assign priorities to any needed improvements.
- Discourage haphazard development along Route 30 and Route 3. Continue implementation of the mutually ac-

ceptable local and regional transportation components of the Paoli Community Master Plan, including the creation of a multi-modal transportation center with corresponding circulation improvements (both roads and pedestrian facilities) to improve and enhance transportation choices in and around Paoli.

- Provide regular road maintenance to ensure that local roads are maintained in optimum condition and minimize, as needed, potential safety hazards.
- Consider recognition of and protection for those roads identified by the Township as Scenic Roads. Work to protect the intrinsic natural, scenic and historic qualities of such roads.
- Examine opportunities for safe bicycling along identified roads and road shoulders in the Township. Consider the recommendations and vision statements identified in Chester County's Linking Landscapes Plan.

6.4.2 EXISTING CONDITIONS/BACKGROUND

This section of the comprehensive plan addresses the elements of the existing circulation system of Willistown Township. The existing road network guides both circulation and land use patterns in the community. The system is inventoried and analyzed under the following categories:

1. Functional Classification;
2. Road Conditions;
3. Traffic Volumes and Capacity; and,
4. Access Management.

Traffic circulation throughout Willistown Township continues to be an issue of increasing concern. Conditions along the two main highway corridors that traverse parts of the Township – Lancaster Avenue (U.S. Route 30) and West Chester Pike (PA Route 3) — are well known. These highways exhibit the highest traffic volumes and the highest traffic crash frequencies in the Township. Paoli Pike also carries high traffic volumes for a two-lane highway, and several other roads in the Township have problems with poor road surface, limited sight distance, or awkward alignments.

Significant portions of the local road network are especially scenic, as shown on Map 12: Circulation Plan. The preservation of these scenic resources needs to be balanced against the correction of safety problems. It is desirable to discourage the use of local roads for the

movement of through traffic by both supporting the type of improvement projects aimed at maximizing capacity along the major highway corridors in the Township and discouraging improvements that increase capacity and attract through traffic to the local roads. This section documents both road function and conditions as a basis for making such decisions using a logical planning process.

i. Functional Classification

Willistown Township has a total of 81.72 miles of roads within its boundaries. These roads are owned and maintained both by the Township and by the State. The State owns 30.04 miles, which consists primarily of the highway network of the community. The Township owns 51.68 miles of the network, which is comprised of a combination of rural, scenic, and farm roads and streets within residential neighborhoods. There are eleven traffic signals within, or on the boundaries of, the Township.

Roadways have been classified according to the function they serve in the overall network. Function is based on volumes of traffic, travel speed, accessibility, relationship to places, and relationship to other roadways. Some carry higher speed through traffic, some carry local traffic between neighborhoods, and some provide access from individual residential driveways. Road function helps to define the character of the road, and ultimately, the design and access treatment.

The different classifications are as follows:

Expressways service the highest volumes for the highest average trip lengths. Expressways are designed to provide access only at interchanges while providing linkages on an interstate or inter-regional basis. Expressways allow the highest level of mobility for trucks and are intended to allow the highest levels of speed for all vehicles.

Willistown Township does not contain any expressways. U.S. Route 202 is located to the north and west of the Township with several interchanges accessible from PA Route 29, PA Route 401, U.S. Route 30, Boot Road, Paoli Pike, and PA Route 3.

Principal Arterials have as their major function, the movement of large volumes of traffic at relatively high rates of speed, often at 55 miles per hour. They provide higher types of service and facilitate traffic over longer distances on an intercounty or interstate basis. Access points are generally limited and controlled.

Lancaster Avenue (U.S. Route 30) and West Chester

Pike (PA Route 3), both four-lane highways, are considered principal arterials. Access points along segments of Lancaster Avenue (U.S. Route 30) are not as limited as some principal arterials with reduced speed limits, but this pattern has been established over a long period of time which has seen significant changes in land uses abutting the highway. Lancaster Avenue (U.S. Route 30) is an important interstate and intercounty connection which provides a connection to Lancaster and Harrisburg, Pennsylvania, through the Main Line to Philadelphia, and eventually Atlantic City, New Jersey. West Chester Pike (PA Route 3) is a divided highway which retains its limitations on direct access and higher speeds. West Chester Pike (PA Route 3) serves as a connection between the Borough of West Chester in Chester County, through Delaware County to West Philadelphia.

Minor Arterials interconnect with and augment the principal arterial system. These roads provide services for trips of moderate length and have controlled access points. Minor arterials provide greater access to adjacent land than principal arterials.

Currently there are no roads in Willistown Township that fall into this category.

Major Collectors connect municipalities and population centers. These roads are the major contributors to arterial traffic and carry fairly heavy traffic volumes at moderate rates of speed. Access points are somewhat controlled on collector roads. It is not uncommon for major collector roads to span the entire length of a community.

Paoli Pike and Street Road (PA Route 926) are considered to be major collector roads in Willistown Township. Paoli Pike provides an important connection from Paoli and Malvern to West Chester, while Street Road (PA Route 926) connects Willistown Township with southwestern Chester County.

Minor Collectors facilitate relatively low volumes of traffic at lower speeds. They gather traffic from local roads and direct it to the arterials and major collector road networks. Minor collectors often provide traffic circulation between and within residential neighborhoods.

The minor collectors in Willistown Township include King Road, Goshen Road, Sugartown Road, Providence Road, Devon Road, and Warren Avenue.

Local Roads provide the greatest access to adjacent land. Local roads provide for short distance, low speed travel, and make up the majority of Township owned roads. The number of access points is greatest on local roads.

MAP 12 front

MAP 12 back

The remainder of the roads in the Township may be identified as local roads. They mainly handle local traffic and are primarily used by individuals in the community.

Map 12: Circulation Plan identifies the functional classification assigned to each road segment in Willistown Township.

2. Road Conditions

With few exceptions, the roadway network is sufficient for the current traffic and population of the area. Areas of concern are those that pose a threat to the safety of anyone using the roadways. Roadway conditions include:

- Unimproved surfaces;
- Roadway alignment problems;
- Sight distance problems;
- Dangerous curves; and,
- Bridge limitations.

There are numerous alignment concerns, mostly horizontal alignment in the form of dangerous curves, located primarily in the southern portion of the Township. Horizontal alignment refers to the curves in the road, while vertical alignment refers to the hills in the road. These roadways evolved as linkages along property lines. As development occurs and traffic increases on these roads, alignment correction will become increasingly important.

Sight distance problems are common throughout Willistown Township. Country roads were designed to handle low volumes of traffic, or simply followed the track of farm lanes. With increasing volumes comes the need to maintain safe sight distances. It is necessary to be aware of and control vegetative growth adjacent to intersections. In some instances it may also be necessary to properly grade adjacent land. Grading requirements can be identified during the development review process. The inability to see oncoming traffic at an intersection can be the cause of some crashes.

Accident Reports

A summary of crash data from the Willistown Township Police Department was used to identify potential problem areas within the Township. Map 12 shows the location of highest crash rates that occurred for the five year period from 2005 through 2009. The majority of the reported crashes occurred along the corridors of West Chester Pike (PA Route 3), Paoli Pike, Lancaster Avenue (U.S. Route 30), Providence Road and Goshen Road. The

crashes occurring along these routes are expected because of the amount of traffic that uses them coupled with the amount of development that is established along the corridors. Due to the length of these corridors, however, the crash rates per mile are not considered to be excessive. The single location with the greatest frequency of reported crashes was the intersection of West Chester Pike (PA Route 3) and Street Road (PA Route 926)/Garrett Mill Road. Indeed, this is the only intersection in Willistown Township that had a crash rate greater than five reported crashes per year.

3. Traffic Volumes and Capacity

Average Daily Traffic

Average Daily Traffic (ADT) is the total 24-hour traffic volume, in both directions, on a road segment for a typical weekday. Traffic volumes fluctuate throughout the year, with heavier volumes in the summer and lighter volumes in the winter. On average, traffic volumes experienced in the fall and spring are approximately at median levels for the year. Therefore, those times of the year are appropriate times to count traffic volumes.

In addition, daily traffic counts, dating back to 1995, were obtained from the files of the Delaware Valley Regional Planning Commission (DVRPC). Map 12 shows the ADT volumes that were compiled for this study. As expected, the traffic counts reveal that West Chester Pike (PA Route 3) and Lancaster Avenue (U.S. Route 30) carry the highest traffic volumes within the Township, ranging from about 22,000 to 31,000 vehicles per day. Paoli Pike west of Devon Road also carries a significant volume of traffic totaling from about 11,000 to 13,000 vehicles per day; and, King Road east of Malvern carries about 10,000 vehicles per day. Other road segments that carry in excess of 5,000 vehicles per day include Devon Road, King Road west of Malvern, Paoli Pike east of Devon Road, Providence Road north of Goshen Road, Goshen Road east of Providence Road, and Street Road (PA Route 926).

Level of Service

Level of service analysis is used to establish the level of efficiency that is being obtained on a roadway segment, intersection, or roadway interchange. Level of service (LOS) is a comparison between the volumes of traffic that use a road or intersection and the maximum capacity that the same road or intersection is able to

handle. The capacity of an intersection or roadway is based on a number of factors:

- the number of lanes;
- the width of the lanes;
- the presence or absence of any turning lanes;
- the percentage of trucks present; and,
- the type of traffic control device(s).

LOS is expressed using the letters A through F. A is considered to be the best possible driving situation in which a driver may move totally independent and without the influence of other motor vehicles. With an LOS of A, a driver feels the least amount of anxiety because of the ability to drive at any desired speed without pressure from outside influences. As the LOS moves closer towards F, driving becomes more difficult. It is necessary to move at the same speed as other vehicles, and it is difficult to maneuver from one lane to another. Driving at LOS B is more difficult than A, C is more difficult than B, and so on until an LOS F is reached. LOS F, considered unacceptable to most drivers, often occurs under oversaturated conditions when the volume of traffic can become too large for the capacity of the road or intersection and heavy traffic backups may result.

Roadways and intersections are generally designed to handle volumes at an LOS C in rural conditions and LOS D in built-up areas. With the exception of intersections along Lancaster Avenue (U.S. Route 30) and perhaps isolated intersections along Paoli Pike, LOS on the roads and intersections in the Township is generally acceptable due to the limited number of signalized intersections and the rural character along many of the roadways in the Township.

4. Access Management

Due to the rural character of large areas of Willistown Township, there are several large tracts of land that could be subject to future development pressures. Because of existing development and the potential for increased development, it is essential for the Township to control residential, commercial, and industrial access along the main highway corridors. Too many access points along a busy corridor, as already exists on segments of Lancaster Avenue (U.S. Route 30), will create congestion and safety problems.

The development of commercial and industrial property is of greatest concern. Commercial property depends on large traffic volumes for healthy business while industrial development has the potential to generate large vol-

umes of truck and employee traffic. Both of these generate large traffic volumes entering and exiting the highway. The interaction of traffic entering and exiting needs to be regulated in such a manner as to enable a safe and efficient vehicular flow.

Residential development does not create the same problems as commercial or industrial development because of the extensive difference in trip generation. Nevertheless, when the frontage of a major arterial is stripped out with residential development, each with a separate drive, safety and traffic flow become a concern.

Many existing uses do not utilize proper channelizing techniques. Channelization is essentially the grouping of vehicles in specific patterns for similar movements; among the techniques available are the realigning of access points, the relocation of access points, or the elimination of access points (see 6.4.5 Circulation Recommendations, for additional information). If uses do not currently comply with proper channelizing techniques it may be difficult to make them comply. In most cases, a change in ownership or use of the property will be necessary to gain compliance.

6.4.3 BASIS FOR POLICIES

Willistown's Policies are aimed at providing adequate, safe and reliable transportation options to Township residents and those traveling through the Township. With the exception of the Township's principal arterials (Rt. 30 and Rt.3) and major collectors (Rt. 926 and Paoli Pike) (and to some degree, its minor collectors), the majority of the Township's roads are local roads; together, the Township's road network provides ample opportunity for both through traffic and internal circulation. Given the character and capacity of the local road system, it remains a priority of the Township to discourage through traffic on such roads. Continuing dialogue with adjacent municipalities and PennDOT (such as is occurring with the Paoli Community Master Plan) is the best approach for providing efficient movement of through traffic. Recognition of scenic quality and maintenance of local road character offer additional opportunities for local road protection.

6.4.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township's primary regulatory tool regarding transportation is the Traffic Impact Study; major subdivision and land development applications must include a Traffic Impact Study pursuant to Chapter 123, Subdivision and Land Development, §123-30. The study is re-

quired to identify the amount of traffic expected to be generated by a development and how the traffic will be distributed over time to the surrounding roads. Furthermore, the study is intended to provide guidance on short- and long-range planning of site access and off-site improvements necessary to permit the affected transportation system, including both on-site circulation facilities and off-site roads and intersections, to satisfactorily accommodate site and total traffic. Included are a collection of existing traffic data and an inventory of the road/intersection physical conditions, a forecast of future traffic volumes for the roads/intersections in the study area, and a comparison of future pre- and post-development conditions. The results of these analyses identify road improvements that are needed to handle the increased traffic volumes. In addition, the study assists in identifying who is responsible for implementation of needed improvements.

Over the last twenty years, the process of evaluating and recommending improvements to state roads has changed considerably. It is now primarily the responsibility of Willistown Township and where warranted, Chester County (which designs improvements for its own bridges and takes a proactive position in assessing needs and providing support to get projects on the TIP), not PennDOT, to study, recommend and often design needed improvements to state roads (although clearly PennDOT is primarily responsible for project design and construction on state roads). PennDOT no longer has the traffic planning staff to regularly study roads and propose improvements. Consequently, the initiatives of local and county governments are important factors in the State's decisions supporting road improvement requests. One example of a local initiative is the Paoli Community Master Plan. This planning effort is centered on the planned Paoli Transportation Center (PTC). While the PTC and a portion of the high density mixed-use retail and office core is situated in Tredyffrin Township, the area along the Lancaster Avenue (U.S. Route 30) in Willistown Township is also devoted to high density mixed use retail, office and transportation-related retailing and services anchored by Paoli Hospital and the medium density office and industrial uses adjacent to the hospital campus. The Paoli Community Master Plan also incorporates two important institutions - the Church of the Good Samaritan and the Delaware Valley Friends School.

The objectives of the Paoli Community Master Plan include encouragement of timely decisions on the implementation of current plans for the PTC and associated roadway improvements which include taking full advantage of the extensive roadway and pedestrian environ-

ment improvements that are planned as an integral part of the new PTC. This will include the encouragement of the general intensification and diversification of development within the impact area of the new PTC, consistent with capacity of the future road system; steps to improve the supply of, and convenient access to, public parking facilities; and, the systematic upgrade and improvement of the pedestrian environment within the Paoli Community. Circulation improvements discussed as part of the implementation activities related to the Plan include possible improvements to Lancaster Avenue (U.S. Route 30); reconstruction of the Lancaster Avenue (U.S. Route 30)/Paoli Pike intersection consistent with their realignment; bridge widenings on Rt. 252, North Valley Road, North Cedar Hollow Road, and Lancaster Avenue; intersection improvements to Rt. 252 and Central Avenue; various signalization/roundabout alternatives for North Valley Road and Central Avenue. In addition, construction of the new PTC will include many enhancements to the pedestrian environment in the core area of the Paoli Community from which to base future upgrades in the surrounding areas. In order to facilitate planning efforts, Willistown and Tredyffrin Townships adopted two new zoning districts within the Paoli area; in particular, Willistown amended Chapter 139, Zoning to include Article XXXI, Transportation District (TD), and Article XXXII, Town Center District (TCD). The purpose of both districts is to guide development opportunities within Paoli consistent with Township planning efforts, specifically the Paoli Community Master Plan. Opportunities exist for mixed use development consistent with the character of Paoli and complimentary to a multi-modal transportation center, and include provisions designed to improve streetscape and pedestrian amenities.

6.4.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

The purpose of the Circulation Plan is to create policies that will achieve the circulation goals of Willistown Township. The main circulation goals of Willistown Township are to continue and enhance the efficiency and safety of the current circulation system while preserving the rural character of the community. A principal means for achieving this will be to encourage through traffic to use highways functionally designed to accommodate through traffic. Conversely, Willistown Township supports the Paoli Community Master Plan and continues to investigate options to advance its implementation. The goals of the Paoli Community Master Plan include evolution to a diversified multi-functional commercial and

residential center surrounding a major intermodal transportation hub.

Future Functional Road Classification

The future functional classification of the road network is a useful guide for the placement of future land use. Although Willistown Township wishes to preserve the rural character of the local road network, there are some roads which may not merit the same level of preservation because of the current or future function they serve. Those roads that serve a higher function than the local road network are Lancaster Avenue (U.S. Route 30), West Chester Pike (PA Route 3), Paoli Pike/Devon Road, Street Road (PA Route 926), King Road, and Goshen Road/Providence Road. Indeed, the Lancaster Avenue (U.S. Route 30) Corridor traverses the heart of the Village of Paoli.

The future functional classification of the road network is an important issue because it ties directly to the future land use of a community. Development needs to be guided to areas with collector road access to the arterial network in order to maintain efficient managed access and safety control while preserving the rural character of the local roads. Table 6-1 lists the design guidelines for roads with different classifications recommended by the Chester County Planning Commission.

| | Expressway | Principal Arterial | Minor Arterial | Major Collector | Minor Collector | Local Access |
|-----------------------|----------------------|--------------------|----------------|-----------------|-----------------|--------------|
| Number of lanes | Min. 2 per direction | 2-8 lanes | 2-4 lanes | 2-3 lanes | 2-3 lanes | 1-2 lanes |
| Median width | 10-100 ft | 4-60 ft | 4-60 ft | 2-40 ft | none | none |
| Travel lane width | 12 ft | 12 ft | 12 ft | 10-12 ft | 10-12 ft | 9-12 ft |
| Left turn lane width | NA | 10-12 ft | 10-12 ft | 10-12 ft | 10-12 ft | 10 ft |
| Right turn lane width | 12-14+ ft | 12-14 ft | 12-14 ft | 10-12 ft | 10-12 ft | 9-12 ft |
| Shoulder width | 10-12 ft | 8-10 ft | 8-10 ft | 2-8 ft | 4-8 ft | 4-8 ft |
| Parking lane width | NA | 8-12 ft | 8-12 ft | 8-11 ft | 7-11 ft | 7-10 ft |
| Buffer width | 25-50 ft | 15-20 ft | 15-20 ft | 10-15 ft | 10-15 ft | 10-15 ft |
| Sidewalk width | NA | 4-8 ft | 4-8 ft | 4-8 ft | 4-8 ft | 4-8 ft |
| Right-of-way width | 150-300 ft | 100-150 ft | 80-120 ft | 60-80 ft | 60-80 ft | 33-50 ft |
| Design speed | 50-70 mph | 30-70 mph | 30-70 mph | 20-60 mph | 20-60 mph | 20-30 mph |
| Percent grade (max) | 3-5% | 3-9% | 3-9% | 5-12% | 5-12% | 5-12% |

Table 6-1: Design Guidelines for Roads
Source: Chester County Planning Commission, 2004

Preservation of Local Road Character

The rural character of Willistown Township is, in part, defined by the local road network. Several reasons support the need for preservation. First, the local road network helps define the settlement history of the area. The roads follow original property lines and trails. Second, the local roads provide a direct link to many of the scenic views of the Township. These roads are often a part of the scenic quality of the Community. Expansion of the cartways to allow increased traffic volumes can only reduce the current aesthetic appeal of these rural roads. The physical limitations of the local roads are a factor in keeping large volume and high speed traffic off these roads. This is a concern from a safety standpoint. If the local roads are widened, however, the speed and volume of traffic will likely increase.

As Willistown Township and surrounding communities experience development, it may be necessary for safety reasons to widen the more heavily traveled roads. This is one reason why development should be directed to areas that are the most suitable for increased traffic. Suitable areas include lands along collector roads, with managed access to Lancaster Avenue (U.S. Route 30) and Paoli Pike, with a focus on the commercial and residential development opportunities to support the Paoli Community, as well as along West Chester Pike (PA Route 3) and Street Road (PA Route 926) from the collector roads. This would permit traffic easy access to the major routes, allowing the local road network to remain less traveled. If development is limited along local roads, and safety and mobility do not become a problem, the local roads should remain as they are. Keeping the cartways narrow, with characteristic bends and grades, will hinder increased volumes and speeds while helping preserve this cultural resource in the future.

To maintain and enhance the qualities of the Township's scenic roads, as well as all other roads running through the Township, effort must be given to keeping them as attractive as possible. Garrett Mill Road, located in the southwestern portion of the Township, represents a successful venture in preserving the scenic quality of a local road. Other roads to be considered include Delchester Road, Plumsock Road, Providence Road, Goshen Road, Sugartown Road, Warren Avenue, Boot Road, Spring Road, Davis Road, South Valley Road, Grubbs Mill Road, White Horse Road and Hillview Road. Willistown Township should consider establishing a program similar to the PennDOT "ADOPT-A-HIGHWAY" program to increase the aesthetic quality of local roads in the Township. This will ensure that the scenic quality of the

roadways and adjacent scenic views remain intact. It will also help to build public support for preservation by including individuals and groups directly. Formal scenic road designation, either through local efforts or through the state scenic byway program, also provides opportunities for protection through community outreach and regulation (see Chapter 4 for a full discussion).

Circulation Funding Opportunities

To implement roadway improvements, it is necessary to have appropriate funding. The funding source for circulation-related projects depends on such factors as: ownership of the road (state or municipally owned); the type of project, whether it is a road or bridge project; and the magnitude of the project, whether it is a resurfacing, widening, or a road relocation project.

Municipalities receive funds directly from the State under the Liquid Fuels Fund program. These funds are acquired by the State through taxes received through the purchase of fuel. The funds are allocated according to a legislative formula which takes into consideration mileage of municipal roads and municipal population. Liquid Fuel Funds are used by municipalities to maintain roads and make minor improvements.

Improvements to State owned roads, if Federal or State funds are used, are accomplished through the PennDOT 12 Year Program and the DVRPC Transportation Improvement Program (TIP). The TIP is approved by the Pennsylvania legislature and Federal Highway Administration every other year. Although financial responsibility for maintaining or improving State owned roads is placed on PennDOT and the State, local municipalities are responsible for alerting the proper authorities about safety conditions and needed improvements. The Chester County Planning Commission (CCPC) Transportation Improvements Inventory (TII) is an inventory of proposed improvements submitted by municipalities to the CCPC, combined into a single report and updated every two years (see chesco.org/planning for the most recent TII); the TII is the first step for a project to become listed in the Delaware Valley Regional Planning Commission (DVRPC) Transportation Improvements Program (TIP) to receive federal and/or state funding for implementation. For projects that require PennDOT attention, Willistown Township should also submit documentation of concerns and possible improvements to PennDOT directly. In turn, PennDOT will identify the timing and proper funding program for the project.

All Federal funds become available through the PennDOT 12 year program and the DVRPC TIP. The

availability of Federal or State funds depends on the necessity of improvements. It is imperative that traffic conditions be documented in Willistown Township so that the need for improvements can be exhibited to PennDOT and the County. While the Paoli Community Master Plan (and related implementation activities) addresses a portion of the traffic conditions present and in need of improvements, the Township should continue giving attention to other portions of the community as well.

Circulation Recommendations

Measures need to be developed to limit direct access to major roads and guide development access towards interior circulation roads. Doing this will help to insure that multiple access points do not become a problem in the future and roads will not be stripped out with development.

There are many ways to achieve an efficient and safe network. The most appropriate way is to channelize traffic. As referenced above, this means the grouping of vehicles in specific patterns for similar movements. The densely developed segment of Lancaster Avenue (U.S. Route 30) east of the Paoli Memorial Hospital access is an example of multiple, closely spaced intersecting side streets and driveways resulting in a clutter of conflicting turning movements to, from, and across the highway. Proper access management for potential future development in other areas of the Township is critical to avoid recurrence of this pattern along West Chester Pike (PA Route 3), as well as along Paoli Pike, Devon Road, Street Road (PA Route 926), King Road, Goshen Road and Providence Road.

There are many ways to channelize traffic, ranging from simple methods involving a single parcel or lot, to creating a plan for future development of an area. Some of the simpler ways for channelizing traffic include:

- Relocate access;
- Realign access points;
- Eliminate access points;
- One-way patterns;
- Side access;
- Acceleration and deceleration lanes;
- Combine access points;
- Reverse frontage.

The Township should pursue the creation of an Access Management Plan. This plan could be created for the entire roadway corridors of the Township such as Lancaster Avenue (U.S. Route 30) and West Chester Pike (PA Route 3). In the Access Management Plan, the Township

could designate areas that are most suitable for access points and locations where access should be limited or avoided. The plan will also identify more extensive ways of achieving controlled access along highways.

6.5 | PUBLIC TRANSPORTATION

6.5.1 POLICIES FOR PUBLIC TRANSPORTATION

- Encourage any new development constructed within ½ mile of public transportation centers to establish pedestrian linkages on those parcels undergoing development.
- Encourage pedestrian linkages throughout the Township as appropriate to access public transportation and reduce reliance on automobiles.
- Encourage land use patterns that increase choices for residents and accommodate but do not require private automobiles for all trips.
- Promote the expansion of public transportation and pedestrian environment improvements including continued support for and implementation of the Paoli Community Master Plan.

6.5.2 EXISTING CONDITIONS/BACKGROUND

Two train stations are located within easy commute for Willistown Township residents: 1) the Paoli station, located in Tredyffrin Township, and 2) the Malvern station, located in the Borough of Malvern. These two stations helped shape Willistown's current land use pattern, with those areas of the Township closest to the stations developing more densely. Their nearness represents a genuine opportunity for Willistown Township residents. Many communities in Chester County do not have good access to public transportation; and, very few have such close access while also retaining significant acreage in open, rural land uses.

The Paoli Station has the highest volume of boarding passengers of any rail station in SEPTA's Regional Rail system outside of Center City, Philadelphia. SEPTA operates the Paoli/Thorndale Line (previously referred to the R5 Regional rail line) through the Paoli and Malvern stations with almost 60 trains per day and very active morning and evening commuter activity. In addition, AMTRAK operates intercity service as part of its Keystone Service and Pennsylvanian Service operating with almost 50 additional trains per day between New York City, Philadelphia, Harrisburg and Pittsburgh. The Paoli

station provides parking for a total of almost 500 vehicles (about 180 daily parking spaces and about 310 permit parking spaces) in lots owned separately by SEPTA and AMTRAK. The Malvern station provides daily parking for a total of about 280 vehicles in lots owned by SEPTA.

Five SEPTA bus lines (Routes 92, 105, 204, 205 and 206) also operate out of, or through, the Paoli station; and, one SEPTA bus line (Route 92) operates through the Malvern station. These routes provide various connections to suburban locations throughout Chester County and beyond, including the Borough of West Chester, Exton, King of Prussia, Paoli Hospital, 69th Street Terminal, Lionville, and the Great Valley Corporate Center. SEPTA also operates two bus lines along West Chester Pike (PA Route 3) (Routes 104 and 120) connecting out of the 69th Street Terminal to the Borough of West Chester and Cheyney University.

The Paoli station has been the focus of a major feasibility study to create a Transportation Center as part of the Paoli Community Master Plan. To date, Willistown Township and Tredyffrin Township have enacted new zoning provisions to permit an intermodal transportation center surrounded by higher density transit-oriented commercial and residential development. The Transportation Center would provide expanded parking facilities at the station to accommodate in excess of 1,000 vehicles. Traffic circulation in the area would be improved through implementation of several road improvement projects including several road realignments, bridge widening and intersection improvements. A major focus of the Paoli Community Master Plan includes pedestrian environment improvements. Completed in September 2001, the Plan was prepared by the Joint Paoli Community Master Plan Steering Committee representing Willistown Township and Tredyffrin Township, with funding provided by the Chester County Landscapes Vision Partnership Program. Implementation activities and design concept revisions have been ongoing since.

The intermodal center will incorporate several innovations in transportation planning. “Intermodal” refers to including various forms of transportation (pedestrian, bus, rail, and private automobile) at a single connecting point. Intermodal connections are viewed as a necessary characteristic in transit facilities. They allow people to live in lower density communities, drive their cars to a center, and use mass transit to work in urban centers. Indeed, intermodal centers are frequently surrounded by higher density transit-oriented commercial and residential development to extend and maintain the area’s vibrancy beyond the typical weekday commuter rush hours. The intermodal center is also proposed to include non-transit

uses at the station. Thus the station site is zoned to permit uses such as a post office, smaller retail shops, and several office buildings.

Transportation planners estimate that people are willing to walk roughly one-quarter to one-half mile to utilize public transportation. The Malvern Station and the Paoli Station are located within one-half mile and one-quarter mile, respectively, of Willistown Township’s borders (residents will also be within walking distance of the Paoli station if it is relocated as proposed). Most of Willistown Township’s residents are also within a 5-minute drive of at least one of these two stations. Historically, this access has made it possible for many residents in the northeastern portion of the Township to frequent the two rail stations.

It should be noted that despite this access, many residents continue to rely on their private automobiles for commuting and shopping trips. As concerns about dependence on foreign oil rise (including financial costs and concerns over national security), awareness of the environmental costs of private automobiles increases, and the population ages (making automobile travel more difficult for more and more people), the value of these stations to Willistown Township residents will likely increase. Hence, it is incumbent upon the Township to consider how land use changes will affect resident’s mobility over time. The location of these stations represents a genuine opportunity for the Township and suggests that the Township could capitalize on their close proximity.

6.5.3 BASIS FOR POLICY

Willistown’s Policies are aimed at providing and expanding adequate, safe and reliable access to/from public transportation, including enhancements to the pedestrian environment. The proximity of the Paoli and Malvern rail stations and connecting bus routes provides ample opportunity for the use of public transportation. It remains a priority of the Township to encourage programs that expand public transportation for the area, including both vehicular and pedestrian access to/from public transit nodes.

6.5.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township maintains an ongoing dialogue with adjacent municipalities, the Chester County Planning Commission, SEPTA and PennDOT (such as is occurring with the Paoli Community Master Plan) and believes this is the best approach for enhancement and continued viability of public transportation.

6.5.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Promote pedestrian linkages between the residential neighborhoods and the mixed use areas around Malvern and Paoli. Require development within the upper third of the Township to provide sidewalks and/or other pedestrian linkages on lands undergoing new or re-development. As a pedestrian system is developed over time, seek federal, state and county funds to complete missing links. Coordinate pedestrian opportunities for access to public transportation with recreational trail development described in Section 6.13.
- Continue to work with local public transportation providers to ensure public transit is available to those who wish to use it. Furthermore, continue support for the Paoli Community Master Plan and investigate options to advance its implementation.
- Examine zoning and development regulations in place in the northern sections of the Township, particularly as the Paoli Community Master Plan progresses. Consider redevelopment opportunities for specific locations (such as the vicinity of the Paoli Hospital). Increase mixed-use opportunities. Increase opportunities for retirement communities, particularly in close proximity to public transportation.

6.6 | MUNICIPAL SERVICES AND FACILITIES

6.6.1 POLICY FOR MUNICIPAL SERVICES AND FACILITIES

Monitor municipal administrative needs to provide services in the most efficient manner possible. Consider auditing energy use in government buildings and improve energy efficiency by utilizing green building technologies that reduce energy consumption.

6.6.2 EXISTING CONDITIONS/BACKGROUND

Willistown Township is incorporated as a Township of the Second Class, and is governed by the Pennsylvania Second Class Township Code.¹ The principal governing body consists of three elected municipal supervisors, elected for a term of six years, with one term expiring every two years, thus providing continuity of experience. Five-person boards are also permitted by the State. Members of the Board may receive a nominal salary (\$2,500 per year).

The Board of Supervisors has authority and responsibility in three major areas:

- Managing municipal finances, including setting the municipal budget, incurring expenses, paying employees, and increasing or decreasing taxes and fees to pay for operations and services;
- Establishing and operating municipal offices; and,
- Establishing and enforcing township policy in land use and land development.

These areas of responsibility are elaborated on below.

Municipal Finances

Townships of the Second Class have several options for collecting revenues to support needed services. These are authorized by the State legislature through the Second Class Township Code. (Similar enabling legislation exists for all municipal classes, including boroughs, township of the first class, cities, and towns.) Willistown Township is utilizing the full diversity of potential revenue sources, to a greater or lesser degree. It receives revenue from real estate transfer taxes, real property taxes, earned income taxes, licensing fees, fines, and user charges for services.

The real estate transfer tax is collected by the County and shared equally by the municipality in which the real estate is located, the County, and the local school district. The revenue generated by this tax varies from year to year, since sales activity varies. As a consequence it has not recently produced as much as it did during the 1990's and early 2000's.

The real property tax is collected yearly. For townships of the second class the rate may be as high as 14 mills. Willistown Township is currently collecting at .28 mills. Short of a county-wide reassessment, revenues from the real estate tax should remain relatively constant. The value of the real estate tax is reduced significantly because of the extensive acreage in the Township affected by Act 515 and Act 319. These Acts reduce property taxes for those persons who agree to place open space restrictions on their land.

The earned income tax is the largest single revenue source for Willistown Township, authorized by law up to 1% of earned income. If collected, this tax must be shared equally with the school district if they also levy the tax. Presently the Great Valley School District does not levy the tax. Willistown Township collects at .875%.

1. The distinction between townships of the first class and second class is based on density. Upon attaining a density of at least three hundred persons per square mile, a Township of the Second Class may become a Township of the First Class. As reported by the 1990 U.S. Census, Willistown Township has attained that density and so could, if it wished, become a Township of the First Class.

In addition, the Township collects an open space tax at the rate of .125%

Willistown Township also receives funds from the state's liquid fuels fund for road maintenance and improvements. The amount received is based on census figures and the number of miles of roads in the Township. These funds must be used for specific activities.

Licensing fees, fines, and charges for services make up the bulk of the remaining revenues. Among these are the cable television franchise fee and vehicle code violations.

| Year | Revenues | Expenditures |
|------|-------------|--------------|
| 2002 | \$4,822,393 | \$3,456,119 |
| 2003 | 5,257,865 | 3,302,984 |
| 2004 | 5,353,330 | 3,684,904 |
| 2005 | 6,010,501 | 3,779,089 |
| 2006 | 6,889,115 | 4,475,265 |
| 2007 | 7,295,226 | 4,757,568 |
| 2008 | 6,724,961 | 4,756,067 |
| 2009 | 6,841,262 | 5,190,027 |

Table 6-2: Township General Fund Revenues and Expenditures, 2002-2009

On a comparative basis, real estate taxes tend to impact owners of large parcels of land to a greater degree than owners of smaller parcels. Real estate taxes do not accurately reflect the resident's ability to pay. Nor do they reflect the demand on services created by a property and land use. Under the current system of taxation, owners of large parcels of land pay significantly greater amounts than owners of smaller parcels even though the owner of the larger parcel might be much less wealthy and often burdens municipal services to a much lesser degree. Reliance on the property tax can discourage retention of larger land parcels. For this reason, Willistown Township, among others, relies more heavily on other tax revenues and tries to keep this tax low.

Yet the option of relying more on earned income tax presents its own unique challenges. Earned income fluctuates more than assessed property values. It is more affected by national economic trends such as higher unemployment and stagnant wages. The earned income

tax is not paid on investment income, and so many residents are exempt, most particularly elderly persons.

As shown in Table 6-2, Willistown Township financial patterns have not fluctuated wildly in recent years, but have demonstrated a gradual upward trend. The Township must work within a balanced budget. In the face of diminished revenues, it must either increase tax rates or decrease expenses. Supervisors have elected the latter option to avoid increasing taxes.

Municipal expenditures fall in the following categories: legislative (Supervisors salaries, etc.), executive (salaries, benefits, etc. for Township staff), tax collection (office supplies, etc.), general government buildings and plant operations (salaries for maintenance staff, machinery, etc.), police (salaries, benefits, equipment, etc.), fire (firemen's relief association, local volunteer fire company contributions, etc.), planning and zoning (salaries, consultant services, etc.), health (neighborhood league), highway maintenance (general services, snow and ice removal, signs, tool and machinery repairs, highway and bridge maintenance), libraries (contributions), workers compensation contributions, insurance premiums, and inter-fund operating transfers.

The Willistown Township Administrative staff currently consists of seven full-time and three part-time employees, most of whom hold multiple titles and multiple responsibilities. They answer to the Township Manager who oversees daily operations and works closely with the Board of Supervisors. The Public Works Director supervises the road crew and oversees other outside work as well as maintaining the various Township buildings.

The Township contracts on a yearly basis for engineering and legal services.

Township operations are managed primarily in the Township's municipal building in Sugartown. The structure was constructed in 1956 and added to in 1969. In addition to administrative offices, and storage rooms, the building has a large meeting room suitable for most public meetings held by the Township. It is adjacent to the Township Police Department building.

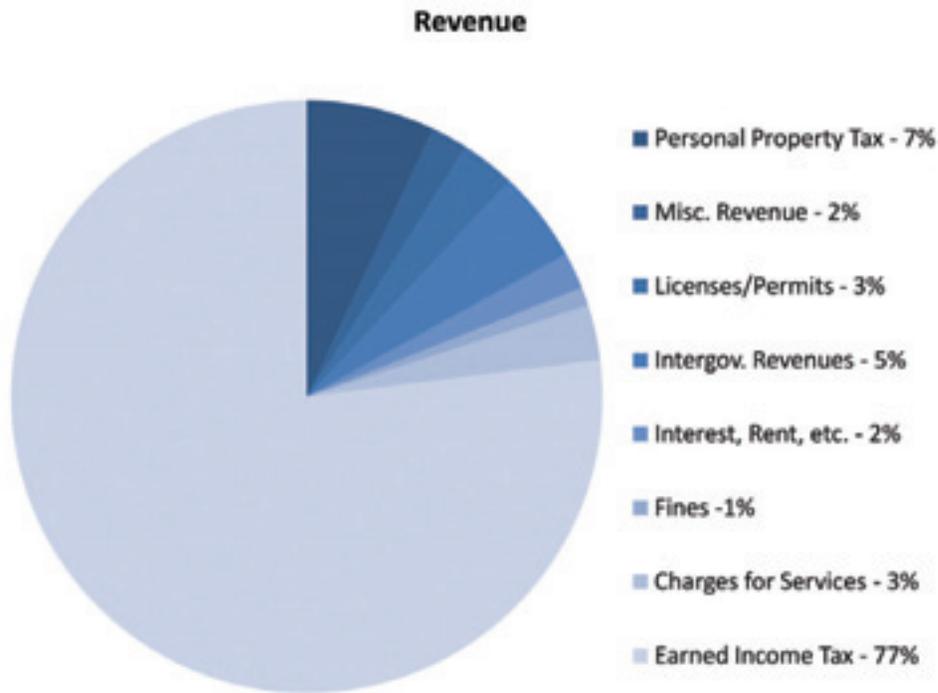


Figure 6-1: Revenue Budget, 2009

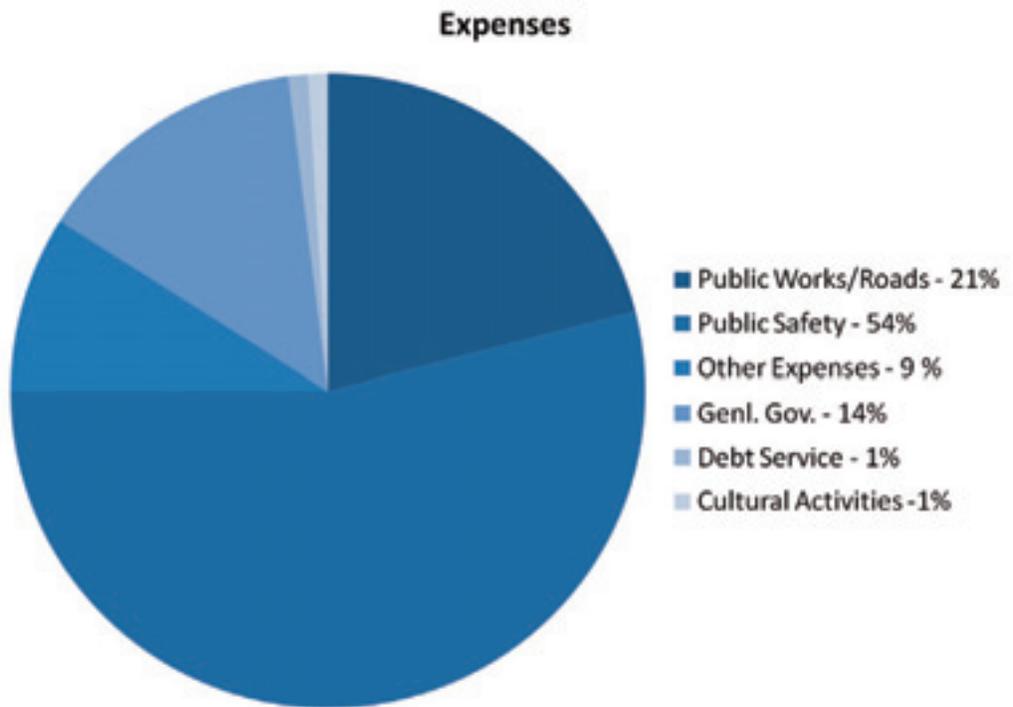


Figure 6-2: Expense Budget, 2009

Land Use Policy

In Pennsylvania local governments are responsible for adopting and enforcing land use policy. While the governing body (in Willistown Township's case, the Board of Supervisors) is the ultimate decision maker for municipal land use policy and for approving subdivision and/or land development proposals, it appoints various commissions and committees to help fill these roles. Willistown Township has created a Zoning Hearing Board, a Planning Commission, an Historical Commission, a Park and Recreation Board, a Recycling Committee, and an Environmental Advisory Council.

Voluntary planning commissions are authorized by Pennsylvania's Act 247 of 1968, (the Municipalities Planning Code, or MPC). A planning commission may have not less than three and not more than nine members. Willistown Township's Planning Commission is composed of seven persons. The planning commission's responsibilities are to prepare the comprehensive plan, make recommendations related to official maps, zoning ordinances, subdivision/land development ordinances, building codes, environmental studies, water surveys, and capital improvements programs, and to review subdivision/land development applications and make recommendations to the governing body on their approval or disapproval.

The Willistown Township Historical Commission has nine members. It has completed a detailed inventory and mapping of historical resources within Willistown Township which is filed in the Township building. The members were also involved in the research and planning that went into the successful nomination of Willistown's three National Historic Register Districts, Sugartown, Okehocking, and Whitehorse. The Historical Commission reviews applications for the rehabilitation, enlargement or alteration of historic buildings and advises the Board of Supervisors or the Zoning Hearing Board on all requests for conditional uses, special exceptions, or variances affecting historic resources.

Environmental Advisory Councils (EAC) were authorized by Pennsylvania's Act 148 of 1973. The role of an EAC is to advise the local planning commission, park and recreation board, and elected officials on matters dealing with the protection, conservation, management, promotion and use of natural resources within the municipality. Willistown Township's Environmental Advisory Council has seven members. Members of the EAC helped draft the 1993 Open Space, Recreation, and Environmental Resources Plan.

Willistown also has a Recycling Commission with a membership of seven dedicated volunteers. They hold periodic recycling events for the collection of specific items such as electronic equipment or in the fall they might be collecting yard waste to be shredded and recycled. In addition, they collect metal, tires, recyclable batteries, propane tanks, cell phones and all small appliances powered by electricity in their general recycling event. As an ongoing program, the Commission maintains a container at the Township Building for the recycling of video and audio tapes as well as DVDs and CDs.

The Willistown Township Park and Recreation Board is a seven-person voluntary board. The Park and Recreation Board is discussed in detail below, under Parks and Recreation.

Clear benefits result from having so many voluntary bodies (planning commission, historical commission, environmental advisory board, recycling commission, park and recreation board members, and ad hoc planning teams). Many more residents are involved in their community and are more able to understand the parameters of Township government. Additionally it provides a variety of perspectives being brought into the workings of township government.

The Zoning Hearing Board is the judicial arm of township government. It hears appeals from decisions made by the zoning officer, it grants special exceptions and variances, and it also hears challenges to the validity of the zoning ordinance and map. By law the Zoning Hearing Board must maintain autonomy from the governing body. Therefore, it employs its own solicitor who may not also represent the governing body. Members of the Zoning Hearing Board are, however, appointed by the governing body. The Willistown Township Zoning Hearing Board consists of three members.

6.6.3 BASIS FOR POLICY

As a Second Class Township, Willistown is obligated to provide needed services to municipal residents in an efficient and effective manner. The Township takes seriously its duty to be responsive to Township resident's needs and maintains an "open door" policy to addressing resident's concerns and suggestions. In addition, the Township takes pride in monitoring its efforts in order to provide the very finest services within the guidelines of a responsible budget.

6.6.4 TOWNSHIP PLANNING AND REGULATION TODAY

As previously stated, Willistown is a Township of the Second Class, and is governed by the Pennsylvania Second Class Township Code. As such, the Township maintains a Township Code comprised of all currently effective legislation (ordinances) of a general and permanent nature enacted by the Township Board of Supervisors.

The Code is divided into two parts. Part I, Administrative Legislation, contains all Township legislation of an administrative nature, namely, that dealing with the administration of government, that establishing or regulating municipal departments and that affecting officers and employees of the municipal government and its departments. Part II, General Legislation, contains all other Township legislation of a regulatory nature. Items of legislation in this part generally impose penalties for violation of their provisions, whereas those in Part I do not. Among those items included in Part I is the Township's legislative authority to form various boards and commissions, the Township's ethics code, salaries and compensation, and the scheduling of meetings. Among those items contained in Part 2 are regulations regarding construction standards and fire prevention, outdoor burning, refuse disposal, nuisances, sewers, and taxation, among others. In addition, Part 2 contains the Township's land use regulatory controls, including Chapter 73, Environmental Protection, Chapter 123, Subdivision and Land Development, and Chapter 139, Zoning.

The Township's authority for land use planning and regulation comes from Pennsylvania's Act 247 of 1968, (the Municipalities Planning Code, or MPC). The land use regulations referenced throughout this plan are a direct outgrowth of the legislative authority granted under the MPC, as is the comprehensive planning process under which this plan was prepared.

6.6.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue to provide those municipal services currently provided. Continue to rely on voluntary boards and commissions, delegating planning and advisory responsibility to those bodies.

6.7 | WATER SUPPLY

6.7.1 POLICIES FOR WATER SUPPLY

- Protect and safeguard sources of water supply in order to ensure that an adequate supply of potable water is available for domestic use and fire protection.
- Promote the protection of ground water quality and emphasize ground water recharge to meet water supply needs.
- Monitor regional river basin commission activities pursuant to monthly notifications and ensure that water withdrawal permits do not negatively impact local supplies.
- Promote watershed protection consistent with Chester County's integrated water resources plan *Watersheds* and the PA State Water Plan.

6.7.2 EXISTING CONDITIONS/BACKGROUND

For the most part, ground water withdrawal regulation is preempted from local control by county, state, and federal authority. Willistown Township is situated within the Delaware River Watershed. The Delaware River stretches 330 miles from the headwaters near Hancock, New York to the mouth of the Delaware Bay. In 1961 the federal government as well as the states of Delaware, New Jersey, New York, and Pennsylvania created the Delaware River Basin Commission (DRBC) with the goal of establishing a regional governing body to manage the river system without regard to political boundaries. Commission programs include water quality protection, water supply allocation, regulatory permitting, water conservation initiatives, watershed planning, drought management, flood loss reduction, and recreation.

DRBC regulates all stream withdrawals and ground water withdrawals which exceed a certain volume. Surface water withdrawals are also regulated by DRBC in accordance with the Pennsylvania Water Plan and Fish Commission "pass-by" requirements, which are the minimum flows required to support aquatic life downstream. Each permit requires some study of the river system and a review of the population projection to make sure the withdrawal is warranted. The DRBC also ensures that states release sufficient water from dams and reservoirs to ensure downstream supplies and grants franchises to public utilities operating public water supply systems.

DRBC requires a permit for ground water withdrawals that exceed 100,000 gallons per day (gpd), and

also for withdrawals of more than 10,000 gpd within “ground water protection areas.” “Ground Water Protection Areas” are areas where ground water is in danger of being overused. These areas are identified by the Chester County Water Resources Authority (CCWRA) based on information derived from observation wells. Willistown Township is within the Southeastern Pennsylvania Ground Water Protection Area of the DRBC.

Pennsylvania State Water Plan

In accordance with the State of Pennsylvania’s Water Resources Planning Act 220 of 2002 or State Water Plan (replacing the prior PA State Water Plan which expired in 1983) PADEP is required to, “...produce and regularly update a State Water Plan that includes information on the quality of the state’s water resources and quantifies the amount of water that is: (1) available in Pennsylvania; (2) used by various sectors; and (3) needed to meet current and projected demands.” Additionally, PADEP is required to provide updated information regarding water quality and quantity based on both consumptive and non-consumptive water uses. This ongoing and continuously updated source of information is to be made available to assist in managing water resources.

Willistown Township is situated within the Lower Schuylkill and Darby-Crum Creek Watershed areas of the Lower Delaware River Subbasin. The basin and watershed boundaries are shown on the Map 2: Water Resources.

Watersheds - An Integrated Water Resources Management Plan for Chester County, PA and its Watersheds

Watersheds was developed as a component of Chester County’s land use plan *Landscapes*. *Watersheds* outlines seven Goals and Objectives that, “...represent the guiding principles and philosophy for the activities and decisions of the communities of Chester County’s watersheds,” and “...are designed to accommodate existing land uses and planned growth in a manner that is consistent with the natural characteristics of the receiving watershed systems...”. The seven objectives generally include: education, enhancement, preservation, improvements, reducing stormwater impacts, protection, and integration of water resources to meet the present and future needs of Chester County. While *Watersheds* is consistent with the PA State Water Plan and works to implement its goals and objectives, the County’s plan and associated Water Resources Compendium provide significant detail for managing local water resources.

Willistown Township can utilize *Watersheds* and the PA State Water Plan data for this area of the Delaware River Basin, as well as other documentation prepared by PADEP, to manage and promote the conservation of water resources.

6.7.3 BASIS FOR POLICY

Because most ground water withdrawals occur in increments smaller than 10,000 gpd, the majority of Pennsylvania’s ground water withdrawals are not effectively protected from overuse. Cumulative impacts of ground water withdrawals are not managed.

Ground water withdrawals not regulated by DRBC, such as domestic wells, are permitted through the Chester County Health Department. The Health Department requires pump tests to ensure that the quantity available is sufficient for the purpose intended.

DRBC has granted franchise license for providing public water in Willistown Township to AQUA PA. This is the sole public water supplier authorized by DRBC to operate within Willistown Township. Most (approximately 80%) of AQUA PA water comes from Pickering Creek Reservoir. In the Willistown region, Springton Reservoir also provides some limited amounts of water. The northern portions of the Township, as well as areas along West Chester Pike and along Street Road (Route 926) are served by AQUA PA. Developers or individual landowners wishing to connect to AQUA PA’s network must request a line extension and pay for the cost of the connection.

Where public water supplies are not available, residents rely on private wells. Whether total ground water withdrawals exceed total ground water recharge in Willistown Township is difficult to determine. In the northern portion of the Township, where water is imported by AQUA PA and exported to the Valley Forge Sewer Authority, the small number of direct ground water withdrawals probably exceeds recharge (local withdrawals being exported out of the Township). In the less developed sections of Willistown that rely on wells, ground water recharge likely exceeds withdrawals. Future growth in those portions of the Township currently served by public water will most likely continue to be serviced accordingly; however, should future growth pressures begin to affect those portions of the Township not served, greater emphases will need to be placed on the wise use of water resources, including water conservation, so as to sustain ground water yields in the future.

6.7.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Subdivision & Land Development Ordinance, Chapter 123, documents that the State Department of Environmental Protection (DEP) regulations pursuant to development are the minimum standards that must be met for potable water supply. Emphasis is placed on the requirement for adequate fire protection where public water systems are proposed.

Where individual on-site water supply systems are proposed, the Ordinance requires that applicants install such facilities or guarantee that purchasers can install the facilities as a condition of sale of the lot. Well permits are required to be obtained from the Chester County Health Department prior to installation of any well.

Chapter 123 also contains specific testing procedures for both central water supply systems and communities proposed to be served by individual wells. The test results must show that there is sufficient ground water to serve the proposed development without any negative impacts on the existing wells of surrounding properties. Public Water Studies are required in accordance with the PADEP Public Water Supply Manual for any proposed subdivision to be served by a central water supply system.

Provisions for adequate maintenance of the system must be demonstrated prior to an applicant's receipt of approval for a community water supply system. All such systems must be municipally owned or be under the regulations of the Pennsylvania Public Utilities Commission.

In keeping with the adoption of the County's "Landscapes2 Comprehensive Policy Plan" approach to development and preservation of open space, the Township adopted open space conservation ordinance provisions. Open space development reduces the potential for downstream flooding, reduces water quality degradation of receiving streams/water bodies, increases (and sustains) ground water recharge, and provides more stable base flows in receiving streams. Willistown encourages open space preservation throughout the Township.

6.7.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

Although much of the responsibility for protecting water resources exists with other agencies, water quality protection remains a critical issue. As such, Willistown should monitor potential changes in regulations and other governmental actions that affect water resources and act to influence positive change when appropriate. While there are no known areas where water quality and quan-

tity issues require special monitoring or study at this time, Willistown should continue to:

- Protect the quality and quantity of available ground water for future generations.
- Prevent excessive development from negatively impacting the performance of existing wells where ground water testing has shown that limited supplies of ground water exist.
- Utilize data from Chester County's *Watersheds* Plan and the PA State Water Plan to assist in managing and promoting the conservation of water resources.
- Follow the ground water protection guidelines outlined in the PA State Water Plan in accordance with the Water Resources Planning Act.

6.8 | SEWAGE DISPOSAL

6.8.I POLICIES FOR SEWAGE DISPOSAL

- Coordinate land use planning with sewage facilities (Act 537) planning.
- Coordinate the extension of public sewer service to existing developed areas of the Township where existing needs have been documented.
- Continue to coordinate development activity with existing sewage facilities where capacity exists and growth is appropriate; restrict the extension of public facilities in those areas identified for preservation.

In addition, the Township believes the following policies should guide future actions:

- Sewage facilities should use the best available technology at the time of installation and should be properly operated and maintained. The Township recognizes that innovative technology is constantly being developed in the field of wastewater treatment and will consider incorporating newly developed types of treatment facilities when there is sufficient evidence presented to the satisfaction of the Township to support the use of such new technology.
- Treated wastewater shall be disposed as close to its generation source as practicable. Ground water recharge

shall be promoted to the greatest degree possible and the beneficial reuse of treated wastewater shall be investigated and implemented where practical.

- Individual residential onsite sewage disposal systems shall be operated and maintained by the property owner using best management practices for the system in place.
- All non-residential and community sewerage systems shall be operated and maintained by a responsible management entity.

6.8.2 EXISTING CONDITIONS/BACKGROUND

Proper treatment and disposal of sewage is necessary to protect public health and welfare, as well as the local environment. The chosen methods of sewage treatment and disposal are also important determinants of land use. Gravity and low pressure sanitary sewer collection systems and Community On-Lot Disposal Systems (COLDS) are methods of sewage conveyance and treatment that make higher density land uses possible. Historically, communities have been concerned that “central” sewage systems will encourage unwanted growth; on the other hand, total reliance on individual septic or community systems requires larger amounts of land and can spread development over much larger land areas than necessary. Willistown Township seeks to control land use and plan for sewage treatment in a coordinated fashion so that the objectives of this comprehensive plan - guiding growth, protecting community values, and providing adequate community facilities and services - are achieved.

Willistown’s coordination of sewage treatment and disposal with land use planning is supported by the Township’s Subdivision and Land Development Ordinance, Zoning Ordinance, Act 537 Plan, and county, state and federal regulations.

6.8.3 BASIS FOR POLICY

Pennsylvania’s Sewage Facilities Planning Act (Act 537) requires that all Commonwealth municipalities develop and implement comprehensive official plans, provide for the resolution of existing sewage disposal problems, provide for the future sewage disposal needs of new land development, and provide for the future sewage disposal needs of the overall municipality. An “Act 537 Plan” establishes official municipal policy on preferred means of sewage treatment and disposal. These policies could include, for example, establishing a municipal authority to own and operate community systems, institut-

ing a formal septic system pumping program to ensure that septic systems function properly, and promoting drip field distribution or spray irrigation as the preferred means of treatment. The “Act 537 Plan” is finalized when approved by the Pennsylvania Department of Environmental Protection (PADEP).

The Willistown Township Act 537 Plan of 1989 was updated in 2001, adopted by the Township, and conditionally approved by PADEP in 2004. The conditional approval was dependent on construction of a low-pressure collection and conveyance system for the “East Central” area of the Township, acquiring additional treatment facility capacity for the “Northwest Quadrant” of the Township, and conducting additional sewage facilities planning to address the proposed ownership transfer of the Deerfield Knoll community disposal system and the Willistown Woods wastewater treatment facility to a private utility company. All conditions of the approval have been addressed. The current Act 537 Plan represents municipal policy to be followed for future development.

Public Sewered Areas

Areas served by public sewer in Willistown Township are concentrated in the more developed northern parts of the Township. The northern portion of the Township is served by the Valley Forge Treatment Plant.

The East Central Area is now serviced by public sewer consisting of a low-pressure collection and conveyance system. Future public sewerage is proposed in the “Northwest Quadrant” and is currently proposed to be both gravity and low pressure sewers that will be connected to the Valley Forge Treatment Plant. A portion of the “Northwest Quadrant” is also serviced by the East Goshen Township Ridley Creek Sewage Treatment Plant.

The Valley Forge Sewer Authority (VFSA) facility had a total capacity of about 8 million gallons per day (mgd), but in 2000 was rerated to 9.2 mgd. It was operating at about 6.126 mgd in 2005 through the Wilson Road Pumping Station (via the Valley Creek Trunk Sewer). According to the VFSA, as of the end of 2005, the total number of EDU’s connected to the VFSA system from Willistown was 2,521, contributing an average daily flow of about 1.2 mgd.

Willistown’s growth is expected to increase by about 10% to 3,075 EDU’s in 2035, resulting in an average daily flow rate of 1.348 mgd. The reserve capacity for Willistown Township was 1.064 mgd, but in the Act 537 Plan Update of 2001 it was reported to be at 0.089 mgd. The Act 537 Update also indicates a request by Bryn Mawr Rehabilitation Hospital for additional flow capac-

ity. The result will be a need for additional reserve capacity at the treatment plant. The flows projected from 2008 to 2033 are listed in the flowing table:

| Projected Flows from 2008 to 2033 | |
|-----------------------------------|------------|
| Year | Flow (gpd) |
| 2008 | 1,223,093 |
| 2013 | 1,234,918 |
| 2023 | 1,247,293 |
| 2033 | 1,259,668 |

Table 6-3: Projected Sewer Flows

The Township appears to have adequate short term capacity, but long term future capacity will need to be acquired for anticipated future growth.

Private or Community Treatment Facilities

A variety of private treatment facilities are operating within Willistown Township. The Fox Ridge Community On-Lot Disposal System is located in the “Northwest Quadrant” of the Township. The Plumsock Sewage Treatment Plant, the Deerfield Knoll large volume-sub-surface disposal system, the Penns Preserve Spray Irrigation System, and the Willistown Woods Sewage Treatment Plant are located in the southern area of the Township, as is the Little Washington Waste Water Treatment Plant (a subsidiary of AQUA PA) (See Act 537 - Exhibit 4). Generally, these systems appear to be well operated. In some instances, home owner associations or the Township oversees sewage facility operations. Ultimate disposal of treated effluent is either to local streams, or, in several instances, applied to the land.

The Township believes community sewer systems warrant careful consideration and scrutiny. Community systems have the potential to encourage compact siting of development on a parcel, making it possible to create more attractive development in which open space (the historically rural Willistown landscape character) is preserved. On the other hand, developers often argue that community systems make it feasible to develop land more intensely than anticipated in the community’s comprehensive plan. In addition, management, operation, and ownership issues for community systems can be troublesome since the Township may be expected to assume responsibility for systems in the event they fail. In spite of

potential concerns about community sewer systems, their benefits can be substantial if designed and constructed properly, managed appropriately, and operated safely.

Community systems will be permitted only where it can be shown that such systems are consistent with the Township’s policies regarding the preservation of open space and rural landscape character, are consistent with the policies of the Act 537 Plan, and adhere to the Township’s zoning and land development regulations.

On-Lot Disposal Areas

The remainder of the Township relies on on-lot systems; such systems are predominantly located in the central area of the Township. While the majority of these systems are operated properly, zones of malfunction have been reported in many areas of the Township. One large area of malfunctions was observed in the eastern portion of the Township and was the focus of the East Central Sewer Study Phase II (implemented as described in the Act 537 Plan).

Dislocated areas (e.g., properties generally non-contiguous throughout the Township) with on-lot malfunctions will need to be addressed in the future efforts by the Township to update its Act 537 Plan. On-lot systems can fail due to improper maintenance, or can fail due to soil suitability, location within floodplains, or age. The Township’s Act 537 Plan contains an ordinance which provides regulations for inspections and maintenance of on-site sewage disposal systems, as well for the registration of on-site sewage service businesses, which can aid in controlling and monitoring systems to reduce failures in the future.

It is difficult to determine cumulatively whether Willistown is recharging, having little influence on, or depleting its ground water supplies. While the Township imports water (from AQUA PA) and exports water (via Valley Forge Sewer Authority), much of the Township relies on the use of ground water from private wells that is recharged through individual septic systems. Evidence to the contrary, the Township will continue to emphasize treatment and disposal methodologies that recharge ground water supplies.

6.8.4 TOWNSHIP PLANNING AND REGULATION TODAY

Willistown is responsible for properly managing wastewater systems. Pa Code Title 25§71.71 statutorily mandates that the local municipality be responsible to assure the proper operation and maintenance of sewage facilities within its borders. The overall development and

management of sewage treatment facilities in Willistown Township is in compliance with these goals and polices.

The Pa Code does not presently provide for the registration, certification, or licensure of service and maintenance providers of Individual and Community on-lot sewage systems that are permitted by the “Local Agency” – e.g., the Chester County Health Department (CCHD). However, the CCHD does license Liquid Waste Haulers and requires reporting of pumping and disposal of liquid waste from treatment tanks and grease traps; as such, the CCHD maintains an electronic database.

Chester County’s Landscapes2 Comprehensive Policy Plan, adopted in 2009, lists Objectives and Policies for attaining the goals set forth in the Plan. The stated objectives under Section UI 2.7, Utilities and Infrastructure Objectives and Policies, are “Encourage innovative wastewater treatment and disposal systems with preference given to land application of treated wastewater that maintain the watershed water balance.”

In a report to the U.S. Congress dated April 1997, the EPA indicated that “Adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals.” Decentralized systems serve approximately 25 percent of the U.S. population, and approximately 37 percent of new development.

The subdivision and land development ordinance requires that all lots which cannot be connected to a public or community sanitary sewage disposal system in operation at the time of construction of a principal building be provided with an on-site sanitary sewage disposal system meeting the design standards of Title 25, Chapter 73, Rules and regulations of the Pennsylvania Department of Environmental Protection, the Chester County Health Department, and Willistown Township.

6.8.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

Willistown Township should continue to periodically review and update its sewage disposal policies by:

- Following the recommendations of the Act 537 plan.
- Reviewing and adopting the Draft Onsite Sewage Disposal Ordinance.
- Ensuring that land use policies and regulations are addressed as provided in the Comprehensive Plan, the Subdivision and Land Development Ordinance, and the Zoning Ordinance.

- Adopting any sewerage policy changes in federal, state or other authorities’ regulations or guidelines, including any registration, certification and/or licensure of Responsible Management Entities (RME’s).

- Developing and implementing a Sewage Management Program that meets the current guidelines of the PADEP and investigate state or other funding sources for its development.

6.9 | STORMWATER MANAGEMENT

6.9.1 POLICIES FOR STORMWATER MANAGEMENT

- Encourage and maximize storage of rainfall and ground water recharge in order to sustain ground water supplies and stream base flow.

- Minimize increases in surface water runoff volumes that contribute to downstream flooding, additional submerged land, eroded stream banks, and other flood related health-welfare-property losses.

- Encourage utilization of ecologically sound stormwater management facilities through the implementation of Best Management Practices.

- Implement the requirements of the Pennsylvania Act 167 Stormwater Management Plans for the Crum Creek, Ridley Creek, and Valley Creek Watersheds, as available; continue to work with Chester County as it prepares a county-wide Act 167 Plan; implement the requirements of the National Pollutant Discharge Elimination System Phase II (NPDES II) program.

6.9.2 EXISTING CONDITIONS/BACKGROUND

Stormwater quantity is generally controlled by stormwater facilities such as storm sewer conveyance, retention/detention basins and infiltration systems. Stormwater quality control is generally maintained through Best Management Practices (BMPs) such as preserving and protecting sensitive environmental resources, reducing impervious cover, installing open vegetated swales, planting vegetated stream bank buffers, providing infiltration facilities, and other techniques described in the Pennsylvania Stormwater BMP Manual and Handbook.

In accordance with the State of Pennsylvania’s Act 167 Stormwater Management Act of October 4, 1978, provisions are to be implemented for the control of

stormwater management on a watershed basis as determined by PADEP. Each County in the Commonwealth of Pennsylvania is required to prepare and adopt Act 167 Watershed Plans for Stormwater Management. Likewise, each municipality within each County is to adopt an Act 167 Stormwater Ordinance in accordance with the plans.

The Crum Creek, Ridley Creek, and Valley Creek Watersheds within Willistown Township were studied as part of *Watersheds*, Chester County's Integrated Water Resources Management Plan adopted on September 17, 2002. *Watersheds*' purpose is to serve as a guide for the municipalities within Chester County and help them regulate and control stormwater quantity and quantity runoff; reduce pollution and other environmental impacts; and protect and conserve water resources more effectively. *Watersheds* compliments the PADEP NPDES II and MS4 Stormwater Programs. Crum Creek, Ridley Creek, and Valley Creek Watersheds within Willistown Township represent 3 of the 21 watersheds of Chester County discussed in the plan.

The Crum Creek watershed encompasses a majority of Willistown Township, from the central northwest to the southeast boundary corner. Ridley Creek watershed occupies the western area of Willistown Township and Valley Creek watershed occupies the remainder of the Township along the northern boundary. Watershed boundaries are shown on the Map 2: Water Resources. The overall Crum Creek, Ridley Creek, and Valley Creek Watersheds are fully described in the Crum Creek Watershed Action Plan of 2002, prepared by the Chester County Water Resources Authority.

Pursuant to Act 167, integrated stormwater management plans are required for the Crum Creek, Ridley Creek, and Valley Creek Watersheds. Each Act 167 Stormwater Management Plan is to involve a technical study upon which management strategies and protection actions are developed. Plans are near completion on the Crum and Valley Creeks and the County is pursuing the adoption of an Act 167 County-wide stormwater management plan for those portions of the County not otherwise under study. Regardless of the plan adopted, municipalities are required to revise and adopt stormwater management ordinances consistent with the Act 167 plans.

The Township Code effectively regulates all land disturbances that impact surface water runoff peak discharge rates and volume. The EPO also includes provisions for future implementation of the Pennsylvania Act 167 Stormwater Management Plan for the Crum Creek, Ridley Creek, and Valley Creek Watersheds once plans for the individual watersheds (or the County-wide plan) are developed and finalized.

The MS4 Stormwater Program

Untreated or uncontrolled stormwater runoff is the primary cause of pollution in local waterways. Stormwater runoff, polluted or otherwise, is often transported through municipal stormwater collection systems where it is eventually discharged into streams or other waterways without any treatment. As a result of the increasing amounts of pollution entering waterways, the Environmental Protection Agency (EPA) established a municipal stormwater management program known as the MS4 Program (Municipal Separate Storm Sewer System). The program is intended to improve the nation's waters by reducing the quantities of pollutants that stormwater transports during and after storm events.

Municipalities such as Willistown that are designated as MS4 municipalities are required to hold a permit to discharge their stormwater into local waterways. This permit requires the municipality to design and implement a stormwater management program that manages and ideally reduces the discharge of pollutants to the maximum extent possible and satisfies the water quality requirements of the Clean Water Act. In Pennsylvania, the MS4 program is administered by the PA Department of Environmental Protection (DEP). Currently, PA DEP is revising its permit requirements under the MS4 program.

6.9.3 BASIS FOR POLICY

Willistown Township policy has been to regulate land use activities that affect runoff and surface water and ground water quality and quantity by conforming to the NPDES Phase II program and the EPA's MS4 program. The Township believes it can best regulate stormwater runoff generated from land use activities through application and enforcement of its codes and ordinances. Controlling the quantity and quality of runoff generated by storm events is extremely important in minimizing property damage and detrimental impacts to the environment. This policy aims to reduce damage from excessive amounts of water inundating sensitive properties around streams and in susceptible upstream watershed areas, as well as to reduce pollutants that are carried by stormwater runoff from parking areas, streets, industrial complexes and cultivated farm fields that can degrade stream environments throughout the region.

6.9.4 TOWNSHIP PLANNING AND REGULATION TODAY

Willistown Township regulates stormwater management through Chapter 73, Article VIII of the Environ-

mental Protection Ordinance (EPO). The EPO also regulates other land use activities which indirectly affect storm water management, such as the removal of top soil and vegetation, construction within the flood plain, soil erosion and sediment pollution control, steep slopes, and riparian buffer areas. In addition to the EPO, other sections of the Township Code support or provide additional regulations regarding stormwater management, including Chapter 123 - Subdivision and Land Development, Chapter 109 - Soil Erosion and Sediment Control, and Chapter 139 – Zoning.

6.9.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

A majority of the recommendations in the Township's 1997 Comprehensive Plan regarding stormwater management have been successfully implemented. Additional measures, mentioned above, have also begun to be implemented. The following recommendations should be continued or implemented:

- Ensure that ultimate responsibility for storm water management facilities is clearly defined during the subdivision/land development process.
- Continue to seek ways to minimize the creation of impervious surfaces and improve overall stormwater management quantity and quality control measures.
- Continue to enforce the Township Environmental Protection Ordinance and other Township Code stormwater management regulations. Review all stormwater management ordinance requirements and modify as appropriate to be compliant with County, State and Federal programs and regulations regarding quantity and quality control.
- Continue to enforce the highest standards for construction of such systems so that residents are not forced to pay for system failures over time.
- Continue to participate in regional planning activities with regard to watershed management.
- Monitor existing regulatory provisions to ensure storm water management is adequate. Revise as needed.
- Minimize downstream flooding by requiring new development to control runoff volume so that post development runoff rates do not exceed pre-development runoff rates.

- Encourage the use of Best Management Practices that eliminate or minimize disturbance to areas with sensitive natural resources. Encourage infiltration of stormwater to achieve ground water recharge and reduce flooding. Insure that riparian buffers are established and/or enhanced for all projects that involve streams and wetlands. Encourage the use of Best Management Practices that enhance the overall quality of the streams in the Township.

- Implement the requirements of the Pennsylvania Stormwater Management Act for the Crum Creek, Ridley Creek, and Valley Creek Watersheds pursuant to individual watershed plans and Chester County's County-wide Act 167 Plan.

- Enforce the regulations of the National Pollutant Discharge Elimination System Phase II (NPDES II) program and PADEP's Chapter 102 Erosion and Sedimentation Control Program.

- Continue to implement the MS4 Stormwater Management Program's six "minimum control measures" which are intended to reduce pollutants discharged into local streams. These elements are:

1. Public Education and Outreach

Distribute educational materials and conduct outreach to inform citizens about the impacts that stormwater runoff has on water quality.

2. Public Participation/Involvement

Provide opportunities for citizens to participate in the stormwater management program or other programs which improve water quality.

3. Illicit Discharge Detection and Elimination

Develop and implement a plan to detect and eliminate non-stormwater discharges into the stormwater system.

4. Construction Site Runoff Control

Develop, implement and enforce an erosion and sediment control program for construction site activities that disturb one acre or greater of land area.

5. Post-Construction Runoff Control

Develop, implement and enforce a program to address discharges of post-construction stormwater runoff from new development or redevelopment areas.

6. Pollution Prevention/Good Housekeeping

Develop and implement a program that reduces or

prevents pollutant runoff from municipal operations.

Willistown Township is committed to improving water quality in its watersheds through better management of stormwater runoff. Every resident and business owner is encouraged to participate in the municipal stormwater program by reducing or preventing pollutant runoff from their own property and by reporting any non-stormwater discharges into their local waterways.

6.10 | SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING

6.10.1 POLICY FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING

Monitor cost and quality of privately provided trash collection services to ensure residents' needs are met; regulate accordingly pursuant to the authority granted under the "Municipal Waste Planning, Recycling, and Waste Reduction Act" (Act 101).

6.10.2 EXISTING CONDITIONS/BACKGROUND

Solid waste collection and disposal is regulated in Pennsylvania by the "Municipal Waste Planning, Recycling, and Waste Reduction Act" (Act 101), which largely vests regulatory control to the counties. Chester County's flow control ordinance dictates where trash collected within the County must be landfilled. Local municipalities can contract with private haulers to remove trash. Willistown Township, however, allows each resident to make his/her own trash removal and recycling arrangements.

6.10.3 BASIS FOR POLICY

The Township believes its role with regard to trash removal and recycling is to monitor the cost and quality of private sector services, regulate pursuant to Act 101, and respond to citizen concerns. It is generally agreed that the continued fostering of competitive services will keep costs reasonable and provide high quality opportunities for trash removal and recycling.

6.10.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township continues to monitor and regulate trash hauling services pursuant to Chapter 87, Garbage, Rubbish and Refuse. This chapter contains three articles: Article I, Disposal, Article II, Municipal Waste Collectors, and Article III, Recycling. Among the issues addressed

are licensing and disposal, violations and penalties, prohibitions, spillage, and collection of recyclable materials and leaf waste.

As mentioned above, Willistown also has a Recycling Commission with a membership of seven dedicated volunteers. Periodic recycling events are held for the collection of specific items such as metal, tires, recyclable batteries, propane tanks, cell phones and electronic equipment, as well as for yard waste that is shredded and recycled. As an ongoing program, the Commission maintains a container at the Township Building for the recycling of video and audio tapes as well as DVDs and CDs.

6.10.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue to monitor services provided by private contractors, ensuring trash removal and recycling efforts are undertaken in a safe, environmentally appropriate fashion.

6.11 | EDUCATION

While education is not directly provided by the Township, school district decisions can greatly influence municipal plans and actions. School taxes and the location of new schools are two examples of its relevancy.

6.11.1 POLICY FOR EDUCATION

Monitor Great Valley School District plans which might affect local land use planning.

6.11.2 EXISTING CONDITIONS/BACKGROUND

Willistown Township is part of the Great Valley School District. In addition to Willistown the school district serves the Borough of Malvern, and Charlestown and East Whiteland Townships. Of the six school buildings in the District, two are located in Willistown Township - Sugartown Elementary School and General Wayne Elementary School. The four Great Valley School District schools not located within Willistown Township are Great Valley High School, Great Valley Middle School, the Kathryn D. Markley Elementary School and Charlestown Elementary School. When General Wayne became an elementary school due to the construction of a new middle school on the high school site, Sugartown was closed. However, due to the need for additional elementary classrooms, Sugartown has subsequently been remodeled, expanded, and reopened.

6.II.3 BASIS FOR POLICY

The Township clearly recognizes the interconnection between development and school capacity, particularly the pressure additional development places on the school district. Conversely, school district plans can and do affect land use decision making and can lead to a variety of concerns, among them increased taxes and development pressure.

6.II.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township’s planning efforts consider the activities of the Great Valley School District; the Township takes seriously the need to monitor such activities and comment appropriately pursuant to land use planning issues and on behalf of Township residents.

6.II.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Ensure that any plans for new construction are consistent with this Comprehensive Plan’s recommendations related to land use.
- Monitor school budgets and periodically examine their impacts on property taxes.

entitles the owner to use all the libraries within the County’s system.

Chester County libraries are funded by the County and also receive some funding from the State. However, funding is not guaranteed from any source, nor can a local municipality be forced to support a library. To obtain funding support, each library claims a ‘service area,’ based on the population within that area. Libraries also receive funds from book sales and other fund-raisers, and from fines and fees for use. Willistown Township falls within the service area of both libraries: the Malvern Public Library and Paoli Library. The Township supports both libraries annually, although the funding is not guaranteed. Funding support for libraries by Willistown Township in 2009 totaled just under \$75,000. The decision to fund, and the funding amount, is made each year as budgets are drafted.

6.I2.3 BASIS FOR POLICY

The Township recognizes the importance of local library services to the residents of the Township. Furthermore, Township residents have indicated strong support for using local tax dollars to support local libraries.

6.I2.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township funds local libraries on an annual basis pursuant to an analysis of local requests and funding availability.

6.I2.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue to provide financial support for both libraries in the Willistown service area.

6.I2 | LIBRARY SERVICES

6.I2.1 POLICY FOR LIBRARY SERVICES

Continue to financially support local public library services.

6.I2.2 EXISTING CONDITIONS/BACKGROUND

Willistown Township residents are well served by local libraries. Malvern Public Library, located at First and Warren Avenues in Malvern, is open six days per week, for a total of 62 hours. Paoli Public Library, on Darby Road in Paoli, is open six days per week, for a total of 56 ½ hours. Malvern Public Library has a full time Director, a full time Children’s Librarian and ten part time staff. The Paoli Library is a branch of the Tredyffrin Township Library and has a full time Branch Manager and two full time Librarians as well as three part time staff. Each library is also supported by several volunteers. Both libraries are part of the Chester County Library System; a library card from any individual library

6.I3 | PARKS AND RECREATION

The parks and recreation system in Willistown Township consists of two main components:

- Facilities – playing fields, playground equipment, picnic areas, pavilions, parking and other amenities available at parks, and park lands (property owned by the Township and other sites in Willistown set aside for recreation and environmental protection).
- Services – composed of Programming: organized recreation activities including trails available for the use of Willistown residents and others; and Administration: how

Willistown manages, funds and operates its recreation land, facilities and programming services, including management, maintenance and security, and public communications.

6.13.1 POLICIES FOR PARKS AND RECREATION

- Ensure Willistown is an attractive place to live, work and visit through the provision of parkland and recreational facilities, as well as administrative and programming services that highlight Willistown's park and recreation assets.
- Provide parks and recreation facilities and programming for the benefit of the physical, social and mental health of the Willistown community. (Note: See Chapter 4, Protecting Community Values, Section 4.2.2 for park and recreation and trail resource protection priorities.)
- Provide parks and recreation facilities and services within an effective budgetary and fiscal planning program, as outlined in the Township budget for parks and recreation.
- Continue outreach to and solicit feedback from Township residents about their park and recreation system and program offerings.
- Implement the Okehocking Preserve Management Plan and revise and update the plan as necessary over time.
- Establish trail and recreation interconnections throughout the Township and identify likely interconnections to adjoining municipalities.

6.13.2 EXISTING CONDITIONS/BACKGROUND

Facilities

The Chester County Planning Commission and the County Parks Department have developed a system for classifying each recreational park within the County; referred to as the 2002 Chester County Recreational Park Standards, the types of parks facilities identified are Regional, Sub-regional, Community, Neighborhood and Mini parks. The County's standards are population based (see Appendix 7 for a description of the County's standards and their applicability to Willistown Township).

Willistown residents are served, to some extent and to varying degrees, by several **regional** parks including: Marsh Creek State Park, Chester County; White Clay

Creek State Park, Chester County; Ridley Creek State Park, Delaware County; French Creek State Park, Chester County.

At the **sub-regional** park level, none of the Chester County or neighboring county park facilities currently serve Willistown residents.

Willistown Township residents are served by a variety of park facilities meeting **community** and **neighborhood** park needs. Parks within Willistown include significant public and quasi-public facilities, identified on Map 6: *Existing Recreation Sites, Publicly Accessible Open Space and Trails*, with most sites detailed in Appendix 5: *Park and Recreational Resources in Willistown Township*. The community parks within Willistown include Okehocking Preserve, Line Road Field, Garrett Mill Park, Kirkwood Preserve, and Willisbrook Preserve. Community park and recreation facilities that serve Willistown but are not located in the Township include Paoli Memorial Grounds, Monument Park, Randolph Woods, East Goshen Park, and the Upper Main Line YMCA. Neighborhood parks located in Willistown include Greentree Park, Mill Road Park, Sugartown Preserve, Sugartown Elementary School, General Wayne Elementary School and Crum Creek Open Space (Note: the Crum Creek Open Space is currently not maintained for public access). Neighborhood parks located in Malvern Borough that serve Willistown residents include Burke Park and Horace J. Quann Memorial Park. The Duffryn Avenue trail corridor (currently unnamed) is the only mini park located in Willistown Township. Malvern Borough's Rubino Park is identified as a mini park and serves Willistown residents.

Significant other private open space and recreation facilities are also found throughout the Township and in the immediate region, including Devereux's Mapleton Campus, Bryn Mawr Rehabilitation Hospital grounds, Phelps School, Villa Maria Academy, Radnor Hunt Club, Radnor Pony Club, and White Manor Country Club; community access is limited.

Trails

Map 6 also identifies the publicly accessible trails in Willistown Township (most of which are unimproved equestrian trails located along road sides). It should be noted that currently those trails located along road right-of-way provide for light use as unimproved pedestrian trails. The Township's three dirt roads, Plumsock Road, Warren Avenue, and Green Lane, are used as equestrian and pedestrian walking facilities. Map 6 also identifies the location of approximately 5 miles of loop trails at

Willistown's Okehocking Preserve (used primarily by pedestrians with light equestrian use), trails at Sugartown Preserve (used mainly by equestrians), the intended Duffryn Avenue Trail Corridor, and trails at Greentree Park, Willisbrook Preserve, and Kirkwood Preserve. Land for the proposed Duffryn Avenue Trail Corridor has been purchased and the Township is currently planning for the construction of this corridor. Also identified are trail accesses in two developments: the Hunter's Run development in southern Willistown, and at the end of the developed portion of School Lane by Sugartown School in northern Willistown. Road crossing obstacles are also identified on Map 6; such obstacles are comprised of Rt. 3, Rt. 30, Paoli Pike, and other identified arterials that present current or projected future barriers to trail interconnections. Although numerous cyclists use Willistown roads, there is no bike path or right-of-way network in the Township.

In addition, the Township has a fairly extensive network of unimproved equestrian trails throughout the middle and southern section of the Township between Dovecote Lane to the north and Route 3 to the south. This trail network weaves through private, institutional, and public lands and in road right-of-ways. No private property trails are shown on the map.

Additional trail planning involving the Township includes the Patriots Path and the Malvern-Willistown Greenway Trail component of the Path, as well as the Willistown Conservation Trust Kirkwood-Okehocking Trail Corridor. See Map 13: Park and Recreation Plan for the proposed locations.

The Patriots Path is a possible trail corridor that could link Valley Forge National Historic Park in Tredyffrin Township with both the Paoli Massacre Site in Malvern Borough and the Battle of the Clouds Park in East Whiteland Township. The Patriots Path would not be a County operated facility like the County Struble Trail, but rather a multi-municipal pedestrian network consisting of a section of the County's Chester Valley Trail, along with municipal trails and sidewalks, and trails within Valley Forge Park. Inter-municipal linkages to Willistown Township are being examined as well as part of Malvern Borough's proposed Patriot's Path south (a portion of which constitutes the general location of the Malvern-Willistown Greenway Trail). Currently there is limited pedestrian trail/sidewalk access from the Township's northern neighborhoods to the adjacent town centers of Paoli and Malvern. One opportunity to address this will be through the Malvern-Willistown Greenway Trail project (currently in the beginning planning stages). See Appendix 7 for a description of this planning effort.

The Kirkwood-Okehocking Trail Corridor is a proposed project which seeks to establish a public pedestrian and equestrian natural surface trail corridor beginning at the Trust's Kirkwood Preserve, located on Grubbs Mill Road, continuing through the Trust's Rushton Woods Preserve on Goshen and Delchester Roads, and terminating at the Township's Okehocking Preserve on Delchester Road and Route 3. See Appendix 7 for additional information on this planning effort.

While trail corridors will provide additional opportunities both within the Township and to adjoining municipalities, Chester County, through its publication *Linking Landscapes: A Plan for the Protected Open Space Network in Chester County, PA*, 2002, encourages municipalities to consider how their trails and open spaces will link to protected open spaces outside of their local community. From the County's perspective, it is important that local trails fit into the larger network of county, regional and even national trails.

The Chester County Planning Commission has identified regional and county scaled Regional Recreation Corridors in *Linking Landscapes*, a number of which are located within and adjacent to Willistown Township. The recommended Regional Recreation Corridors have been classified into 3 categories; undeveloped, informally used, and partially developed. Those corridors pertinent to Willistown Township are depicted on Map 13 and further described in Appendix 7.

Finally, it is important to note that trails are both a recreational and transportation asset. While the interconnection of trails is of value in getting from one recreational facility to another, so too are they valuable in potentially providing opportunities for commuting, particularly given the potential for regional trail linkages.

Park and Recreation Program Services

Willistown Township maintains an active recreation program open to Township residents and administered by a dedicated Township staff; specific details regarding program offerings and Township staffing can be found in Appendix 7.

6.13.3 BASIS FOR POLICY

The basis for parks and recreation policies is found in the mission of the Parks and Recreation Department to create community and enrich lives through people, parks and programs; the Department's overall vision is to encourage a thriving, healthy community. There is extensive documentation of the positive impacts and benefits of

parcs and recreation on the physical, mental and social health of individuals and their communities (see Appendix 6: *Benefits of Parks, Recreation Facilities and Trails*).

As a tool to evaluate local recreational needs and opportunities, the Township utilized those developed in 2002 by the Chester County Planning Commission and Parks and Recreation for *Linking Landscapes: A Plan for the Protected Open Space Network in Chester County*. An inventory of diverse park and recreational lands and facilities is compared to applicable standards to ascertain short and long term recreation needs. This inventory and assessment, referenced above, is described in Appendix 7. Other guidance included the resident response received in surveys and public meetings. The Parks and Recreation Surveys of 2004 and 2009, and a number of public meetings on specific projects, have been important components in formulating a strategy to address needs and services. Information regarding the Township's surveys is also included in Appendix 7.

The establishment of a Township trail network derives its priority in part from the results of both the 2004 and 2009 resident surveys: in each, the highest priority recreational activity is hiking and walking; in the 2009 survey, the number one and number two recreational inadequacies were the Township's lack of sidewalks and need for more walking and hiking trails; in the 2004 survey, the number one improvement requested by residents was more walking/hiking trails. Documentation of the benefits of trails and trail recreation (including quality of life, health, economic, transportation and environmental benefits) are discussed in Appendix 6: *Benefits of Parks, Recreation Facilities, and Trails*. See Appendix 7 for a description of trail planning issues, including a description of proposed corridors and a trail classification system.

The Township has taken the following approach to trail planning: based upon existing trail conditions, differing land uses in the Township, differing residential development densities, location of desirable destinations within and outside of the Township, and obstructions, a structure of generalized planning corridors has been designated in an effort to recognize alternative pedestrian, and in some cases equestrian and potentially bicycle, travel opportunities for residents, school students, sports enthusiasts, neighboring Township residents, visitors, etc. The intent is that the design of a Willistown trail network should be based on linking destinations to the populous they serve as well as to each other.

6.13.4 TOWNSHIP PLANNING AND REGULATION TODAY

- Chapter 96, Parks of the Willistown Township Code, defines use regulations and prohibitions; enforcement; powers and duties of the Parks and Recreation Board; permit issuance; code provision violations and penalties; and, existing rights and remedies and severability. Additional Code references regarding trails can be found in Chapter 4, Section 4.2.2.
- The Okehocking Preserve Management Plan, 2005, provides the Township with a blueprint for managing and improving the unique natural resources of the Okehocking Preserve while providing important passive recreation opportunities; also discussed is the use of a portion of the site for future active recreation.
- The results of the Township Parks and Recreation surveys of 2004 and 2009 are used for planning purposes.

6.13.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

The recommendations identified below are intended as actions to be addressed within the implementation schedule identified in Chapter 7. Additional considerations for future park and recreation planning are identified in Appendix 7.

Facilities

- The Township should focus on specific areas where parks and recreation needs and shortages exist and seek to acquire and develop park lands in the areas identified on Map 13, Park and Recreation Plan. Such needs include:
 - Area 1 (a mini park service area), located along the Tredyffrin Township line, is divided from the southern part of Paoli and Willistown by the Main Line railroad tracks and U.S. Route 30 (Lancaster Avenue). Lands available for mini park development will be challenging in this area due to the high density residential development. Park development options include monitoring the availability of residential property and examining the possibility of developing recreational facilities on Paoli Memorial Hospital lands. Coordination with neighboring Tredyffrin should also be pursued.
 - Area 2 (a mini park service area), located south of Paoli Pike in northeastern Willistown, is made up of

MAP 13 FRONT

MAP 13 back

high density residential development. Lands available for mini park development will be challenging in this area due to the intensity of development. Park development options rely principally on monitoring the availability of these residential properties.

- Area 3 (a mini park service area), located along the Westtown Township line, is made up of large town-house developments and single family residential development. These uses do not appear to have adequate internal open space or recreational facilities to meet mini park service needs.

- Area 4 (a proposed neighborhood park service area), located immediately to the west of Malvern Borough (and depicted in the northwestern corner of the Township), consists predominantly of single family residential development and open land, some of which may be available for acquisition or set aside through subdivision, or through negotiated use of private lands. (Phelps School grounds, for example.) Safe passage across Sugartown Road via trail linkages could connect these neighborhoods to the Malvern Monument Grounds and Paoli Battlefield. (This concept is included in the Malvern-Willistown Greenway Trail project.) It is worth noting that Area 4 contains two different Revolutionary War troop movement routes and two separate engagement sites related to the Battle of Paoli; the ultimate purpose of identifying such activity is to preserve and interpret historic resources related to the War (see also Section 3.2.2).

- Enact formal S/LDO provisions to amend section 123-37 to enable collection of fees-in-lieu of parkland dedication where appropriate (in accordance with the provisions of the Municipalities Planning Code); set up a fund for receipt of fees-in-lieu (funds collected should be earmarked for specific park and recreation needs identified herein which will serve the area under application for development - major community recreational development will serve all areas of the Township).

- Consider creating a park management plan that outlines a maintenance program and schedule for all park facilities.

Services - Programming

- Partner with neighboring parks and recreation programs and other organizations to promote facilities and programming and encourage use. Communicate and coordinate efforts with neighboring parks and recreation departments to utilize unique assets in each municipality.

- Continue to manage, improve, and expand as necessary, all aspects of recreational programming.

Services – Trails Programming

- Promote establishment of recreational trails throughout Willistown as part of a Comprehensive Trails Network in cooperation with the local and regional organizations and trail user groups including the Willistown Area Trails Association, the Willistown Conservation Trust, and neighboring municipalities. The focus should be on routes which increase access/linkage between existing recreation sites, open space areas, residential neighborhoods, cultural and retail destinations in both Willistown and surrounding communities as mapped in the Park and Recreation Plan (Map 13). As part of this effort, consider undertaking a Township-wide Trails Plan.

- Consider adding trail design standards to the Township Code that reflect intended users and locations (including the desire for trail establishment; appropriate roles for the Township and others regarding trail ownership, maintenance, and monitoring; and opportunities for working partnerships to establish a Township-wide trail network). Ensure that the Township Code includes strict requirements for inventory of existing formal and informal trails wherever land disturbance is proposed. Amend 123-37 to more clearly specify required continuance/formal dedication of existing trails, additional trail rights-of-way in areas mapped as desirable trail “links” and trail segments known to coincide with public roads.

- Coordinate with local trail, equestrian and hiking groups such as Willistown Area Trails Association and local equestrian riders to maintain, improve, create and monitor trails in Willistown Township.

6.14 | OPEN SPACE PRESERVATION, LANDOWNER ASSISTANCE AND PRIVATE LAND STEWARDSHIP

6.14.1 POLICIES FOR OPEN SPACE PRESERVATION, LANDOWNER ASSISTANCE AND PRIVATE LAND STEWARDSHIP

- Continue to support ongoing dialogue with and initiatives by private landowners and community groups championing land protection and land stewardship. Continue to provide information to residents about the Township’s comprehensive planning efforts, including efforts to preserve land and protect the Township’s natural resources for future generations.

- Continue Township efforts to protect natural and man-made resources, preserve land and interconnect open space through innovative site design and natural resource protection efforts, open space purchases, and park and recreation facilities, among others.
- Partner with and support action by local land trusts such as the Willistown Conservation Trust to assist landowners in the protection of environmentally sensitive lands and areas of significant physical, historic, and scenic value, as well as recreational assets such as pedestrian and equestrian trails.
- Continue to support and collaborate with local land trusts and environmental organizations to support the sound stewardship of the area's private lands.
- Partner with local land trusts to serve as a community educational resource for residents on matters concerning land conservation and stewardship.

6.14.2 EXISTING CONDITIONS/BACKGROUND

Open Space Preservation

Willistown Township has been active in preserving open space for many years; from establishing an open space fund for land and easement purchases to adopting natural resources and open space conservation ordinance provisions to supporting initiatives by private landowners and conservation groups, the Township has worked diligently to preserve its open land and other community assets.

A milestone for the Township was the preparation of its "Open Space, Recreation, and Environmental Resources Plan," adopted in 1993. This plan not only inventoried the Township's open space and environmental resources, but developed specific plans for open space preservation and recreation. Recommendations for open space preservation were grouped according to four broad categories: Township planning and regulatory techniques (such as environmental protection ordinances, historic resource ordinance, innovative site design ordinances, transfer of development rights (TDR) techniques, and use of the official map), incentives under PA law (such as continued use of Act 515 and 319), private land stewardship actions (such as conservation easement donations or purchases, limited development, and bargain sales), and public purchase (such as county and state agricultural lands preservation programs and open space and park grant programs). In the intervening years, the Township

has worked vigorously to address each of the recommendations contained in the plan. Many of the identified regulatory techniques, from adopting an environmental protection ordinance to revising development regulations to encourage innovative site design, have been accomplished. Several techniques discussed, such as the use of TDR or fee-in-lieu (of open space set-asides during development), have been carefully considered but not acted on; for example, preservation of open space using other techniques has been so successful that insufficient land is available as "sending area" for TDR.

The Township's Partnership with the Willistown Conservation Trust

One of the Township's most successful preservation alliances has been with the Willistown Conservation Trust (WCT). WCT has its origins in 1980 when its predecessor, the Willistown Area Conservation Program, was formed as a satellite program of the Brandywine Conservancy. Between 1980 and 1996, the Program's staff worked closely with more than ninety landowners in Willistown and neighboring townships to protect their lands in perpetuity through the donation of conservation easements. In 1996 the Trust evolved as an independent non-profit community-based land trust, whose mandate is to meet the ever increasing challenges that threaten the area's critical, natural, scenic, and historic resources, and to assure the long term continuation of a vigorous conservation organization in Willistown Township and surrounding communities. The result of these efforts so far has been the donation of conservation easements that permanently preserve nearly 5,000 acres within the upper watersheds of the Ridley, Crum, and Darby Creeks.

From its advent, WCT has successfully partnered with the Township on many conservation-oriented projects. In 1999, WCT worked with the Township and advocated for the passage of the Township's Open Space Referendum. The referendum asked residents to favor increasing the Township's earned income tax by 1/8th of one percent to establish a fund solely for the purchase and preservation of open space. Township voters overwhelmingly passed the referendum in November of 1999. Establishment of the Open Space Preservation Fund has enabled the Township to leverage significant dollars from other public sources, principally Chester County and the Pennsylvania Department of Conservation and Natural Resources (DCNR), as well as private donations, toward the purchase of natural, scenic, historic, and recreational lands.

In recent years, some of the Township's most successful efforts have involved partnerships with conservation organizations such as WCT to identify priorities for protection and jointly seek funding for land and easement purchases. For example, since establishing its open space fund, Willistown Township has partnered with WCT on the following land acquisition projects:

Okehocking Preserve

From 2001 through 2007 WCT obtained significant public funding that enabled the Township to acquire its 183 acre Okehocking Preserve along West Chester Pike. Over \$2,000,000 in grant funds was secured by the Trust from Pennsylvania DCNR and another \$290,000 was obtained from Chester County by WCT toward this Township purchase. The Trust holds a conservation easement on the entire preserve.

Sugartown Barrens

WCT obtained a grant from Chester County in the amount of \$729,000 toward a joint acquisition project involving the Township, Natural Lands Trust, and Greater Chester Valley Soccer Association to acquire the 109-acre Sugartown Barrens tract from Bryn Mawr Rehabilitation Center. Sixty-one (61) acres of this acquired tract were added to NLT's adjacent Willisbrook Preserve, 21 acres were acquired by Greater Chester Valley Soccer Association for active recreational use, and 27 acres were acquired by the Township (Line Road Field). WCT holds a conservation easement on the entire acreage.

Kirkwood Preserve

In 2004 and 2005 the Township secured a public grant from Chester County in the amount of \$500,000, and provided \$3,150,000 of its own open space funds to assist WCT in purchasing its 83 acre Kirkwood Preserve on Grubbs Mill Road. The total purchase price for the preserve was \$6,000,000. An exceptionally scenic resource, Kirkwood Preserve also contains significant environmentally sensitive lands, including frontage along the Crum Creek, and many acres of open fields that provide nesting and foraging habitat for a number of declining grassland bird species. There is also an extensive network of walking and horseback riding trails on the preserve, accessible from a trailhead parking lot along Grubbs Mill Road.

Wrotten Property

On behalf of the Township, WCT secured a grant from Chester County in the amount of \$165,000 to enable the Township to purchase the 2 acre Wrotten property on Sugartown Lane (a portion of the Crum Creek Open Space).

This property contains frontage along the Crum Creek and is adjacent to other Township owned conservation land. The grant covered the entire purchase price for the property.

In the future, the Township intends to cooperate further with organizations such as WCT to protect additional natural and scenic landscapes, as well as collaborate on joint stewardship efforts focused on environmental education and land management.

Land Management

A large component of protecting resources involves the wise stewardship of lands set-aside for preservation. Land management on preserved lands must be undertaken in a manner that is both consistent with the designated use and benefits the larger community. Towards that end, the Township undertook to develop a preserve management plan for the Okehocking Preserve that serves both as a property management plan and as a demonstration project replicable on other lands in the Township (see additional information under 6.14.4, below).

One use being examined on lands in the Township involves the practice of sustainable local agriculture. Several efforts are underway, including the Community Farm Program established in 2008 by WCT as a way to further its land protection and stewardship mission by modeling sustainable agriculture and promoting open space and natural resource protection.

The mission of the program is:

- to demonstrate, teach, and promote sustainable agricultural practices;
- to provide a variety of fresh, healthy, chemical-free food to the local community;
- to reduce fossil fuel consumption from transporting food long distances;
- to create a farm infrastructure that models innovative, renewable energy usage and "green" technology;
- to protect and enhance Willistown's natural and scenic resources, prime agricultural soils and critical watersheds;

- to support other farmers, local chefs and food networks; and
- to share the joy of working on the land and the bounty of fresh food with people of all ages and backgrounds regardless of financial circumstances.

The centerpiece of the WCT program is Rushton Farm, located at the intersection of Goshen and Delchester Roads, and adjacent to the Trust's 30-acre Rushton Woods Preserve. Rushton Farm is home to the farm program's "Community Supported Agriculture" (CSA) venture, which offers families a convenient and interactive way to get locally grown produce straight from the farm. At the beginning of the growing season CSA members pay an annual membership fee to cover production costs, and in return, they receive a weekly share of fresh food throughout the growing season.

Greenways and Other Opportunities to Link Open Space

Although the preservation and wise management of open space is itself a noble endeavor, it is also important to interconnect large areas of open space to form "greenways." Greenways are generally defined as linear open spaces established to connect our parks, wildlife areas, historic sites, and communities to create corridors through which animals (and plants) can migrate and prosper, and people can travel, exercise, and enjoy nature. Greenways have been established to conserve wildlife habitat and natural resources, provide recreational opportunities, and promote alternative transportation. While these uses are not always compatible, neither are they mutually exclusive.

One effort worth noting in Pennsylvania is the Pennsylvania Greenways Partnership, which has created several documents aimed at assisting municipalities with the creation of greenways. Of use is the Partnership's definition of greenway:

"A greenway is a corridor of open space. Greenways vary greatly in scale, from narrow ribbons of green that run through urban, suburban, and rural areas to wide corridors that incorporate diverse natural, cultural, and scenic features. Greenways can be land- or water-based, running along stream corridors, shorelines, or wetlands. Some follow old railways, canals, ridge tops, or other features. They can incorporate both public and private property. Some greenways are primarily recreational corridors,

while others function almost exclusively for environmental protection and are not designed for human passage. Greenways differ in their location and function, but overall, a greenway network will protect natural, cultural, and scenic resources, provide recreational benefits, enhance the natural beauty and the quality of life in neighborhoods and communities, and stimulate economic development opportunities."

As a component of Willistown's open space network, the conceptual role of the greenway is as an environmental corridor whose location is defined by the major streams traversing the Township. Protection of natural integrity, as well as scenic and cultural qualities, is the paramount purpose. Public access by means of trails is an added objective within appropriately selected segments of the greenway corridors. Such access should be a priority in the creation of common open space during the review of development proposals, where the tract contains a stretch of the greenway. Full public ownership of the greenway is neither feasible nor essential, but the Township will want to identify parcels where public acquisition or easement donation has the most potential public benefit. In many cases, attaining the greenway protection objective can occur with landowner contact and public education about land management practices.

A protected greenway will be an important complement to separate trail corridors and bikeways, and in some locations will contain these means of access. In Willistown, the focus for greenways creation is the Valley, Ridley and Crum Creek stream networks. All three creeks represent environmental corridors, the protection of which will support Township objectives regarding riparian buffers, vegetation, wildlife habitat, water quality, community character, passive recreation, and resident awareness. The majority of first-order stream miles, coupled with the Exceptional Value designation of the Valley Creek and the High Quality designation of the Ridley and Crum Creeks lend value to the Township's greenway protection efforts and should foster intergovernmental cooperation and the leveraging of funds for planning and implementation. But greenways, by their very definition, encompass more than just stream networks; attempts should also be made to build a system of contiguous greenways that connect or consolidate large areas of open space. Greenways should be an interconnected system of open space which is biologically productive and provides an aesthetic and recreation benefit to present and future residents of the Township. Furthermore, Township planning for greenways, as well as trails and bikeways, should

complement and help implement the County's open space plan element, *Linking Landscapes*. Extensions of the protected greenway corridors beyond the Township boundaries is also important to consider.

Chapter 4, in particular Section 4.4, Composite of Resources and Priorities for Protection, identifies resource protection priorities (parcels) given current land use patterns and water resources; this analysis forms the basis for future Township preservation and outreach efforts and forms the basis for determining appropriate greenway corridors along stream corridors and among large open space parcels.

6.14.3 BASIS FOR POLICY

While the Township believes it has been successful in the preservation of open space, it is important to remember that preservation involves the creative energy and commitment of the Township, its citizens and its large landowners. No single tool or group of tools will work without the perseverance of all involved. Thus, the need for partnerships among a variety of entities and working relationships with landowners will play crucial roles in the Township's future preservation efforts.

6.14.4 TOWNSHIP PLANNING AND REGULATION TODAY

Willistown has been immensely effective at implementing the recommendations of past planning efforts, particularly as they relate to natural and man-made resource protection, open space preservation, land stewardship, and innovative site design. Among those recommendations contained in the 1993 Open Space Plan and the 1997 Comprehensive Plan, the Township has successfully accomplished the following:

- The Township's Environmental Protection Ordinance, Chapter 73, contains net-out provisions that assess potential impacts to sensitive natural resources through subdivision and land development and protects such resources by minimizing their disturbance. The provisions require the application of a resource protection ratio to protected land in order to calculate developable land. Natural resources protected through these provisions are: floodplains/floodways, wetlands, steep slopes, woodlands, hydric soils, and riparian buffer areas. Furthermore, the ordinance contains provisions for landscaping and other land and resource management tools to enhance the natural (and scenic) landscape.
- The Township's Zoning Ordinance, Chapter 139, provides both an agricultural zoning district (the RU Rural District) and an open space district (the OSC Open Space Conservation District). Among other things, the RU District is intended to facilitate agricultural, conservation and recreation purposes, and protect and preserve natural and historic resources. The OSC District provides opportunities for compact development using creative site design that conserves land, protects open space and provides opportunities for the interconnection of habitat areas (through the creation of biodiversity corridors).
- As part of the Township's Zoning Ordinance, Chapter 139, the Township adopted historic preservation ordinance provisions in 2001. The ordinance provisions provide a "clear process by which proposed land use changes affecting historic resources can be reviewed by the Township", encourage continued use and preservation of historic resources, discourage unnecessary demolition of historic resources, and provide guidance to help mitigate negative effects of proposed land use changes.
- Willistown Township adopted its Official Map in 2004; official maps, as permitted by the Pennsylvania Municipalities Planning Code, authorize municipalities to map appropriate elements of their comprehensive planning with regard to public land and facilities. Among those items that may be mapped are existing and proposed public parks, as well as pedestrian ways and easements. The Township may not only designate but reserve land for public use or parkland. Owners of such tracts must serve written notice if they intend to build, subdivide or otherwise develop the land covered by the reservation, after which the municipality may withhold the land from subdivision or development for a period of one year. If the Township has not purchased or condemned the land within that period, it must permit the landowner to develop the land in accordance with applicable ordinances. While this technique offers the Township temporary relief (and permits time to negotiate), the preservation of open space in this case ultimately depends on the Township's willingness to purchase it or arrange for its purchase. Willistown's current map contains existing public parkland, preserves, development restricted open space, eased lands, and historic districts, as well as proposed public parks, open space reservations, and trails.
- In light of the creation of the Township's Open Space Preservation Fund, the Township formed an Open Space Review Board shortly after the open space referendum was passed by Township residents. Unlike the Township's

Parks and Recreation Board, which manages all Township parks and preserves, the Open Space Review Board oversees the municipal acquisition of open space. As documented herein, the Township has been successful in partnering with many organizations over the years to publicly acquire and maintain open space using a variety of public and private funding options.

Furthermore, the Township has encouraged the preservation of agricultural land through the Chester County/Commonwealth of Pennsylvania Agricultural Land Preservation Programs (as authorized by Act 442 of 1968) and continues to promote the donation and/or purchase of conservation easements, the gifting of land (with or without retained life estates), bargain sales, codicils, and limited development, all of which are effective preservation strategies available to private land owners.

- As part of the Township’s efforts to manage its open lands in a responsible manner, as well as to provide a demonstration project for others to follow, the Township prepared its Okehocking Preserve Management Plan in 2006. The publication’s intent is to “provide Willistown Township with a document for managing and improving the unique natural resources of the Okehocking Preserve while providing important passive recreation opportunities” for Township residents. The publication is intended as a reference guide to be consulted periodically (and updated, as needed) to manage the unique resources of the Preserve. The management mission for the Preserve is to: provide human recreation and edification about natural resources; preserve and improve natural ecosystems and habitat; integrate into a larger network of protected open space and recreational lands that together sustain biodiversity; respect the tract’s historic character; protect and improve this property as a sub-watershed of Ridley Creek, thus improving the watershed as a whole; and, integrate the primary uses/functions of this property - both the recreational and natural resource preservation and improvement uses/functions – as part of an overall management philosophy for the property.

6.14.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- Continue strategic partnerships with conservation groups, watershed associations, residents and landowners in order to fund and pursue the highest level of success in preserving land for future generations of Township residents.

- Assemble a system of contiguous greenways that connect or consolidate large areas of open space; identify parcels where public acquisition or easement donation has the most potential public benefit. Such greenways should, where feasible, be biologically productive (such as biodiversity corridors) and provide an aesthetic and recreation benefit (including, but not limited to, scenic viewshed areas and trail corridors) to the citizens of the Township. Assembling such lands is achieved in a variety of ways, including the recognition that some lands cannot be built on (floodplains and other riparian areas, for example), while other lands need concerted efforts (including public acquisition and landowner outreach) to achieve protection.

- Strengthen the open space set-aside provisions of the Township’s Subdivision and Land Development Ordinance, Chapter 123. While current regulations (§123-43) require “an adequate area of land...be provided to serve the recreational and open space needs of the residents,” no specific set-aside is required. Such a set-aside, based upon a rational formula, should be considered, both as a means of providing recreation where it is needed most (i.e., within the residential development taking place) and as a means of preserving open space. Important to note is that greenways and/or trails could be incorporated as part of any set-aside provisions enacted. For the record, it should also be noted that the Township considered fee-in-lieu provisions (of an open space set-aside) several years ago but concluded it preferred to see open space set-aside on individual tracts. Note: Fee-in-lieu of recreation land and/or amenities is an option discussed above.

6.15 | TRANSMISSION PIPELINES

6.15.1 POLICY FOR TRANSMISSION PIPELINES

Monitor existing and future pipeline activity and coordinate with pipeline companies to protect the public health, safety and welfare of Willistown Township residents.

6.15.2 EXISTING CONDITIONS/BACKGROUND

The Township is currently host to several transmission pipelines, including two Sun Oil pipelines, a Texas Eastern Pipelines, and a Mobil Oil pipeline. The pipelines generally run through private land and/or along public road rights-of-way.

6.15.3 BASIS FOR POLICY

Willistown Township recognizes the existence of a number of pipelines running through portions of the Township, among them several Sun Oil pipelines, a Mobil Oil pipeline and a Texas Eastern pipeline (see Map 11). Such transmission pipelines provide opportunities to meet the energy demands of the Atlantic seaboard but also pose risks for those communities potentially affected should a pipeline failure occur. Under normal circumstances, underground pipelines are relatively benign; however, where emergencies such as failures do occur, varied threats to public health and welfare can be significant, from direct impacts such as contaminated soils and groundwater pollution to indirect impacts associated with cleanup (expanded access points, groundwater recovery and remediation facilities, expanded soil disturbance, etc.).

6.15.4 TOWNSHIP PLANNING AND REGULATION TODAY

The Township has monitored pipeline activity in years past and continues to do so on an as-needed basis.

6.15.5 RECOMMENDATIONS FOR POLICY IMPLEMENTATION/ACTIONS TO IMPLEMENT

- The Township should monitor existing and future pipeline activity and enact, where feasible, regulations complimentary to the Pennsylvania Oil and Gas Act and the Federal Energy Regulatory Commission designed to protect the public health, safety and welfare and regulate land uses in conformance with the Pennsylvania Municipalities Planning Code, Act 247, as amended. Among the needs to address are those surface land uses affiliated with transmission pipelines, appropriate access provisions for pipeline rights-of-way, and buffering and setback standards appropriate to reduce adverse impacts to residents of new development should a pipeline failure occur. In addition to buffers and setbacks, the Township should examine the feasibility of increased communication with pipeline operators, particularly as related to new development proposals within proximity of transmission pipelines, and investigate measures to protect new land uses with high on-site populations. Regulations should also comply with other applicable policies of this plan, Chester County's Landscapes 2, and applicable statewide planning goals designed to meet the needs of the citizen's of the Commonwealth.



The goals and policies developed for this plan are summarized in Chapter 2 and expanded upon in Chapters 4, 5 and 6. Accordingly, each goal's policies were developed with the clear intention that they be implemented in some fashion; as such, recommendations for policy implementation (actions to implement) accompany each policy developed for this plan. Section 7.1 summarizes the key planning issues discussed throughout this document. Section 7.2 summarizes the Township's guiding principles for policy implementation, specifically, the desire of the Township to manage growth in a sustainable fashion. Finally, Section 7.3 summarizes this plan's goals, policies and implementation strategies in table form, identifying responsible parties, prioritization (a time frame for implementation), and funding options and/or resource needs.

It is highly recommended that this Chapter be reviewed periodically (not less than annually) to develop a work plan for implementation during the upcoming year.

7.1 | SUMMARY OF KEY PLANNING ISSUES

Throughout this document, key planning issues were identified which further informed the goals and policies identified initially in Chapter 2. In some cases, although not all, these same planning issues led to the creation of goals and policies not otherwise envisioned at the start of the planning process. Setting aside plan details, this section steps back and highlights some of the important topics discussed as the policies and implementation actions.

Chapter 3, Community Background, showed that, in absolute numbers, *increases in population* are not likely to be an overwhelming influence in Willistown Township's future. Large areas of the Township have been voluntarily and perpetually preserved through conservation easement strategies and Township purchases. Such efforts have effectively eliminated the possibility of development from large areas of the Township. Nevertheless, as development pressures intensify regionally, Willistown will likely see its remaining uncommitted lands developed; furthermore, it is likely the Township will experience increased redevelopment as the scarcity of "green fields" intensifies. Clearly, the Township is not looking at a stagnation of its resident population over this period, and thus

the issues of resource protection, future land use, and the provision of services and facilities with which this plan deals should retain much of their relevance, as well.

On the other hand, the *demographic composition* of the nation's population is expected to change significantly. The American population is aging and the 'baby-boomers' are approaching retirement age. In the 1950's and 1960's, the housing market for the 'young family' (the boom) favored large lots, relatively low densities, and heavy reliance on the automobile. Baby boomers facing retirement today (the very first cohort of baby boomers having turned 55 in 2001), have very different housing needs than they did as children or as young adults forming families. Baby boomers in their fifties, sixties, and early seventies are likely to prefer homes on small lots, with low maintenance lawns, (or none at all), located with easy access to recreation, entertainment, and health care facilities. In their eighties and nineties, baby-boomers will need retirement facilities that offer health care and daily living support. To the degree that Willistown Township's population mirrors national trends, it will also experience changed housing needs. To some extent, this trend has already affected Willistown; in recent years, the Township has experienced development applications for a life care facility (Sunrise) and several senior living and condominium communities (among them the Devon Road development application at Daylesford Abbey and the Applebrook development proposal adjacent to Bryn Mawr Rehabilitation Hospital). In addition, improvements in and around the Paoli rail station could contribute to the diversification of Willistown's population. This, in turn, should yield benefits in reduced auto commutation and the vibrancy of a pedestrian-friendly, mixed-use environment.

Chapter 4, Protecting Community Values, emphasized the need for continued vigilance in protecting the natural, scenic, cultural, and historic resources of the Township. Environmental protection is not an issue on which the Township has or should waver. The twenty-six plus years since adoption of the original **Guidelines for Growth** demonstrates the clear benefits of protecting the environment, through regulation, purchase, easement donation and other means. Consider also that several changes in the Township's zoning ordinance permit new kinds of development, development in which more of the inherent

natural and scenic qualities of a tract can be preserved while promoting growth for today's needs. It is also clear the Township should continue its efforts towards providing and enhancing park facilities and services, including the desire to provide a township-wide trails network.

Chapter 5, Guiding Future Growth, examined and established Township policies for various sorts of land uses, including residential, industrial, and institutional. A primary finding of this chapter is that the future land use plan shown in past versions of *Guidelines for Growth* remains fundamentally correct and that the Township should continue to provide opportunities for a range of dwelling types and densities that are sustainable, protect community values, reduce energy consumption and decrease the impacts of climate change. Furthermore, the Township should continue to participate in regional planning efforts that permit the concentration of residential development in areas within walking distance of public transportation (such as efforts currently underway in Paoli) and promote an appropriate regional distribution of residential, commercial, and industrial development.

Chapter 6, Community Facilities and Services, reiterated the need to provide adequate community facilities in a comprehensive and cost efficient manner, coordinate regionally, where appropriate, the provision of services, and couple land use planning to infrastructure investments, most notably transportation, parks and recreation planning, and open space preservation. Chapter 6 discussed transportation projects underway at the Paoli Train station. This significant investment represents a genuine opportunity for the Township. Transportation hubs both support, and are greatly reinforced when surrounded by higher density, mixed use communities; and the Township's new zoning districts (the Town Center District and Transportation District) contribute towards making the objectives of the Paoli Community Master Plan a reality.

Park and recreation planning also moves forward with renewed vigor as a result of the merging of the Township's comprehensive plan with its open space, recreation and environmental resources plan, including additional park development and programming and the preservation and consolidation of a township-wide greenway system that provides a biologically productive benefit (such as biodiversity corridors) as well as an aesthetic and recreation benefit (including, but not limited to, scenic viewshed areas and trail corridors).

7.2 | GUIDING PRINCIPLES

Listed below are the guiding principles for the Township's land use policies and implementation strategies. Each is derived from the topics discussed throughout this plan and reflects the strong sentiments of those responsible for its production.

7.2.1 MANAGE GROWTH SUSTAINABLY

Sustainability can be defined simply as the ability to meet present needs without compromising the ability of future generations to meet their own needs. Further, sustainability in government services, businesses, schools and individual lives indicates a commitment to economic prosperity, ecological integrity and social equity. The concept of sustainability dates from the late 1980's when the World Commission on Environment and Development, known as the Brundtland Commission, first offered a definition of sustainability similar to that above. Several international earth summits, a presidential council on sustainable development, and a host of other undertakings have occurred since and recent federal, state and county initiatives have aimed to define and measure sustainability in a meaningful way.

While it is likely that measures of sustainability will be further refined in years to come, it is Willistown's belief that its comprehensive planning encompasses sustainability in all its elements, from environmental stewardship to the provision of social services to sound fiscal policies, the Township strives to meet the needs of its residents without compromising the quality of life of future generations. From the standpoint of land use, the Township continues its belief in the planning philosophy that growth be concentrated in or near an urban core (Malvern and Paoli) and radiate out in lesser and lesser densities towards rural, agricultural and open space uses (such as the Okehocking Preserve). This classic philosophy of growth mimics the "green country town" development model espoused by William Penn for Philadelphia and represents a long standing growth management tradition for this outlying municipality.

It has been abundantly clear through Willistown's planning and preservation efforts that the citizens of this Township value what it is they have and have worked towards its preservation. In an era of diminishing agricultural lands and dwindling open spaces, Willistown has been a leader in preservation, both in terms of agricultural land and open space permanently preserved (through purchase or regulation) and through its commitment to partnerships with local conservation groups such as the

Willistown Conservation Trust to permanently preserve open space through joint county and state grant requests and conservation easements, among others.

Willistown is also committed to providing superior public services, from its premier police department to its financial support of local libraries, fire protection services and parks and recreation services to its commitment to developing opportunities for alternative modes of travel (from expanding trail and sidewalk opportunities to active participation in the implementation of the Paoli Community Master Plan and its emphasis on improved multi-modal transportation choices).

With regard to fiscal policy, the Township remains prudent in how it collects and spends revenues. While Township revenues have remained relatively stable in recent years, the cost of services has continued an upward trend. Rather than raise taxes (an option clearly permissible given the Township’s current tax rates as permitted under Pennsylvania law), the Township has chosen to find more efficient ways of providing services. From a sustainability perspective, the Township has also given much consideration to how it raises its revenues. For example, while the Township could increase its real estate taxes, it chooses not to do so because reliance on such taxes can discourage retention of larger land parcels (on a comparative basis, real estate taxes tend to impact owners of large parcels of land to a greater degree than owners of smaller parcels; furthermore, real estate taxes do not accurately reflect a resident’s ability to pay nor do they reflect the demand on services created by a property and land use).

Clearly the Township’s actions in recent years attest to its belief that sustainability is a core principle for the Township. Of interest, therefore is the organization ICLEI - Local Governments for Sustainability. The “International Council for Local Environmental Initiatives” or ICLEI, is an international association of local governments as well as national and regional local government organizations who have made a commitment to sustainable development. Membership in an organization such as this is worthy of consideration.

As the Township looks to the future, it must continue looking both inward (at its own social, economic and environmental practices) and outward by striving to form alliances and partnerships with organizations that influence policies and practices at the county, regional, and national levels. Examples of such efforts include continued efforts to implement the goals of the Paoli Community Master Plan, working with Chester County to realize the goals of *Landscapes 2* (including working collectively to collect data and develop mutually agreeable “sustainability indicators” that complement the County’s

existing *Landscapes* indicators and the Township’s planning goals), fostering continued dialogue at the state level on the “Keystone Principles for Growth, Investment and Resource Conservation” (a coordinated interagency approach to encouraging sustainable economic development and conservation of resources through state investment in communities), and investigating federal efforts and grant programs, such as the federal Partnership for Sustainable Communities (an innovative agreement forged between the Environmental Protection Agency, the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation aimed at livable communities, greater transportation options and environmental protection). Undoubtedly other programs exist or will be developed within this document’s planning horizon and the Township will continue to review such efforts as it strives to implement its core planning goals through the policies and actions contained herein.

7.2.2 CONTINUE A STRONG LAND AND RESOURCE PRESERVATION ETHIC

The Township will continue to champion the preservation of environmental resources and the functional integrity of the natural environment. Although the Township has a responsibility to protect **all** its environmental resources – including its scenic, historic and cultural resources – it has a special responsibility to protect from development those land areas designated as Rural/Agricultural/Preserved/Suburban Low Density on the Future Land Use Plan. These lands comprise large areas of prime agricultural soils and remain largely in agricultural/rural use today, despite the preponderance of development in surrounding communities. Furthermore, these lands are environmentally significant, scenically exceptional, and irreplaceable.

7.2.3 CONTINUE TO FOCUS ON DEVELOPED PORTIONS OF THE TOWNSHIP AND OPPORTUNITIES FOR INFILL AND REDEVELOPMENT

In recent years, the Township has turned much of its focus towards its northern end, that portion of the Township that is largely developed. The land areas north of Paoli Pike have been largely developed, and might selectively provide opportunities for redevelopment. To the degree that our already developed communities remain attractive, new lands do not need to be developed. Maintaining a high quality of life in already developed areas is essential if the Township wishes to preserve natural areas. Furthermore, the recognition that Paoli is evolving, as evidenced in the Paoli Community Master Plan,

underscores the opportunities for broadening development options and increasing transportation choices.

Three land use trends are likely to influence land use decisions over the planning horizon. Fortunately, these trends could promote sustainable land use rather than sprawl. These three trends are: changing housing needs, increasing environmental awareness, and changing expectations about government roles. The housing market, driven by baby-boomer's needs and increases in the cost of transportation and other services, will most likely emphasize smaller lots, sited closer to amenities and services. Environmental awareness will continue to increase as new data about the environment, including ways of managing such information, and science improves our understanding of environmental processes. Finally, local, state and federal organizations will be less able to indiscriminately fund new infrastructure investments, partly in response to the current recession, but also due in part to the unsustainable growth patterns of the past and rising energy costs. Future investments, particularly for transportation systems, will likely need to be increasingly cost efficient.

Part of the desire to focus on the northern portion of the Township involves the degree to which the Township will plan for integrated land uses – that is, *permitting residences, employment, recreation, and shopping to exist in close proximity* – such efforts are increasingly recognized as sensible policy and formed the basis for decisions regarding future development in Paoli. Integrating land uses can both protect the environment, since smaller land areas are required for the same amount of development, and can reduce the social and environmental costs associated with low density, land consumptive development. Integrating land uses can also reduce energy consumption. It can also mean children can walk or bike to after-school activities, rather than being isolated at home alone, or dependent on parents. Furthermore, it can decrease the time spent shuttling dependent elderly to and from activities and commuting to work. Integrating land uses can also decrease the portion of their income that families must spend on automobiles, gas, and insurance costs, all anticipated to rise dramatically in the years to come.

7.2.4 CONTINUE PLANNING FROM A REGIONAL PERSPECTIVE

A final emphasis for this comprehensive plan is for the Township to continue to consider issues from the **regional perspective**. Stormwater management issues or other water resource issues do not stop at municipal lines, nor is traffic volume an individual municipal issue. A single land development in a neighboring municipality could mean literally hundreds of new trips per day through Willistown. Willistown will need to work closely with its neighbors, the County, and state and federal organizations to ensure that traffic impacts, among others, are minimized.

Prime examples of Willistown's hard work in this regard include planning efforts underway with Tredyffrin Township in Paoli, coordination with Malvern and other neighboring communities regarding trail planning, and continued coordination with Chester County on Landscapes² and stormwater management planning. While the Township works to address strictly local land planning issues, it will also continue its coordination with neighboring municipalities and with the larger bodies that impact it, among those Chester County, PADEP, PennDOT, SEPTA, DRBC, and the Federal Highway Administration.

7.3 | RECOMMENDATIONS FOR POLICY IMPLEMENTATION

Each of the Township's three main goals - to protect community values, guide future growth, and provide community facilities and services – led to the creation of policies and strategies by which to fully implement recommendations for future action.

The following tables summarize the policies and implementation strategies developed for each of the Township's three main goals, as well as assign responsible parties for implementation and coordination, establish a priority for execution, and identify funding issues.

Goal 1 - Protecting Community Values

The first of Willistown's three fundamental planning goals is to protect the quality of the Township's natural and man-made environments as a function of the community values and quality of life Township resident's hold dear. Chapter 4 identifies both general policies and resource-based policies for protecting community values. General policies are stated below. The Township is responsible for monitoring these policies, turning such

efforts into action, and complimenting or revising resource-based policies over time. Review of general policies is an “on-going” activity, consistent with the implementation of resource-based policies.

It should be noted that Chapter 4 also identifies a strategy for resource protection based upon GIS resource prioritization (Maps 7, 8, and 9 graphically depict this process). Efforts at implementation should consider this exercise when targeting specific resources for recommended protection strategies.

General Policies for Preserving Environmentally Sensitive Lands and Natural Resources

- Continue to develop techniques by which to guide and encourage the conservation of land and promote its connectivity.
- Reexamine priorities for the conservation of land within the Township, e.g. woodlands and other vegetation, wetlands, habitat areas, surface water and ground water recharge/supply areas, steep slopes, etc.
- Encourage creative and innovative site planning using conservation design principles that maximize the protection of key land and environmental resources; evaluate and maintain site hydrology; preserve and/or enhance significant concentrations of natural resources, open space, wildlife habitat, biodiversity corridors, and greenways (interconnected open space); incorporate unique natural, scenic, and historic site features into the lot configuration; preserve the integral characteristics of the site as viewed from adjacent roads; and ensure flexibility in development design to meet community needs for complementary and aesthetically pleasing development. Assist property owners, as appropriate, with land conservation and development alternatives during the sketch plan review of subdivision and land development proposals.
- Continue to protect individual environmental resources such as wetlands, floodplains and other hydrological resources, areas of steep slope, and woodlands. Monitor efficacy of regulatory provisions and update and refine as needed.

- Continue to support the Environmental Advisory Council and Planning Commission in appropriately filling their roles in a manner that protects resources. Consider training, workshops, and other techniques for ensuring these voluntary bodies have the support and tools they need.

General Policies for Preserving Areas of Significant Physical, Historic and Scenic Value

- Encourage the dedication of protective easements for historic or cultural resources.
- Encourage future development to reinforce the Township’s historic settlement pattern and continued use of land for agricultural purposes.
- Monitor efficacy of regulatory provisions related to scenic quality protection, including, for example, any landscaping, buffering and screening standards.
- Monitor efficacy of regulatory provisions related to historic resource protection and documentation.
- Promote techniques for creative land planning and design consistent with conservation design principles to preserve scenic resources in the Township.
- Assist in the implementation of the recommendations made in the 2006 Okehocking Preserve Management Plan.

Resource-Based Policies

The table on the following page (page 118), summarizes the implementation strategies developed for each of the resource-based policies described in Chapter 4, as well as assigns responsible parties for implementation and coordination, establishes a priority for execution, and identifies funding issues.

| Goal 1 – Protect Community Values: Resource-Based Policies | Responsible Parties | | Time Frame/ Priority | Funding Options/ Resource Needs* |
|--|---|--|----------------------|---|
| | Principal | Secondary | | |
| Policies for Preserving Environmentally Sensitive Lands and Natural Resources | | | | |
| Water Resources Policy - Continue to preserve and protect the Township's water resources, which include surface water resources (headwaters areas, flood plains, wetlands, hydric soils, and riparian buffer areas), and ground water resources. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue to enforce the Environmental Protection Ordinance (EPO) and refine and expand, as needed. | Willistown Board of Supervisors (BoS), Planning Commission (PC) | Environmental Advisory Council (EAC), Chester County Planning Commission (CCPC) | Ongoing | Township Funding and Coordination, County Support (example: Vision Partnership Program) |
| Revise the Township's development regulations to further encourage innovative site design, especially within headwaters regions. | PC, BoS | EAC | Short term | Township Funding and Coordination, County Support (example: Vision Partnership Program) |
| Consider public education specified in the NPDES Phase II rule for reducing pollutants and protecting water quality. | Willistown Township, EAC | PC, Chester-Ridley-Crum Watersheds Association (CRCWA), Chester County Water Resources Authority (CCWRA) | Short term | Township Funding and Coordination; State, County, Foundation Support |
| Consider TMDL issues on Little Valley and Valley Creeks | U.S. EPA, PA DEP, Willistown Township | CCWRA | Short term | State, County Support, Township Funding |
| Utilize Chester County's <i>Watersheds</i> plan and accompanying Watershed Action Plans (WAPs) for the Ridley, Crum and Valley Creeks | Willistown Township | CRCWA, CCWRA | Ongoing | Township Funding, Township and County Coordination (CCWRA) |
| Maintain emphasis on land application of treated effluent in rural areas | Willistown Township | EAC | Ongoing | Township Coordination |
| Encourage donation of conservation easements in headwaters and flood plain areas. | Willistown Conservation Trust (WCT) | Willistown Township, Open Space Review Board (OSRB), Natural Lands Trust (NLT), Brandywine Conservancy (BC), CRCWA | Ongoing | Township and Non-profit Coordination, State and County Open Space Funding Programs (examples: PA Community Conservation Partnerships Program, CC municipal OS grant program), Foundation Support (example: William Penn Foundation) |
| Land Resources Policy - Continue to guide and encourage the conservation of land. Continue to preserve and protect natural resources and promote techniques for land conservation, creative land planning and design. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue to enforce the Environmental Protection Ordinance (EPO) and refine and expand, as needed. | BoS, PC | EAC, CCPC | Ongoing | Township Funding and Coordination, County Support |
| Encourage donation of conservation easements in steeply sloping stream corridors, wetlands and on agricultural lands containing prime agricultural soils. | WCT | Willistown Township, OSRB, NLT, BC, CRCWA | Ongoing | Township and Non-profit Coordination, State and County Open Space Funding Programs, Foundation Support |

| | | | | |
|--|-------------------------------|---|---------------------|--|
| Expand the Soil Use Guide contained in Chapter 73 to facilitate increased use | PC, BofS | EAC, CCWRA | Short term | Township Coordination |
| Promote alternative "green technology" stormwater best management practices that promote infiltration and reduce runoff. | Willistown Township, PC, BofS | EAC, CCWRA, CRCWA | Ongoing | Township, County and Non-profit Coordination |
| Promote the use of "minimum disturbance/minimum maintenance." | Willistown Township, PC, BofS | EAC, CCWRA, CRCWA | Ongoing | Township, County and Non-profit Coordination |
| Revise the Township's development regulations to further encourage innovative site design, especially within sloped areas and on prime agricultural soils. | PC, BofS | EAC, CCPC | Short term | Township Funding and Coordination, County Support (example: Vision Partnership Program) |
| Continue to support and fund the Township's open space acquisition program. (see Map 9 for acquisition priorities) | Open Space Review Board | PC, EAC, BofS, WCT, BC, NLT | Ongoing | Township and Non-profit Coordination and Support, State and County Open Space Funding Programs, Foundation Support |
| Biotic Resources Policy - Continue to preserve and protect environmentally sensitive lands and areas of significant biotic resources. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue to enforce the Environmental Protection Ordinance (EPO) and refine and expand, as needed. | BofS, PC | EAC, CCPC | Ongoing | Township Funding and Coordination, County Support |
| Update Plant List (Appendix B) in EPO, cross-reference as needed, update invasive species lists. | PC, BofS | EAC, CRCWA, WCT | Long term | Township Funding and Coordination |
| Consider ways to reduce wildlife habitat fragmentation and protect biodiversity corridors when configuring development open space. | PC, BofS | OSRB, EAC, CRCWA, WCT | Ongoing | Township Funding and Coordination, State and County Open Space Funding Programs, Foundation Support |
| Promote site design options that retain existing vegetation. | PC, BofS | EAC, CRCWA, WCT | Short term, Ongoing | Township Funding and Coordination, Non-profit Coordination |
| Encourage donation of conservation easements that protect biotic resources. | WCT | Willistown Township, OSRB, NLT, BC, CRCWA | Ongoing | Township and Non-profit Coordination, State and County Open Space Funding Programs, Foundation Support |

| Policies for Preserving Areas of Significant Physical, Historic and Scenic Value | | | | |
|---|--------------------------------------|---|---------------------|---|
| Scenic, Historic, and Cultural Resources Policy - Continue to protect the quality of Willistown's natural and man-made resource; preserve and protect areas of significant physical, historic, cultural, and scenic value; minimize disturbance to scenic resources within the public viewshed during land conversion. Protect sites of significance. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue to enforce the EPO and the Historic Preservation Ordinance. | PC, Historical Commission (HC), BofS | EAC | Ongoing | Township Coordination |
| Consider formal scenic road designation, either through local efforts or through the state scenic byway program (see also Goal 3 – local road character recommendations). | PC, BofS | PennDOT, HC, OSRB, Park and Recreation Board (P&RB), Park and Recreation Department (P&RD), WCT | Long term | Township Funding and Coordination, State Funding and Coordination, Foundation Support |
| Consider adopting a scenic roads overlay district. | PC, BofS | HC, OSRB, P&RB, P&RD | Long term | Township Funding and Coordination |
| Consider preparation of a scenic roads brochure. | PC, HC | OSRB, P&RB, P&RD, WCT | Long term | Township Funding and Coordination, Foundation Support |
| Consider additional landscaping policies or regulations to protect viewsheds and scenic roads. | PC, BofS | HC | Long term | Township Funding and Coordination |
| Consider a scenic easement acquisition program; encourage historic dedications | OSRB, HC | PC, BofS, WCT | Long term | Township Funding and Coordination, State and County Open Space Funding Programs, Foundation Support |
| Map landmarks of historical or cultural significance. | HC, PC | OSRB, WCT | Ongoing | Township Funding and Coordination |
| Parks and Recreation Trails Policy - Preserve and protect existing parks and recreation resources; including the continuity of Willistown's existing trail network for walking, horseback riding, and road bicycling. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Update park planning efforts to guide the management, maintenance and funding of existing park properties. | P&RB, P&RD | PC, BofS, OSRB | Short term, Ongoing | Township Funding and Coordination, State and County Open Space Funding Programs |

| | | | | |
|--|---|---|---------------------|---|
| Develop park maintenance and replacement schedule; assess costs. | P&RB, P&RD, Public Works Department (PWD) | BofS | Short term, Ongoing | Township Funding and Coordination, State and County Open Space Funding Programs |
| Update existing trail planning efforts re: funding, management, linkages; update Code to reflect P&RB role and trail planning objectives/maps. | P&RB, P&RD | PC, BofS, OSRB, EAC | Ongoing | Township Coordination |
| Create a comprehensive township trail plan. | P&RB, P&RD, PC | BofS, OSRB, EAC | Long term | Township Funding and Coordination, State and County Open Space Planning Grants |
| Undertake outreach and coordination on trails planning | P&RB, P&RD, BofS | Chester County Parks Department, Willistown Area Trails Association, WCT, CRCWA, Surrounding Municipalities | Ongoing | Township Funding and Coordination |
| Establish a trail coordination program | P&RB, P&RD | Chester County Parks Department, Willistown Area Trails Association, WCT, CRCWA | Short term | Township, County and Non-profit Coordination |
| Establish internal communications policy for trails | P&RB, P&RD | PC, BofS, EAC, OSRB | Short term | Township Coordination |
| Policies for Protecting Neighborhoods and Housing Stock | | | | |
| Protect and enhance the established neighborhoods; allow for a variety of housing types and densities in those areas where infrastructure exists to support such growth; encourage future development that is safe, efficient and sustainable. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Administer and update the Township's Property Maintenance Code. | Zoning and Subdivision Officer, Building Official | PC, BofS | Ongoing | Township Coordination |
| Sustain appropriate mixed-use zoning objectives. | PC | BofS | Ongoing | Township Coordination |
| Plan for needed public facilities. | Willistown Township | Chester County | Ongoing | Township Funding and Coordination |

| | | | | |
|--|----|-----------|---------------------|--|
| Maintain appropriate regulatory opportunities for accessory dwellings, conversion of single-family dwellings for multi-family use, and home occupations. | PC | BofS | Ongoing | Township Coordination |
| Maximize opportunities and incentives for green building technologies and sustainable development. | PC | EAC, BofS | Short term, Ongoing | Township Coordination; CCPC, U.S. Green Building Council Resources |

Table 7-1: Goal 1 – Protect Community Values: Resource-Based Policies

Goal 2 - Guiding Future Growth

The second major goal of this plan is to guide future growth in a planned and orderly fashion and to provide for a range of land uses consistent with the protection of the community values identified in Chapter 4. Future residential, institutional, commercial and industrial development shall be respectful of existing land use patterns yet innovative in response to new planning and design practices, differential to the carrying capacity of the Township’s roads and the desire to reduce vehicle miles traveled, consistent with available water supplies and sewage treatment facilities and cognizant of environmental opportunities and constraints. The Township is prepared to accommodate its fair share of population growth and has considered the population and household projections outlined in Chapter 3, taking into account the Township’s regional location and its anticipated growth from now until the year 2035.

The table on page 123 summarizes the implementation strategies developed for residential, institutional, commercial and industrial development described in Chapter 5, as well as assigns responsible parties for implementation and coordination, establishes a priority for execution, and identifies funding issues.

Goal 3 - Providing Community Facilities and Services

The third of Willistown’s fundamental planning goals is to provide those community facilities and services that are appropriate for a second class township, that meet the needs of current and future residents, and that can be reasonably provided to the extent of the Township’s financial resources. General policies for community facilities and services emphasize the need to monitor existing facilities and services and improve, support, and expand such offerings where warranted.

The table on page 125 summarizes the implementation strategies developed for community facilities and services described in Chapter 6, as well as assigns responsible parties for implementation and coordination, establish a priority for execution, and identifies funding issues.

| Goal 2 – Guide Future Growth | Responsible Parties | | Time Frame/ Priority | Funding Options/ Resource Needs* |
|--|---------------------|---|-------------------------|---|
| | Principal | Secondary | | |
| Policies for Residential Development | | | | |
| Continue to use the Township’s current Zoning Ordinance as a general guide for residential development. Focus on redevelopment and infill opportunities in the northern portion of the Township to address future diverse housing needs. Continue to rely on conservation design principles to accommodate growth in agricultural/residential zoning districts. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Review the Code periodically to ensure continued opportunities for a range of dwelling types and densities that are sustainable, protect community values, reduce energy consumption and decrease the impacts of climate change. | PC | BofS | Ongoing | Township Funding and Coordination, County Coordination |
| Continue to examine opportunities by which to accommodate appropriate development while maintaining open space and agriculture. Provide for recreation, trails and sidewalks to interconnect neighborhoods. | PC | P&RB, P&RD, BofS, OSRB, WCT | Short term, Ongoing | Township Funding and Coordination, State and County Open Space Funding Programs, Foundation Support |
| Continue to participate in regional efforts that concentrate residential development near public transportation and promote a regional distribution of residential development. | PC, BofS | CCPC, Malvern Borough, Tredyffrin Township, Amtrak, SEPTA | Ongoing, Long Term | Township Funding and Coordination; Federal, State, County Funding and Support |
| Policies for Institutional Development | | | | |
| Accommodate institutional uses (as currently permitted) where it is demonstrated that such uses will be harmonious with the character of surrounding land uses, consistent with local landscape character, protect community values, and have adequate infrastructure. Scrutinize the location of such uses, promote green building technologies and achieve additional open space protection. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Monitor the districts for which new provisions governing institutional uses exist; determine the viability of such uses for mixed use communities. | PC | BofS | Ongoing | Township Coordination |
| Continue to accommodate institutional development that preserves large amounts of open space, provides tax revenues, and minimizes impact to community services. | PC | BofS | Ongoing | Township Coordination |

| Policies for Commercial Development | | | | |
|---|----------|--|------------|-----------------------|
| Continue to accommodate commercial uses as permitted along the Route 30 business corridor (including King and Central Avenues east of Malvern), along the Paoli Pike corridor west of Sugartown Road, and along the Route 3 planned highway corridor extending along Route 3. Encourage green building technologies that promote sustainable development. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Monitor the districts for which provisions governing commercial uses exist; determine the viability of such uses within these districts. | PC | BofS | Ongoing | Township Coordination |
| Monitor the Paoli community for which new provisions governing commercial uses exist; determine the viability of such uses as components of mixed use communities. | PC | BofS | Ongoing | Township Coordination |
| Continue to participate in regional planning activities to promote an appropriate regional distribution of commercial development. | PC, BofS | CCPC, Malvern Borough, Tredyffrin Twp., East Goshen Twp., Edgmont Twp., Westtown Twp., E. Whiteland Twp. | Ongoing | Township Coordination |
| Policies for Industrial Development | | | | |
| Remain consistent with County and regional land use plans in guiding future industrial development along the Route 30 transportation corridor. Limit such uses to the Township's current industrial park; expand in future should regional studies determine need. Encourage green building technologies that promote sustainable development. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Consider expanding use provisions to further permit and incentivize "green" industries that focus on renewable energy, recycling, and related job growth. | PC | BofS | Short Term | Township Coordination |
| Continue to monitor demands for and the available supply of industrial land. | PC | BofS | Ongoing | Township Coordination |
| Continue to participate in regional planning activities to promote an appropriate regional distribution of industrial development. | PC, BofS | CCPC, Malvern Borough, Tredyffrin Twp., E. Whiteland Twp. | Ongoing | Township Coordination |

Table 7-2: Goal 2 – Guide Future Growth

| Goal 3 – Provide Community Facilities and Services | Responsible Parties | | Time Frame/ Priority | Funding Options/ Resource Needs* |
|--|--|-------------------------|-------------------------|--|
| | Principal | Secondary | | |
| Policy for Fire Protection | | | | |
| Continue to financially support volunteer fire companies providing fire protection services to Willistown Township residents. | | | | |
| <i>Implementation Strategies</i> Ensure active and continuing fire service. | Township Administration; Malvern, Paoli, Newtown Square, and Goshen Fire Companies | BofS | Ongoing | Township Coordination w/ Malvern, Paoli, Newtown Square, and Goshen Fire Companies |
| Continue to financially support volunteer fire companies. | BofS | Township Administration | Ongoing | Township Funding and Coordination |
| Periodically examine fire response time for each of the four companies to ensure that services are adequate for needs. | Township Administration and Police Department | BofS | Ongoing | Township Funding and Coordination |
| Policies for Police Protection | | | | |
| Continue to operate and fund the Willistown Township Police Department; periodically examine whether protective services are adequate for needs. | | | | |
| <i>Implementation Strategies</i> Continue to monitor police services to ensure they are adequate; provide funds for necessary services. | Township Administration and Police Department | BofS | Ongoing | Township Funding and Coordination |
| Policy for Emergency Medical Assistance | | | | |
| Continue to cooperate with Chester County in provision of '911' services. | | | | |
| <i>Implementation Strategies</i> Continue to cooperate with Chester County in provision of "911" services; routinely monitor response times ensure services are adequate for needs. | Township Administration and Police Department | BofS | Ongoing | Township and County Coordination |

| Policies for Roads | | | | |
|--|-----------------------------------|--|--------------------|---|
| Continue to plan for those roads intended for through traffic and those roads intended for local traffic; discourage through traffic on roads not intended for such traffic; continue to maintain local roads; ensure that new development minimizes impacts to the existing road network; develop strategies to correct any identified circulation and parking problems. Continue working to improve the regional transportation network; examine Route 30 and Route 3 and continue implementation of the Paoli Community Master Plan. Consider a program for roads identified as scenic roads. | | | | |
| <i>Implementation Strategies</i> Guide development to areas with collector access to the arterial network so as to maintain efficient access and safety control while preserving the rural character of local roads. | PC | BofS | Ongoing | Township Coordination |
| Preserve local road character; consider local adopt-a-highway program (see also Goal 1 – scenic roads recommendations). | PC, BofS | HC, OSRB, P&RB, P&RD, WCT | Long Term | Township Funding and Coordination, Foundation Support |
| Document traffic conditions and needed road improvements for state and federal funding. Request funds for needed improvements. | PC, BofS | Township Administration and Police Department | Ongoing, Long Term | Township, County, State and Federal Coordination; PennDOT 12 Year Program, DVRPC Transportation Improvement Program (TIP), Liquid Fuels Tax |
| Consider creation of an Access Management Plan for the Township road system. | PC | BofS | Long Term | Township Funding and Coordination, County Support (Vision Partnership Program) |
| Policies for Public Transportation | | | | |
| Encourage land use patterns that increase choices for residents, accommodate but do not require private automobiles for all trips, and encourage developers to provide pedestrian linkages in new development. Promote expansion of public transportation and pedestrian improvements including continued support to the Paoli Community Master Plan. | | | | |
| <i>Implementation Strategies</i> Promote pedestrian linkages between residential neighborhoods and the mixed use areas around Malvern and Paoli; provide sidewalks and/or other pedestrian linkages to the upper third of the Township; coordinate access among sidewalks, recreational trails and public transportation. | PC, BofS, Township Administration | P&RB, P&RD, Chester County Parks Department, Willistown Area Trails Association, WCT, CRCWA, Malvern, Tredyffrin, Developers | Ongoing, Long Term | Township, County, State and Federal Coordination and Funding; Developer Support |
| Continue to work with local public transportation providers to ensure public transit is available to those who wish to use it. | PC, BofS, Township Administration | Amtrak, SEPTA, DVRPC, CCPC | Ongoing, Long Term | Township, County, Regional, State and Federal Coordination and Funding |

| | | | | |
|--|-------------------------------|---|--------------------|---|
| Examine zoning, development and redevelopment regulations and opportunities in northern Willistown (i.e., mixed use, retirement communities, public transportation, Paoli) | PC | BofS | Ongoing, Long Term | Township Funding and Coordination, County Support |
| Policy for Municipal Services and Facilities | | | | |
| Monitor municipal administrative needs to provide services in the most efficient manner possible. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue to provide current municipal services; continue to rely on voluntary boards and commissions for planning and advisory roles. | Township Administration, BofS | PC, P&RB, EAC, OSRB, Zoning Hearing Board (ZHB), Recycling Commission (RC), Historical Commission (HC), Land Conservancy Authority Board (LCAB), Malvern Library Board (MLB), Paoli Library Board (PLB) | Ongoing | Township Funding and Coordination |
| Policies for Water Supply | | | | |
| Protect and safeguard sources of water supply to ensure an adequate supply for domestic use and fire protection; promote watershed protection in order to ensure sufficient ground water recharge; monitor regional river basin commission activities to ensure that water withdrawal permits do not negatively impact local supplies. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Willistown should continue to: protect the quality and quantity of available ground water for future generations; prevent excessive development from negatively impacting existing wells where limited supplies of ground water exist; utilize data from <i>Watersheds</i> and the State Water Plan to assist in the conservation of water resources. | Township Administration, BofS | PC, EAC, OSRB | Ongoing | Township Funding and Coordination; State and County Funding and Support |
| Policies for Sewage Disposal | | | | |
| Coordinate land use planning with sewage facilities (Act 537) planning; extend public sanitary sewer to developed areas of the Township where existing needs have been documented; coordinate development opportunities with existing sewage facilities where capacity exists and growth is appropriate; restrict the extension of public facilities in those areas identified for preservation. Examine best available technologies as appropriate; promote beneficial reuse of treated wastewater. Continue homeowner maintenance of individual systems and centralized management of other systems. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Follow recommendations of the Act 537 plan. | Township Administration, BofS | PC, EAC | Ongoing | Township Funding and Coordination; State Funding and Support |

| | | | | |
|--|--|-----------|------------|--|
| Review and adopt the Draft Onsite Sewage Disposal Ordinance. | Township Administration, BofS | PC, EAC | Short Term | Township Funding and Coordination |
| Revise, adopt and implement any mandated federal or state program regulations, including a sewage management program. | Township Administration, BofS | PC, EAC | Ongoing | Township Funding and Coordination; State Funding and Support |
| Policies for Stormwater Management | | | | |
| Encourage and maximize ground water recharge; minimize increase in surface water runoff volumes; encourage ecologically sound stormwater Best Management Practices (BMPs); continue participation in and implementation of PA Act 167 plans underway, including participation in county-wide planning efforts; implement the requirements of the National Pollutant Discharge Elimination System Phase II (NPDES II) program. | | | | |
| <i>Implementation Strategies</i> Willistown should continue to: enforce and update its stormwater management standards; define responsible parties for system maintenance; minimize impervious surfaces and maximize infiltration; participate in regional planning activities; control runoff volume so that post development peak runoff rates do not exceed pre-development runoff rates; encourage BMPs; enforce and participate in NPDES Phase II and MS4 programs | Township Administration, BofS, PC | EAC | Ongoing | Township Funding and Coordination; State and County Funding and Support (example: Act 167 municipal reimbursement program) |
| Policy for Solid Waste Collection, Disposal and Recycling | | | | |
| Monitor cost and quality of privately provided trash collection services to ensure residents' needs are met; regulate accordingly pursuant to the authority granted under the "Municipal Waste Planning, Recycling, and Waste Reduction Act" (Act 101). | | | | |
| <i>Implementation Strategies</i> Continue to monitor services provided by private contractors, ensuring trash removal and recycling efforts are undertaken in a safe, environmentally appropriate fashion. | Township Administration, Recycling Commission (RC) | BofS, EAC | Ongoing | Township Coordination |

| Policy for Education | | | | |
|--|---|---|--|---|
| Monitor Great Valley School District plans which might affect land use planning. | | | | |
| <i>Implementation Strategies</i> Ensure that plans for new construction are consistent with this Plan's recommendations related to land use. | PC | BofS | Ongoing | Township Coordination |
| Monitor school budgets and periodically examine their impacts on property taxes. | Township Administration | BofS | Ongoing | Township Coordination |
| Policy for Library Services | | | | |
| Continue to financially support local public library services. | | | | |
| <i>Implementation Strategies</i> Continue to provide financial support to the Malvern and Paoli libraries. | BofS, Township Administration | Malvern Library Board, Paoli Library Board | Ongoing | Township Funding and Coordination |
| Policies for Parks and Recreation | | | | |
| Provide suitable parkland and recreational facilities; provide cost effective park and recreation services and programming; establish trail and recreation interconnections throughout the Township and to adjoining municipalities. | | | | |
| <i>Implementation Strategies</i> Facilities: Seek to acquire and develop park lands in the 3 areas identified on Map 13. Enact fees-in-lieu of parkland dedication standards. Consider a park management plan for maintenance and scheduling. | P&RB, P&RD, BofS, Township Administration PC, P&RB, P&RD P&RB, P&RD | PC, OSRB BofS, OSRB BofS, Township Administration | Ongoing, Long Term Short Term Short Term | Township Funding and Coordination, State and County Open Space Funding Programs Township Funding and Coordination Township Funding and Coordination |

| | | | | |
|--|-------------------------|---|--------------------|--|
| Services: Partner with neighboring parks groups and continue improving recreational programming. | P&RB, P&RD | BofS, Township Administration, Willistown Area Trails Association and local equestrian groups | Ongoing | Township Funding and Coordination |
| Promote trail establishment throughout the Township and to adjoining communities; coordinate with local trails groups. | P&RB, P&RD | BofS, Township Administration, Willistown Area Trails Association and local equestrian groups, Surrounding Municipalities | Long Term | Township Funding and Coordination, State and County Open Space Funding Programs, Foundation Support |
| Consider trail dedication, design and inventory standards. | PC, P&RB, P&RD | BofS | Short Term | Township Funding and Coordination |
| Policies for Open Space Preservation, Landowner Assistance and Private Land Stewardship | | | | |
| Continue an ongoing dialogue and partnership with private landowners, land trusts and community groups championing land protection and stewardship; continue efforts to protect natural and man-made resources, preserve land and interconnect open space. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Continue strategic partnerships in order to fund and pursue land preservation | BofS, OSRB | PC, LCAB, WCT, CRCWA, EC, NLT, BC, Willistown Area Trails Association and local equestrian groups | Ongoing, Long Term | Township and Non-profit Coordination, State and County Open Space Funding Programs, Foundation Support |
| Assemble a system of contiguous greenways that connect or consolidate large areas of open space; identify parcels where public acquisition or easement donation has the most potential public benefit. | BofS, OSRB, PC | LCAB, WCT, CRCWA, EAC, NLT, BC, Willistown Area Trails Association and local equestrian groups | Ongoing, Long Term | Township and Non-profit Coordination, State and County Open Space Funding Programs, Foundation Support |
| Strengthen the open space set-aside provisions in the Township Code. | PC | BofS, OSRB | Short Term | Township Funding and Coordination |
| Policy for Transmission Pipelines | | | | |
| Monitor existing and future pipeline activity and coordinate with pipeline companies to protect the public health, safety and welfare of Willistown Township residents. | | | | |
| <i>Implementation Strategies</i> | | | | |
| Monitor existing and future pipeline activity and examine increased communication with pipeline operators. | Township Administration | BofS, PC | Ongoing | Township Coordination w/ Sun Oil, Mobil and Texas Eastern pipeline companies. |
| Consider land use regulations consistent w/ PA Oil and Gas Act, FERC and MPC | PC | BofS | Short Term | Township Funding and Coordination; Federal, State, County Coordination and Support |

Table 7-3: Goal 3 – Provide Community Facilities and Services

*A note about funding: Given the time horizon of this plan and the recognition that funding sources are evolving (particularly in light of current economic conditions), the emphasis here is on the potential for shared funding opportunities and responsibilities, regardless of the availability of specific funding programs. See Appendix 8 for a selection of funding programs currently available.

Appendix I:

HISTORIC TREES IN WILLISTOWN TOWNSHIP

Willistown Township’s Historic Commission inventoried historic trees as part of a community inventory that eventually became part of the Township’s 1993 *Open Space, Recreation, and Environmental Resources Plan*. As part of the Township’s Tricentennial Celebration in 2004 the Township once again inventoried what it referred to as “treasured trees” for a tree tour map of the Township. While some of the trees on the 2004 list came from the original inventory, other notable trees were added and trees no longer standing were deleted. What follows is a complete list of trees identified in both inventories, starting with those trees inventoried for the 2004 Tricentennial. Trees represented on both lists are so noted, as are those trees no longer standing.

- 1) **American Beech** (*Fagus grandifolia*) – location: Paoli Pike; estimated age: approximately 280-340 years; also listed as #1 in 1993 plan.
- 2) **White Oak** (*Quercus alba*) – location: Bryan Road; estimated age: 300 years; also listed as #2 in 1993 plan.
- 3) **Red Maple** (*Acer rubrum*) – location: Grubb Road; estimated age: 100 years.
- 4) **White Oak** (*Quercus alba*) – location: Grubb Road; estimated age: 100 years.
- 5) **White Oak** (*Quercus alba*) – location: Grubb Road; estimated age: 125 years.
- 6) **White Oak** (*Quercus alba*) – location: Waynesborough Road; estimated age: 150 years (no longer standing).
- 7) **Norway Maple** (*Acer platanoides*) – location: South Valley Road; estimated age: 100+ years.
- 8) **American Sycamore** (*Platanus occidentalis*) – location: White Horse Road; estimated age: 203 years.
- 9) **American Sycamore** (*Platanus occidentalis*) – location: White Horse Road; estimated age: 275 years; also listed as #5 in 1993 plan.
- 10) **American Sycamore** (*Platanus occidentalis*) – location: White Horse Road; estimated age: 250 years.
- 11) **American Sycamore** (*Platanus occidentalis*) – location: White Horse Road; estimated age: 250 years.
- 12) **Norway Maple** (*Acer platanoides*) – location: Hillview Road; estimated age: 110 years.
- 13) **Norway Maple** (*Acer platanoides*) – location: Hillview Road; estimated age: 110 years.
- 14) **Tulip Poplar** (*Liriodendron tulipifera*) - location: Hillview Road; estimated age: 95 years.
- 15) **White Oak** (*Quercus alba*) – location: Grubbs Mill Road; estimated age: 275 years; also listed as #9 in 1993 plan.
- 16) **Silver Maple** (*Acer saccharinum*) – location: crossroads of Goshen and Providence Roads (Village of White Horse); estimated age: 73 years.
- 17) **Honey Locust** (*Gleditsia triacanthos*) – location: crossroads of Goshen and Providence Roads (Village of White Horse); estimated age: 200 years.
- 18) **American Sycamore** (*Platanus occidentalis*) – location: Providence Road; estimated age: 175 years.
- 19) **Burr Oak** (*Quercus macrocarpa*) - location: Providence Road; estimated age: 200 years.
- 20) **Burr Oak** (*Quercus macrocarpa*) - location: Providence Road; estimated age: 200 years.
- 21) **American Sycamore** (*Platanus occidentalis*) – location: Goshen Road/Providence Road; estimated age: 270 - 290 years; also listed as #3 in 1993 plan.
- 22) **Ash** (*Fraxinus excelsior*) - location: Goshen Road; estimated age: 160 years.
- 23) **Ash** (*Fraxinus excelsior*) – location: Delchester Road; estimated age: 300 years (designated a William Penn Tree by Longwood Gardens).
- 24) **Beech** (*Fagus grandifolia*) – location: Brushwood Bryn Clovis Annex off Sugartown Road; estimated age: 300+ years.
- 25) **Oak** (*Quercus alba*) – location: Brushwood Bryn Clovis Annex off Sugartown Road; estimated age: 300+ years.
- 26) **Copper Beech** (*Fagus sylvatica var. purpurea*) – location: Boot Road; estimated age: 350 years.

- 27) **American Beech** (*Fagus grandifolia*) – location: Sugartown Road at Village of Sugartown; estimated age: 200+ years.
- 28) **Ash** (*Fraxinus excelsior*) – location: Sugartown Road; estimated age: 200 years.
- 29) **White Oak** (*Quercus alba*) – location: Sugartown Strawberries Farm off Sugartown Road; estimated age: 250 years.
- 30) **Copper Beech** (*Fagus sylvatica* var. *purpurea*) – location: Sugartown Strawberries Farm off Sugartown Road; estimated age: unknown.
- 31) **American Sycamore** (*Platanus occidentalis*) – location: Tait’s Farm; estimated age: 264 years (no longer standing); listed as #4 in 1993 plan.
- 32) **White Oak** (*Quercus alba*) – location: South Valley Road; estimated age: 239 years; listed as #6 in 1993 plan.
- 33) **White Oak** (*Quercus alba*) – location: Northeast Corner of Jaffrey and Warren Avenue; estimated age: 250 years (no longer standing); listed as #7 in 1993 plan.
- 34) **Silver Maple** (*Acer saccharinum*) – location: Sugartown and Boot Roads; estimated age: 108 years (no longer standing); listed as #8 in 1993 plan.
- 35) **Silver Maple** (*Acer saccharinum*) – location: 761 Hillview Road; estimated age: 298 years; listed as #10 in 1993 plan.
- 36) **White Ash** (*Fraxinus americana*) – location: 34 Rabbit Run Road; estimated age: 248 years (no longer standing); listed as #11 in 1993 plan.
- 37) **American Beech** (*Fagus grandifolia*) – location: Hillview Road; estimated age: 348 years; listed as #12 in 1993 plan.
- 38) **White Oak** (*Quercus alba*) – location: Hillview Road; estimated age: 250 years; listed as #13 in 1993 plan.
- 39) **Tulip Poplar** (*Liriodendron tulipifera*) – location: Hillview Road; estimated age: 190 years; listed as #14 in 1993 plan.
- 40) **American Sycamore** (*Platanus occidentalis*) – location: Jarvis Property; estimated age: 210 years (no longer standing); listed as #15 in 1993 plan.
- 41) **American Sycamore** (*Platanus occidentalis*) – location: corner of White Horse and Grubbs Mill Road; estimated age: 350 years; listed as #16 in 1993 plan.



Appendix 2:

VISUAL ACCENTS AND INTRUSIONS

Visual Accents

- 1) Stone Bridge
- 2) Ruin
- 3) Spring House Building
- 4) Stone Bridge
- 5) Stone Wall
- 6) Stone Bridge
- 7) Stone Bridge
- 8) Barn Ruin
- 9) Stone Wall
- 10) Stone Wall
- 11) Stone Wall
- 12) Stone Wall
- 13) Stone Wall
- 14) Village
- 15) Stone Wall
- 16) Stone Wall
- 17) Stone Wall
- 18) Stone Wall
- 19) Stone Wall
- 20) Stone Wall
- 21) Stone Wall
- 22) Village
- 23) Ruin
- 24) Old Wind Mill
- 25) Stone Wall
- 26) Ruin
- 27) Wetland

Visual Intrusions

- A) Utility Transformers & Cell Tower
- B) PA DOT Maintenance
- C) Cell Tower
- D) Cell Tower



Appendix 3:

METHODOLOGY AND RECOMMENDED NETWORK FOR SCENIC ROAD DESIGNATION

Scenic roads are defined as roads having a high degree of natural beauty and historic or cultural value. Criteria used for selection (taken in part from the FHWA publication, *Scenic Byways* and the National Scenic Byways Program @ www.bywaysonline.org) included combinations of the following:

- 1) Scale of roads (size, dimension, functional road classification, etc.);
- 2) Characteristics of roads (runs with topography, winds, changes with terrain, etc.);
- 3) Scenic accents and/or vistas along roads;
- 4) Historic characteristics of, or along, roads (historic houses, stone walls, ruins, village settlement, spring houses, covered bridges, stone bridges, etc.);
- 5) Natural resources and/or ecosystems in close proximity to roads (watercourses, wetlands, rock outcrops and other geologic formations, woodlands, meadows, wildlife habitat, PA natural diversity inventory sites, etc.); and
- 6) Recreational activities along or adjacent to roads.

A brief description of each road, its positive or negative attributes, the criteria that apply to it, and its functional road classification, follow.

- 1) **Boot Road** - Stretch between Township Line Road and Sugartown Road

Attributes - Both the north and south sides of the road contain open land within the public viewshed, forested patches, ruins, stone walls, and historic structures (wetlands, steep slopes and prime agricultural soils present); road intersects Sugartown Historic Village National Register District; some development on the south side of the road which partially detracts from the roads scenic quality

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

- 2) **Sugartown Road** - Stretch between Paoli Pike and Goshen Road

Attributes - Both the east and west sides of the road contain large expansive views of open land, large portions of which are within the public viewshed; patches of forested sections with tree canopy providing the scenic boundary elsewhere (PNDI site and prime agricultural soils present); numerous vistas, historic structures (including the Sugartown Historic Village National Register District)

Applicable Criteria - 1,2,3,4,5,6

Functional Road Classification - Minor Collector

- 3) **Green Lane** - Between Dutton Mill Road and Sugartown Road

Attributes - Partially wooded, dirt road which gives a rural feel; south side near Sugartown Road provides views of open land within the public viewshed; road crosses tributary; significant portions of prime agricultural soil present; historic structure visible; some development which partially detracts; size and make-up of road contribute significantly to scenic quality

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector (dirt road)

- 4) **Spring Road** - Between Sugartown Road and Warren Avenue

Attributes - Predominantly wooded, however open land within the public viewshed comprises a significant portion of the south side of the road; historic structures along the road (including the road's bisection of the Sugartown Historic Village National Register District); road crosses west branch of the Crum Creek; ample prime agricultural soils

Applicable Criteria - 1,2,4,5

Functional Road Classification - Local Collector



5) **Warren Avenue** - Portion between Spring Road/ Jaffrey Road and Goshen Road

Attributes - Upper portion of road between Spring and Providence Roads heavily wooded with tributary of Crum Creek intersecting road (portions of steep slope leading down to tributary); evidence of wetlands along portion of creek adjacent to road; southern portion of road (between Providence and Goshen Roads) is dirt and adds a rural feel; several patches of open land within the public viewshed; several historic sites; scenic vista at intersection with Davis Road; Radnor Hunt Club backs up to the southeast side of the road

Applicable Criteria - 1,2,3,4,5,6

Functional Road Classification - Minor Collector (portions of which are a dirt road)

6) **Davis Road** - Between Warren Avenue and Grubb Road

Attributes - North side of road predominantly wooded with White Manor Country Club occupying the land to the south of the road; scenic vista at intersection with Warren Avenue; road passes over Crum Creek with evidence of wetlands

Applicable Criteria - 1,2,3,5,6

Functional Road Classification - Local Collector

7) **Hillview Road** - Between Davis Road and Barr Road

Attributes - Tree lined road with pond; west side of road borders White Manor Country Club; road passes over Crum Creek; several small patches of open land within the public viewshed; visual evidence of steep slopes and evidence of wetlands adjacent to creek

Applicable Criteria - 1,4,5,6

Functional Road Classification - Local Collector

8) **Grubb Road** - Portion between Treble Lane and White Horse Road

Attributes - West side of road predominantly wooded; east side contains several portions of open land within the public viewshed; scenic accent (spring house) and historic structure; evidence of steep slopes, wetland area and prime agricultural soils

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

9) **White Horse Road** - Between South Valley Road and Grubbs Mill Road

Attributes - Several open sections of road with much land in the public viewshed; visual accents (barn ruin and stone bridge over the Crum Creek); historic structures; stone wall along portion of road; evidence of prime agricultural soils

Applicable Criteria - 1,2,3,4

Functional Road Classification - Local Collector

10) **Treble Lane** - Between Grubb Road and South Valley Road

Attributes - Part wooded and part open land within the public viewshed; bridges the scenic portions of Grubb and South Valley Roads; portion of road fairly developed (detracts from scenic quality); prime agricultural soils present

Applicable Criteria - 1,5

Functional Road Classification - Local Collector

11) **South Valley Road** - Between Waynesborough Road and the township line

Attributes - Almost entire stretch of this road open with good public views; Scenic vista; several historic structures, including a stone wall and stone bridge (traversing the Crum Creek); portion of road tree-lined; portions also fairly developed but development does not significantly detract from scenic quality; evidence of prime agricultural soils and wetlands (within proximity of creek)

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

12) **Grubbs Mill Road** - Between township line and Goshen Road

Attributes - Significant portions of open land within the public viewshed; sections partially tree-lined with stone wall running along road; road crosses Crum Creek (portions of road follow creek); steep slopes define character of other portions of the road

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

13) **Providence Road** - Portion between Warren Avenue and Apple Tree Road

Attributes - Significant portions of land (primarily pasture) within the public viewshed; several scenic vistas comprising the most expansive views in the Township; numerous historic structures, including the Whitehorse Village area (determined to be eligible for the National Register of Historic Places); Radnor Hunt Club within one scenic vista; stone walls along large portion of the road; tributary of Crum Creek originates near road

Applicable Criteria - 1,2,3,4,5,6

Functional Road Classification - Minor Collector



14) **Goshen Road** - Portion between Dutton Mill Road and Marlborough Road

Attributes - Significant portions of land along road in the public viewshed; scenic vistas; numerous historic structures, including the Whitehorse Village area (determined to be eligible for the National Register of Historic Places); stone walls along large portion of the road; Radnor Hunt Club along one portion of road; rolling countryside; evidence of prime agricultural soils

Applicable Criteria - 1,2,3,4,5,6

Functional Road Classification - Minor Collector

15) **Marlborough Road** - Between Providence Road and Goshen Road

Attributes - Stone wall and historic structures highlight this small road; road is comprised almost entirely of open land within the public viewshed, portion of road tree-lined; evidence of prime agricultural soils

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

Note: Two road corridors identified in the 1993 open space plan were deemed to no longer qualify for scenic road status; these are: Forest Lane (a small stretch between Hickory Lane and Oak Tree Lane) and Township Line Road (a stretch between Paoli Pike and Chowning Drive).

16) **Plumsock Road** - Between Goshen Road and West Chester Pike (Rt. 3)

Attributes - Wooded, dirt road with strong rural feel; few areas within the public viewshed; several historic structures; tributary of Ridley Creek intersects road, portion runs with road; significant steep slopes and evidence of wetlands within close proximity to road; size and make-up of road contribute significantly to scenic quality

Applicable Criteria - 1,2,4,5

Functional Road Classification -Local Collector (dirt road)

17) **Delchester Road** - Between Goshen Road and West Chester Pike (Rt. 3)

Attributes - West side of road offers significant open land within the public viewshed; expansive scenic vista point; several historic structures, including a stone wall along portions of the road; evidence of prime agricultural soils; rolling topography adds to scenic quality; PENN DOT maintenance building is an intrusion which detracts from scenic quality

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Local Collector

18) **Garrett Mill Road** - Between Goshen Road and West Chester Pike (Rt. 3)

Attributes - Largely wooded with patches of open areas that provide views; numerous historic structures, as well as a stone wall along portions of the road; small one lane bridge with historic grouping of homes; small scale of road and rolling hills contribute greatly to scenic quality; evidence of wetlands and PNDI sites

Applicable Criteria - 1,2,3,4,5

Functional Road Classification - Minor Collector

19) **West Chester Pike (PA 3)** - Section between Plumsock Road and Garrett Mill Road

Attributes - North side of road contains open land within the scenic viewshed; forested sections, including locally important vegetation; steep slopes, which contribute to the views along the road; historic barn; evidence of PNDI site; Ridley Creek and related tributary cross under road; scale of road and scenic intrusion (Penn DOT storage facility) partially detract from road's scenic quality

Applicable Criteria - 2,3,4,5

Functional Road Classification - Principal Arterial



Appendix 4:

WILLISTOWN TOWNSHIP HISTORIC DISTRICT LISTING
NATIONAL REGISTER DISTRICTS - CLASS I

| Number | Tax Parcel Number | Address | Breou Map Name |
|----------------------------|-------------------|------------------------|-----------------------|
| Sugartown District | | | |
| S-1 | 54-6-3 | 266 Boot Road | B. Stewart |
| S-2 | 54-6-6 | 260 Spring Road | N. William |
| S-3 | 54-6-9-2 | 251 Spring Road | J. Entriiken |
| S-4 | 54-6-9-3 | 253 Spring Road | Sugartown School |
| S-6 | 54-6-21 | 690 Sugartown Road | S. Worrall |
| S-7 | 54-6-22 | 698 Sugartown Road | L. Hoopes |
| S-8 | 54-6-26-3 | 423 Dutton Mill Road | Spread Eagle |
| S-9 | 54-6-8 | 697 Sugartown Road | Friends School |
| S-10 | 54-6-9-1 | 701 Providence Road | E. Burns |
| Okehocking District | | | |
| 0-1 | 54-6-83-2NT | 7069 Goshen Road | Friends Meeting |
| 0-2 | 54-6-55-1 | 7098 Goshen Road | William Kirk |
| 0-3 | 54-6-42 | 7126 Goshen Road | J. Johnson |
| 0-4 | 54-6-43 | 8002 Goshen Road | Fronefield |
| 0-6 | 54-6-44 | 8016 Goshen Road | Shroder |
| 0-7 | 54-6-45 | 8024 Goshen Road | Smith |
| 0-8 | 54-6-69 | 8055 Goshen Road | Miles |
| 0-9 | 54-6-39 | 8066 Goshen Road | R. B. Smedley |
| 0-10 | 54-6-67 | 8085 Goshen Road | J. G. Smedley (Mill) |
| 0-11 | 54-6-68 | 8067 Goshen Road | J. G. Smedley (House) |
| 0-12 | 54-6-72 | 928 Garrett Mill Road | H. Garrett |
| 0-15 | 54-6-73 | 988 Garrett Mill Road | Cullen |
| 0-16 | 54-6-74 | 944 Garrett Mill Road | H. Garrett |
| 0-17 | 54-6-91 | 955 Garrett Mill Road | H. Garrett |
| 0-18 | 54-6-75 | 959 Garrett Mill Road | Shady Grove School |
| 0-19 | 54-8-11 | 980 Garrett Mill Road | H. Garrett |
| 0-20 | 54-8-12 | 1002 Garrett Mill Road | T. Smedley |
| 0-21 | 54-8-12-1A | 1006 Garrett Mill Road | T. Smedley |
| 0-22 | 54-8-13-1 | 6022 West Chester Pike | G. P. Hughes |
| 0-23 | 54-8-14 | 5316 West Chester Pike | William Evans (Barn) |
| 0-24 | 54-8-14-2 | 5314 West Chester Pike | William Evans |
| 0-25 | 54-8-73 | 5303 West Chester Pike | Etty |
| 0-26 | 54-9-4 | 5261 West Chester Pike | Hidell |
| 0-27 | 54-9-1 | 5240 West Chester Pike | G. Matlack (Mill) |
| 0-28 | 54-7-24 | 964 Plumsock Road | Campbell |
| 0-29 | 54-6-85 | 936 Plumsock Road | T. Yarnall (Estate) |
| 0-30 | 54-6-83-1 | 920 Plumsock Road | T. Yarnall (Estate) |
| 0-31 | 54-6-81 | 921 Delchester Road | S. Irvin |
| 0-32 | 54-6-79 | 969 Delchester Road | T. Yarnall (Estate) |
| 0-33 | 54-6-79-2 | 975 Delchester Road | T. Yarnall (Estate) |
| 0-34 | 54-6-89 | 974 Delchester Road | A. C. Anderson |

| Number | Tax Parcel Number | Address | Breou Map Name |
|--------------------------------------|-------------------|------------------------|----------------------|
| Whitehorse District | | | |
| W-2 | 54-7-13-3 | 7000 Goshen Road | S. Grubb |
| W-3 | 54-7-13 | 7020 Goshen Road | S. Grubb |
| W-5 | 54-7-14-2A | 6154 Goshen Road | J. Strong (W.H. Inn) |
| W-6 | 54-7-44 | 944 Providence Road | J. Strong |
| W-7 | 54-7-46 | 7001 Goshen Road | M. T. Bartram |
| | 54-7-46-1 | 7005 Goshen Road | M. T. Bartram |
| Class II Breou Map Structures | | | |
| 1 | N/A | N/A | N/A |
| 2 | 54-2C-119 | 7 Farmhouse Lane | Fahnestock |
| 3 | 54-2-32 | 743 Monument Road | Dean |
| 4 | 54-2-38 | 544 Sugartown Road | Hughes |
| 5 | 54-2-41 | 730 Monument Road | William Williams |
| 6 | 54-2-39 | 744 Monument Road | Farra |
| 8 | 54-2-70-3 | 6 Tiburon Lane | Hall |
| 9 | 54-2-92-1 | 369 Paoli Pike | W. Brown |
| 10 | 54-2-109 | 356 Paoli Pike | Esler |
| 11 | 54-3-23 | 9 Callery Way | William Cox |
| 12 | 54-3-16-2 | 650 Sugartown Road | Stewart |
| 13 | 54-3-432NT | 655 Sugartown Road | Thomas Cox |
| 14 | 54-3-17 | 673 Sugartown Road | E. Cox |
| 15 | 54-3-18 | 675 Sugartown Road | J. Bishop |
| 18 | 54-5-6 | 350 Boot Road | Howard Williams |
| 19 | 54-5-8 | 213 Line Road | Manning |
| 20 | 54-6-23 | 418 Dutton Mill Road | Carey |
| 21 | 54-6-27-1 | 409 Dutton Mill Road | Josh. Garrett |
| 22 | 54-6-30-1 | 47 Green Lane | Taylor |
| 23 | 54-6-31 | 17 Green Lane | J. O. Thomson |
| 24 | 54-6-28 | 8116 Goshen Road | Dutton |
| 25 | 54-8-2 | 240 Dutton Mill Road | Benjamin Smedley |
| 26 | 54-8-6 | 209 Dutton Mill Road | Thompson (Barn) |
| 27 | 54-8-800 | 111 Worington Drive | Milton Garrett |
| 28 | 54-8-31 | 1720 West Chester Pike | Milton Garrett |
| 29 | 54-8-33 | 2093 Dutton Mill Road | D. W. Green |
| 30 | 54-8-34 | 2087 Dutton Mill Road | D. W. Green |
| 31 | 54-8-22 | 68 Dartmouth Road | Elwood Smedley |
| 32 | 54-8-35 | 42 Street Road | Elwood Smedley |
| 33 | 54-8-64-26 | 2071 Dutton Mill Road | Thomas Smedley |
| 34 | 54-8-64-14 | 2069 Dutton Mill Road | Elwood Smedley |
| 35 | 54-9-2 | 5214 West Chester Pike | Broomhall |
| 36 | 54-9-3 | 5208 West Chester Pike | Hannah Green |
| 37 | 54-7-47 | 980 Providence Road | Samual Davis |
| 38 | 54-7-49 | 1018 Providence Road | Leedom |
| 39 | 54-7-62 | 15 Marlborough Road | Nathan Yarnall |
| 40 | 54-7-63 | 11 Marlborough Road | Reuben Thomas |
| 41 | 54-7-64 | 9 Marlborough Road | Reuben Thomas |
| 42 | 54-7-65 | 6081 Goshen Road | Nathan Yarnall |

| Number | Tax Parcel Number | Address | Breou Map Name |
|--------|-------------------|------------------------|------------------------|
| 43 | 54-7-68 | 6029 Goshen Road | Wharton |
| 44 | 54-7-66 | 6019 Goshen Road | Is. Bartram |
| 45 | 54-7-67 | 6011 Goshen Road | Davis (Estate) |
| 46 | 54-7-22 | 6004 Goshen Road | Sager |
| 47 | 54-7-21 | 6014 Goshen Road | Is. Bartram |
| 48 | 54-7-44 | 944 Providence Road | Jesse Davis |
| | 54-7-54 | 6101 Goshen Road | White Horse School |
| | 54-7-54-1 | 16 Marlborough Road | |
| 49 | 54-7-45 | 7025 Goshen Road | Thomas Massey (Estate) |
| | 54-6-88 | 7037 Goshen Road | Elizabeth Yarnall |
| 50 | 54-6-87 | 7043 Goshen Road | Elizabeth Yarnall |
| 51 | 54-6-58 | 7040 Goshen Road | William Evans |
| 52 | 54-6-59 | 7036 Goshen Road | M. A. Weir |
| 53 | 54-7-15 | 864 Grubbs Mill Road | G. W. Miller |
| 54 | 54-7-6-1 | 775 Hillview Road | Barr |
| 55 | 54-7-16 | 2700 Whitehorse Road | William Stong |
| 56 | 54-7-11 | 822 Grubbs Mill Road | William Stong |
| 57 | 54-7-10-2 | 8 Barr Road | Stong |
| 58 | 54-4-20 | 800 Grubbs Mill Road | Gurbbs's Mill |
| 59 | 54-4-45 | 34 Rabbit Run Road | Stong |
| 60 | 54-4-17 | 741 Hillview Road | Elijah Stewart |
| 61 | 54-6-18 | 760 Hillview Road | F. Leonard |
| 62 | 54-4-23 | 2424 Grubbs Mill Road | Enoch Ottey |
| 63 | 54-4-16 | 2400 Grubbs Mill Road | Enoch Ottey |
| 64 | 54-4-10 | 2320 South Valley Road | S. Davis |
| 65 | 54-4-9 | 2287 South Valley Road | P. Bond |
| 66 | 54-4-7 | 2307 South Valley Road | W. Alexander |
| 67 | 54-4-6 | 2309 South Valley Road | S. Davis |
| 68 | 54-3-384-1 | 339 South Valley Road | Smedley School |
| 69 | 54-3-384 | 333 South Valley Road | Thomas Smedley |
| 70 | 54-3-383-2 | 327 South Valley Road | Thomas Smedley |
| 71 | 54-3-377 | 13 Horseshoe Lane | Thomas Smedley |
| 72 | 54-3-376 | 9 Horseshoe Lane | Thomas Smedley |
| 73 | 54-3-343 | 220 South Valley Road | Thomas Smedley |
| 74 | 54-1Q-306 | 69 Devon Road | Bajeux |
| 75 | 54-3-340 | 28 Devon Road | William Edwards |
| 76 | 54-1P-174 | 57 Grubb Road | Greentree School |
| 77 | 54-3-287 | 8 Greenstone Way | Joseph Gowdy |
| 78 | 54-3-299 | 136 Grubb Road | W. W. Enriken |
| 79 | 54-3-357 | 151 Grubb Road | Beaumont |
| 80 | 54-3-300-17 | 158 Grubb Road | Robert Morris |
| 81 | 54-3-379 | 179 Grubb Road | R. F. Matthews |
| 82 | 54-3-333 | 732 Whitehorse Road | R. Paist |
| 83 | 54-3-314-3 | 123 Jaffrey Road | Hilbberd Evans |
| 84 | 54-3-325 | 129 Davis Road | Hilbberd Evans |
| 85 | 54-3-190 | 209 Spring Road | Morgan Hall |
| 86 | 54-3-189 | 221 Spring Road | William Williams |
| 87 | 54-3-188 | 231 Spring Road | Jno. Garrett |

| Number | Tax Parcel Number | Address | Breou Map Name |
|--------|-------------------|-------------------------|----------------------|
| 88 | 54-3-192 | 736 Warren Avenue | Mrs. M. Hall |
| 89 | 54-3-322-1 | 729 Warren Avenue | Josiah Hibberd |
| 90 | 54-6-12 | 750 Warren Avenue | William Rogers |
| 91 | 54-6-10 | 739 Providence Road | Joseph Bennett |
| 92 | 54-6-9.5 | 3 Steeplechase Lane | J. Bishop |
| 93 | 54-6-49 | 728 Providence Road | M E. Church |
| 94 | 54-6-46 | 779 Sugartown Road | Pharoah |
| 95 | 54-6-53 | 808 Warren Avenue | Harvey Garrett |
| 96 | 54-6-54 | 816 Warren Avenue | Amos Garrett |
| 97 | 54-6-55-3 | 840 Warren Avenue | Davis Garrett |
| 98 | 54-6-60 | 852 Providence Road | William Johnson |
| 99 | 54-6-57 | 826 Providence Road | Josiah Hibberd |
| 100 | 54-6-17 | 831 Providence Road | William Evans (Barn) |
| | 54-1-20 | 340 Central Avenue | |
| | 54-1-23 | 332 Central Avenue | |
| | 54-1L-83 | 172 Lancaster Avenue | |
| | 54-1P-1 | 454 King Road | |
| | 54-1P-10 | 13 Arlington Avenue | |
| | 54-2-38 | 544 Sugartown Road | |
| | 54-2-57 | 583 Sugartown Road | |
| | 54-2C-119-1 | 9 Hickory Lane | |
| | 54-3-301 | 647 Warren Avenue | |
| | 54-3-386 | 2028 Waynesborough Road | |
| | 54-3-387 | 2030 Waynesborough Road | |
| | 54-3-8 | 50 Grubb Road | |
| | 54-3B-43 | 15 Queens Avenue | |
| | 54-4-22 | 791 Grubbs Mill Road | |
| | 54-6-1.6 | 310 Boot Road | |
| | 54-6-19 | 764 Hillview Road | |
| | 54-6-29 | 401 Dutton Mill Road | |
| | 54-6-78 | 995 Delchester Road | |
| | 54-6-78-5 | 999 Delchester Road | |
| | 54-6-79-3 | 967 Delchester Road | |
| | 54-6-83 | 910 Plumsock Road | |
| | 54-7-1 | 766 Hillview Road | |
| | 54-7-12 | 822 Grubbs Mill Road | |
| | 54-7-13-3A | 870 Providence Road | |
| | 54-7-15-2 | 16 Barr Road | |
| | 54-7-19 | 6074 Goshen Road | |
| | 54-7-23 | 958 Plumsock Road | |
| | 54-7-60-2 | 987 Providence Road | |
| | 54-7-65-2 | 6041 Goshen Road | |
| | 54-8-73 | 5303 West Chester Pike | |
| | 54-8-8 | 217 Dutton Mill Road | |



Appendix 5:

PARK AND RECREATIONAL RESOURCES IN WILLISTOWN TOWNSHIP

Greentree Park

Location: 21 Grubb Road, Malvern PA 19355 on the corner of Woodland Avenue in northeastern Willistown.

Description: Playground equipment for recommended ages 2-5 and 5-12, basketball court and recreational fields, gazebo, restrooms. 8 acres. Leased from Great Valley School District through 2039. Tax parcel number 54-1P-167.

Duffryn Avenue Trail Corridor - Currently unnamed

Location: 28 Duffryn Road in northeastern Willistown.

Description: Currently being designed as pocket park/trail link to Malvern Borough's Randolph Woods Park of 38 acres. Approximately 0.16 acre. Purchased by the Willistown Township Open Space Fund. Tax parcel number 54-1P-26.

Mill Road Park

Location: 1 Mill Road, Malvern PA 19355, off of Grubb Road by the Upper Main Line VFW in northern Willistown.

Description: Mill Road Park: Samantha's Park playground equipment for recommended ages 5-12, 2 baseball fields, picnic pavilion, restrooms. 18.8 acres. Tax parcel number 54-3-297-2.

Crum Creek Open Space – Currently unnamed

Location: 4 Sugarbrook Road in mideastern Willistown: Under Agreement of Sale. An addition to unnamed Crum Creek lands.

Description: 1.93 acres on Sugarbrook Lane, linking with 3.23 acres owned by Willistown on the corner of Sugarbrook Lane and Jaffrey Road, located across Jaffrey Road from 5.7 acres owned by Willistown Township. 1.93 acres purchased by the Chester County Landscapes 21st Century Preservation Partnership Fund. Undeveloped future passive recreation: Main Stem of Crum Creek, riparian buffer, woodland, hydric soils, wetlands. Tax parcel numbers respectively: 54-3-311; 54-3-312-E; 54-3-315-E.



Line Road Field

Location: 139 Line Road, Malvern PA 19355, adjacent to the Greater Chester Valley Soccer Association Fields in northwestern Willistown.

Description: Undeveloped future active recreation. 27 acres. Under long term lease to the Greater Chester Valley Soccer Association. Under conservation easement with Willistown Conservation Trust. Purchased by the Willistown Township Open Space Fund. Tax parcel number 54-2-95-3.

Sugartown Preserve

Location: 705 Providence Road, between Spring Road and Providence Road, Malvern PA, 19355 in the middle of Willistown.

Description: Undeveloped future passive recreation and 1.2 acre building envelope. Sugartown Gardens - organic exploration/education garden in partnership with Greener Partners. 16.2 acres. Under conservation easement with Willistown Conservation Trust. Tax parcel number 54-6-9-6.



Garrett Mill Park

Location: 1040 Garrett Mill Road, Newtown Square PA 19073, in southeastern Willistown.

Description: Playground equipment for recommended ages 5-12, 2 baseball fields, 1 soccer field, sand volley ball court, picnic pavilion, restrooms. 20 acres. Purchased with assistance from Chester County Municipal Grant Program. Tax parcel number 54-8-13.



Okehocking Preserve

Location: 5316 West Chester Pike, Newtown Square PA 19073, in southern Willistown.

Description: Passive recreation with permitted future active recreation. Over 5 miles of mown and wooded trails. 180 acres. Purchased by the Willistown Township Open Space Fund; Department of Conservation and Natural Resources (DCNR) Community Conservation and Preservation Partnership Program; Land and Water Conservation Fund through DCNR; and Chester County Landscapes 21st Century Preservation Partnership and Municipal grant Program funding. Under conservation easement with Willistown Conservation Trust. Tax parcel numbers: 54-8-14-5; 54-8-14-4; 54-8-14-2A; 54-8-2679; 54-8-14-2B; 54-8-14-2; 54-8-14-1; 54-8-20

Kirkwood Preserve

Location: Corner of Grubbs Mill and Goshen Roads, no current street address, in southeastern Willistown.

Description: 83 acres, owned by Willistown Conservation Trust. Purchased with assistance from the Willistown Township Open Space Fund. Tax parcel numbers 54-7-19-1; 54-7-19-3.

Willisbrook Preserve

Location: Adjacent to Willistown's Line Road Field, no current street address.

Description: 126 acres, owned by Natural Lands Trust. Tax parcel numbers: 54-2-95-1; 54-2-95-2; 54-2-125; 54-5-6-1



EXISTING TRAIL RESOURCES ARE AS FOLLOWS:

- Informal unpaved trail recreation opportunities can be found throughout Willistown Township in a patchwork of private and institutional open space lands and along roadways.
- Publicly accessible trails are located in road right-of-ways and on municipal and conservation trust owned lands. A 225' trail corridor is slated for development at the 28 Duffryn Avenue township property. Mown and wooded loop trails are offered at Willistown Township's Okehocking Preserve (approximately 5 miles of trails), the Willistown Conservation Trust Kirkwood Preserve, and the Natural Lands Trust Willisbrook Preserve. See Map 6 for existing, publicly accessible trails.

Appendix 6:

BENEFITS OF PARKS, RECREATION FACILITIES AND TRAILS

Park and Recreation Facilities

There is extensive documentation of the positive impacts and benefits of parks and recreation on the physical, mental and social health of individuals and their communities. (The following condensed information is further detailed by and was gathered from the National Recreation and Park Association, the Pennsylvania Recreation and Parks Society, and California State Parks: *The Health and Social Benefits of Recreation* (2005).) American and Canadian organizations have identified four major Benefit Categories of parks and recreation: Individual, Community, Economic, and Environmental. Within each category are dozens of specific benefits, which are substantiated by facts, field studies, testimonials and research findings. These benefits emphasize the vital role that parks and recreation play in promoting physical activity and livable communities, individual health and well being, social and community growth and enrichment, as well as the economic value of parks and open space, and more.

• Individual Benefits

People benefit from parks and recreation in many ways. Documented physical health benefits include: reduced obesity, boosted immune system, increased life expectancy, and health benefits for those throughout life for those who participate in organized sports and recreation programs. Documented individual mental health benefits include: reduced depression, immediate stress reduction, relieved stress, improved quality of life (increased self esteem, personal and spiritual growth, and life satisfaction).

• Community/Social Benefits

Communities are strengthened by parks and recreation in the following documented ways: reduction of adult and juvenile crime, improvement in academic performance of children who are active in recreation programs, increased volunteerism, and promotion of stewardship. Parks and recreation promote social bonds by connecting and uniting families and building cultural diversity and harmony. Youth benefit socially as it aids in developing individual character, enhances educational experiences and successes, and deters negative behavior.

• Economic Benefits

The economic benefits of parks and recreation include increased property values, reduced health care and insurance costs, reduced employee absenteeism, and increased productivity.



• Environmental Benefits

The environmental benefits of parks and recreation include the preservation of plant and animal life, the protection of natural resources, and the provision of accessible places to enjoy and learn about nature.

Trail Resources

The following information on the aforementioned benefits was gathered from the US Department of Transportation Federal Highway Administration in partnership with the Pedestrian and Bicycle Information Center (www.walkinginfo.org and www.bicyclinginfo.org).

• Quality of Life Benefits

Better conditions for walking and bicycling have intangible benefits to the quality of life in cities and towns. The number of people walking and bicycling can be a good indicator of a community's livability - a factor that has a profound impact on attracting businesses and workers and residents. In cities and towns where people can regularly be seen walking, there is a palpable sense that these are safe and friendly places to live and visit.

The social interaction possible when the number of people walking increases is a major factor for improving quality of life. Comfortable and accessible pedestrian and bicycle environments offer alternatives to personal vehicles, which limit opportunities for social contact with others. By providing appropriate bicycle and pedestrian facilities and amenities, communities enable the interaction between neighbors and other citizens that can strengthen relationships and contribute to a healthy sense of identity and place.

• Health Benefits

The issue of physical activity has never been more important than now. An alarming number of Americans are becoming more sedentary and obese and, consequently, are putting their lives at risk, reports the Center for Disease Control. Even small increases in light to moderate activity will produce measurable benefits among those who are least active. Engaging in light to moderate physical activity reduces the risk of coronary heart disease, stroke, and other chronic and life-threatening illnesses. Physical activity can also improve mental health and even lower health care costs.

Older adults can also benefit from walking and bicycling. Regular exercise provides myriad health benefits for senior adults including a stronger heart, a positive mental outlook, and an increased chance of remaining indefinitely independent - a benefit that will become increasingly important as our population ages in the coming years.

• Economic Benefits

Walking and bicycling are affordable forms of transportation. Car ownership is expensive, and consumes a major portion of many American incomes. When safe facilities are provided for pedestrians, people can walk more and spend less on transportation, meaning they have more money to save or spend on other things.

The cost of public road upkeep to municipalities and their residents is significant. A reduction of the number of cars on the roads would give greater longevity to road surfaces, lowering maintenance costs.

• Transportation Benefits

Many of the trips that Americans make every day are short enough to be accomplished on a bicycle. The 1995 National Personal Transportation Survey (NPTS) found that approximately 40 percent of all trips are less than two miles in length - which represents about a 10-minute bike ride.

Walking and bicycling can help to reduce roadway congestion. Many streets and highways carry more traffic than they were designed to handle, resulting in gridlock, wasted time and energy, pollution, and driver frustration. Walking requires significantly less space per traveler than driving. Roadway improvements to accommodate pedestrians can also enhance safety for motorists. For example, adding paved shoulders on two-lane roads has been shown to reduce the frequency of run-off-road, head-on, and sideswipe motor vehicle crashes.

Some statistics: Approximately 12 percent of persons 15 or older do not drive (2001 National Highway Transportation Safety Board). There are 96 million walking trips and nine million bike trips in the U.S. everyday (2001 NHTS). About 40 percent of all trips are shorter than two miles - a 30-minute walk or a 10-minute bike ride (1995 NPTS).

• Environmental/Energy Benefits

Motor vehicles create a substantial amount of air pollution. According to the EPA, transportation is responsible for nearly 80 percent of carbon monoxide and 55 percent of nitrogen oxide emissions in the U.S. Not surprisingly, many metropolitan areas do not meet the air quality standards specified in the 1990 Clean Air Act Amendments. Every day cars and trucks burn millions of barrels of oil, a non-renewable energy source. Switching motor vehicle trips over to bicycle and/or pedestrian trips is an easy way to reduce energy needs and pollution emissions from the transportation sector.

Some statistics: Motor vehicle emissions represent 31 percent of total carbon dioxide, 81 percent of carbon monoxide, and 49 percent of nitrogen oxides released in the U.S. (The Green Commuter, A Publication of the Clean Air Council). Approximately 60 percent of the pollution created by automobile emissions happens in the first few minutes of operation, before pollution control devices can work effectively. Since "cold starts" create high levels of emissions, shorter car trips are more polluting on a per-mile basis than longer trips (League of American Bicyclists). A short, four-mile round trip by bicycle keeps about 15 pounds of pollutants out of the air we breathe (Worldwatch Institute).

• Choice and Mobility

Perhaps the most important factor in walking or bicycling is choice. When providing pedestrian and bicycle facilities such as sidewalks and crosswalks, communities allow people to choose how they want to travel. For those who do not have the option to drive, such as adolescents, those unable to afford a car, and people with certain disabilities, this lack of choice in transportation creates a barrier to mobility. By providing safe and convenient pedestrian and bicycle facilities, the Township can ensure that all citizens have access to a viable mode of transportation and transportation choice.



Appendix 7:

PARK FACILITY AND PROGRAMMING ISSUES

2002 Chester County Recreational Park Standards and Their Applicability to Willistown Township

Willistown Township’s definition of parks coincides with that of Chester County. Linking Landscapes defines a “park” as any outdoor property that is owned in-fee or permanently eased for recreation by a government agency, is open to the general public, is specifically managed to provide public recreation, and has public recreation as its primary use. This definition stresses that parks are acquired, designed and managed to be public recreational facilities. Recreation planners typically describe parks based on the ways in which they are used. Some parks are designed and maintained to be used primarily for strenuous recreation activities such as exercise, team sports and child’s play. These activities are referred to as “active recreation.” Other parks are designed, maintained and used for quieter, less athletic activities, such as fishing, picnicking and bird watching. These lower energy activities are known as “passive recreation,” and they have a minimal effect on their surroundings. Some parks are used for both active and passive recreation.

The 2002 population-based county standards and the categories of parks used in the standards are shown in the table below. Municipalities that complete or update their municipal open space plan using County funds are required to include some form of population based recreation standard. Although not required to follow the County’s 2002 Standards, Willistown Township chose to do so.

The 2002 Chester County Recreational Park Standards
(Figure 4.1 *Linking Landscapes*)

| Type of Recreational Park | Service Radius | Minimum Acreage Standard | Maximum Population | Size of Recreational Park |
|---------------------------|---|----------------------------------|--------------------|---------------------------|
| Regional Park | 30 miles (Equal to a 60 min. drive) | 20 acres per 1,000 people | None | 1000 acres or more |
| Sub-regional Park | 7.5 miles (Equal to a 15 min. drive) | 8.5 acres per 1000 people | 100,000 | 400 acres to 999 acres |
| Community Park | 2.5 miles (Equal to a 5 min. drive or a 30 min. walk) | 3.0 to 6.0 acres per 1000 people | 25,000 | 20 acres to 399 acres |
| Neighborhood Park | 0.5 miles (Equal to a 15 min. walk) | 2.5 to 3.5 acres per 1000 people | 5,000 | 0.5 acres to 19.9 acres |
| Mini Park | 0.25 mi. (Equal to an 8 min. walk) | 0.25 acres per 1,000 people | 2,000 | 0.01 acre to 0.49 acre |

Source: CCPC, June 1982 and February 2002.

The 2002 Standard definitions are as follows:

- The **Service Radius** of a park is a circular area drawn around a park on a map. Ideally, a park should be designed to accommodate the recreation needs of all the people who live within this circle.
- The **Acres Standard** describes the number of park users per acre of parkland. It is measured in acres per 1000 users. A park with an Acres Standard of 5 acres per 1000 users would have a density of 250 users per acre. In general, playgrounds and sports fields have a higher user density than wooded or natural resource based parks.
- The **Maximum Population** is the largest recommended population for a given Service Radius. If the population of a Service Radius exceeds the Maximum Population, park planners should consider adding more park facilities in the region.

The Chester County Planning Commission developed these population-based Standards to ensure that recreational parks would be built to serve all parts of the County, and to identify overcrowding on parks that have already been built. The standards were developed to apply to conventional non-linear recreational parks. Currently there are no Chester County population-based standards for trails or special purpose parks because these facilities are established based on available resources, and not as a reaction to a community’s population.

As indicated above, recreational standards are frequently expressed in terms of number of facilities or amount of park acreage per 1,000 residents. Those standards are then applied to the size of the population being planned for. A July 2007 estimated population of Willistown Township was 10,741. Adjustments can be made for populations that are not typical of larger populations. For example, populations which have a greater proportion of elderly people or school-age children have different recreational needs. Recreation needs are then compared to the services and facilities currently available. Any shortages are then noted.

According to the 2000 census, Township population by age group was as follows:

| | | |
|-------------------|-------|-------|
| Under 5 years | 589 | 5.9% |
| 5 to 9 years | 609 | 6.1% |
| 10 to 14 years | 703 | 7.0% |
| 15 to 19 years | 602 | 6.0% |
| 20 to 24 years | 278 | 2.8% |
| 25 to 34 years | 989 | 9.9% |
| 35 to 44 years | 1,638 | 16.4% |
| 45 to 54 years | 1,756 | 17.5% |
| 55 to 59 years | 721 | 7.2% |
| 60 to 64 years | 552 | 5.5% |
| 65 to 74 years | 968 | 9.7% |
| 75 to 84 years | 516 | 5.2% |
| 85 years and over | 90 | 0.9% |
| 18 years and over | 7,668 | 76.6% |
| 21 years and over | 7,463 | 74.5% |
| 62 years and over | 1,907 | 19.0% |

Since the 2000 census, it appears that the number of children in Willistown has since increased. This is evidenced by the closure of Sugartown Elementary School in 2001 and the re-opening of Sugartown in 2008. The 2010 census information, once available, will be helpful in planning and programming for Willistown residents.

Local and Regional Trail Planning Efforts

Willistown envisions the establishment of establishing a trail network across the Township as an alternative travel opportunity for residents, school children, and visitors to link residential areas, community facilities, parks, and neighboring community recreational and business uses and trail systems; providing passive recreation opportunities within and between

developed sites; and designing a trail network that utilizes and coordinates available trail routes with identified destinations, e.g., parks, commercial centers, natural areas, schools, etc. Trails are both a recreational and transportation asset. While the interconnection of trails is of value in getting from one recreational facility to another, so too are they valuable in potentially providing opportunities for commuting, particularly given the potential for regional trail linkages.

The Patriots Path and Malvern-Willistown Greenway Trail

Currently there is limited pedestrian trail/sidewalk access from the Township's northern neighborhoods to the adjacent town centers of Paoli and Malvern. One opportunity to address this will be through the Malvern-Willistown Greenway Trail project (currently in the beginning planning stages). This project is the result of a partnership among Willistown Township, Malvern Borough, Willistown Conservation Trust (WCT), Chester-Ridley-Crum Watersheds Association, Chester County Planning Commission and Willistown residents. The proposed trail will connect Malvern Borough residents to General Wayne Elementary school in Willistown, sports fields used by Borough and Willistown residents, parks, and historic destinations; conversely, the trail will also connect Willistown residents to Malvern's library, shopping and business district, park system and historic sites. Furthermore, the trail will connect both communities to outside destinations such as the East Goshen Township Park, Ridley Creek State Park and the County's Chester Valley Trail. Among the proposed trail destinations are: public open spaces west of Sugartown Road via Monument Road (Willistown), Paoli Memorial Grounds (Malvern), Paoli Battlefield (Malvern), Quann Park (Malvern), Burke Park (Malvern), Randolph Woods (Malvern), Greentree Park (Willistown), General Wayne Elementary School (Willistown), and Mill Road Park (Willistown). This is a top priority project linking the northern sections of Willistown Township and destinations therein to Malvern Borough and beyond. See Map 13: *Park and Recreation Plan* for proposed trail links and destinations.

Sugartown Elementary School serves the residential area adjacent to it as a neighborhood park. General Wayne Elementary School could serve the residential area east of the Sugartown service area if safe pedestrian linkage could be attained across Warren Avenue and/or Paoli Pike and Devon Road. Safe travel for this neighborhood to General Wayne should be pursued.

Kirkwood-Okehocking Trail Corridor

The Kirkwood-Okehocking Trail Corridor is a proposed project of the Willistown Conservation Trust ("Trust"). In partnership with the Township, the Trust seeks to establish a public pedestrian and equestrian natural surface trail corridor beginning at the Trust's Kirkwood Preserve, located on Grubbs Mill Road, continuing through the Trust's Rushton Woods Preserve on Goshen and Delchester Roads, and terminating at the Township's Okehocking Preserve on Delchester Road and Route 3. It is proposed that the majority of the trail would be created by



utilizing existing protected trails on lands preserved by conservation easement, donations by private landowners of additional trail easements, or where feasible and safe, public road rights-of-way. This proposed trail will link to and in some sections overlay the Township's proposed Sugartown-Delchester North-South Arterial Trail Corridor and the Township's proposed Okehocking-Plumsock and Goshen Road East-West Arterial Trail Corridors. The Trust envisions that the Kirkwood-Okehocking Trail will also branch off to connect to the Trust's Ashbridge Preserve in East Goshen on Strasburg Road (what is known as Goshen Road in Willistown Township).

Chester County's Regional Recreation Corridors

The Chester County Planning Commission has identified regional and county scaled Regional Recreation Corridors in *Linking Landscapes*, a number of which are located within and adjacent to Willistown Township. A Regional Recreation Corridor is a conceptual planning zone that *Linking Landscapes* has identified as a prime location for the construction of a multi-municipal trail. The corridor is defined as a linear area of land that includes points of interest or recreational destinations – like state parks and historic villages – and the trails, paths and bike routes that link them. *Linking Landscapes* is careful to note that Regional Recreation Corridors are not presumed to be the only logical locations for multi-municipal trails. The rec-

ommended Regional Recreation Corridors are 2,000 feet wide. This width is much wider than the right of way needed for a single trail or path. These extra-wide corridors are useful because they allow municipal planners flexibility in locating the final alignment of a trail or path. The recommended Regional Recreation Corridors have been classified into 3 categories; undeveloped, informally used, and partially developed. Those corridors pertinent to Willistown Township are as follows and are depicted on Map 13.

The Ridley Regional Recreation Corridor, classified as undeveloped, extends from the Chester County-Delaware County Border, up Ridley Creek to its headwaters just west of Immaculata College. This corridor crosses into Chester County and Willistown Township from the south near the Route 3 parking entrance to Okehocking Preserve, where Ridley Creek crosses into Chester County. The corridor then follows the main stem of the creek in a northwesterly direction through the Preserve and then privately owned land until crossing over into East Goshen Township. The primary purpose of this Corridor is to provide the communities in East-central Chester County with access to Ridley Creek State Park in nearby Delaware County. It would also have the added benefit of providing greater access to trails at Willistown's Okehocking Preserve. One of the exciting benefits of the Ridley corridor is that the northern terminus is within four miles of the County Chester Valley Trail, via the County Seat Corridor. If these 2 corridors were complete, Willistown residents would have access to a 13 mile long trail connecting Ridley Creek State Park with the County Chester Valley Trail.

The Paoli Battlefield Regional Recreation Corridor, classified as undeveloped, extends from Ridley Creek east along Paoli Pike to Malvern Borough, and from there up Crum Creek to the County Chester Valley Trail. The portion of the Paoli Battlefield Corridor north of Malvern Borough would provide Willistown residents with a two-mile long trail link to the County Chester Valley Trail. Township residents could also access Valley Forge National Historic Site via the lower end of the Schuylkill Corridor. The portion of the Paoli Battlefield Corridor south of Malvern Borough extending along Paoli Pike in Willistown Township would provide Willistown residents' access to East Goshen Township Park.

The County Seat Corridor, classified as undeveloped, extends from the East Branch of Brandywine Creek into West Chester Borough, and then northeast through Immaculata College, and from there to the County Chester Valley Trail. The completion of this corridor, and that of the Paoli Battlefield and Ridley Creek Corridors would create a trail loop of 19 miles in length, part of which would border Willistown Township.

The Chester Creek Rail-Trail Project extends along an abandoned rail line from just west of I-95 in Chester Township to the old Wawa train station east of US Route 1 in Middletown Township. This trail is currently in the planning phase. This trail is a potential link through the Ridley corridor.

The Rocky Run Trail and the Darlington Trail are constructed and extend from north of US Route 1 near Chester

Creek northeast to Tyler Arboretum and adjacent Ridley Creek State Park. These trails would link to Willistown Township through the Ridley Creek Recreation Corridor.

Willistown Park and Recreation Program Services

The Parks and Recreation staff of Willistown Township currently includes a full-time Director of Parks and Recreation, and a part-time Parks and Recreation Assistant. The Director oversees the operation of the Township's recreation programs and the management of the Township's park properties. The Assistant to the Director of Parks and Recreation administers field use and pavilion rental scheduling and processing for the Willistown park system (the Township administration manages the application and payment process and provides reports to Parks and Recreation). Willistown residents are offered a lower rate of rental than non residents. Additional staff is hired for the Willistown Summer Camps, including a Summer Camp Director, who hires necessary teachers and assistants for six weeks of camps.

The Willistown Park and Recreation Board, a voluntary, seven-person board, collaborates with the Parks and Recreation staff. This Board's responsibilities are outlined in the Township Code, Chapter 96, Parks and Recreation, and include: general supervision of all Township parks and all maintenance thereof, including replacements of property and equipment; and recommendations to the Board of Supervisors with respect to rules and regulations for Township parks and recreation facilities, including the control of access to township facilities.

Willistown Parks and Recreation Department programming includes: Thrilling Third Thursdays at Greentree Park (local community events hosted throughout the summer), Okehocking Sunset Summer Send-Off (an end of summer event), Sugartown Garden Growing Greener Summer Camps (youth camps currently offering 4 weeks of camp for ages 5 – 11), Sugartown Exploration Garden Family Fall Fest (a local community event), and Willistown Summer Camps (six weeks of elementary recreation camps at General Wayne Elementary School for children who have completed Kindergarten through fifth grade and cheerleading camp for 4th graders).

Willistown residents are also served by a wide variety of local recreational programs including special community events, organized sports programs, arts and crafts, nature activities, social activities, and pedestrian trails. The recreational sports opportunities are offered mostly by quasi-public agencies in the area. The most significant of these (from the standpoint of public participation by Willistown residents) are the Upper Main Line YMCA (located approximately a mile from the Willistown boundary), the Chester Valley Little League (comprised of Willistown and Malvern Borough residents; this group is the sole user of Willistown's Mill Road Park ball fields and maintains the ball fields at their cost), the Greater Chester Valley Soccer Association (an extensive regional soccer and lacrosse program located adjacent to Willistown's Line Road Field; the Association leasing the field and has rights to develop ball fields there), and Great Valley Middle and High

School sports programs (the public school district that serves Willistown Township).

Local *community* recreational programs that serve Willistown Township include events hosted by Malvern Borough Parks and Recreation, the Malvern Business Association, the Upper Main Line YMCA, and East Goshen Township Parks and Recreation.

Public Outreach

The Willistown Township Parks and Recreation Department communicates information about its recreation services and facilities to residents, businesses, and visitors through the following channels: www.willistownparks.org, the Parks and Recreation website (maintained and updated by the parks and recreation Department); the *WillisTowne Crier*, the Township newsletter (Parks and Recreation related articles are written by the Parks and Recreation staff); the Township memo boards, located at the corner of Cedar Hollow Road and Paoli Pike at Good Samaritan Church, and at the Township Administration Building at 688 Sugartown Road (the memo boards are used for parks and recreation event announcements and Township holidays); fliers about Parks and Recreation events are available at the Township Administration building and are delivered to the Malvern and Paoli Libraries and local partner organizations and businesses (fliers are also distributed to Sugartown and General Wayne Elementary schools, and announcements are placed in the school newsletter and e-newsletter respectively); the Willistown Township Parks and Recreation E-announcement, *Happydings*, is distributed to the parks and recreation email database; and finally, events may be announced in the weekender section or other such section of the *Daily Local News* at no charge.

Maintenance and Security

The Willistown Township Road Department provides limited parks and recreation maintenance services. The Department currently opens and closes the parks in spring and late fall, empties the trash cans once per week, cleans and stocks the restrooms once per week, tends to any minor plumbing issues with the restroom facilities, and attends to any graffiti at the parks. Public Works also assists with special events, as needed, such as erecting Parks and Recreation event tents five times per year. The Director of Public Works is the contact for the Okehocking farm house tenant on all issues pertaining to the house and utilities, and contacts contractors for the annual maintenance and event specific maintenance. All other grounds maintenance is contracted through public bid and the Director of Parks and Recreation is the liaison to these contractors. Building and infrastructure maintenance is conducted on an as needed basis and is coordinated by the Director of Public Works. The Public Works Department conducts informal safety inspections of the playground equipment approximately once per week and keeps record of these inspections. A member of the Public Works Department is also currently seeking certification as a playground equipment inspector. Where the public notifies the Parks and Recreation Department of maintenance issues, the Department manages the remediation by either contacting a Township contractor or the Public Works Department. Park signage is managed by the Parks and Recreation Department. For security purposes, the Willistown Township Police Department patrols all parks on a regular basis.

Budgeting

The Director of Parks and Recreation along with Township Manager and Chairman of the Board of Supervisors review a budget proposed by the Director for initial approval prior to the Manager's budget submission for approval to the Board of Supervisors. A portion of the parks and recreation costs are identified in the general fund, and the remaining portion is itemized in the Parks and Recreation Budget. The Director is responsible for managing the budget and approving on all parks and recreation invoices. Parks and recreation activities and staff are funded through the Township general fund. Fees collected from recreation program participants and selected athletic field users help offset costs. Willistown has been suc-



successful in acquiring grants from the Chester County Municipal Grant Program, the Department of Conservation and Natural Resources, and the Department of Environmental Protection to offset costs of significant parks and recreation projects. The summer camp programs pay for themselves from user fees. Currently, the Township hosts six events at three of its five accessible parks that are free to the public. Steering committees for events at Sugartown and Okehocking Preserves often have raffles and donation boxes to offset costs or raise money for a specific need.

Willistown Township Recreational Surveys of 2004 and 2009

In Spring 2009, the Willistown Township Parks & Recreation Department conducted an online survey for the purpose of future planning. The survey was marketed in a variety of ways, including: announcement at a public meeting in February 2009, at the Parks & Recreation website, through flyers and newsletters sent through Great Valley School District, on yard signs posted throughout the Township, through posting on the two Township memo boards, and in prominent placement in the *Towne Crier* Spring 2009 issue. Residents were encouraged to request a paper copy of the survey if they so preferred.

The responses clearly indicate that Willistown residents are interested in outdoor activities and that they wish to be informed of the Township's park system and the outdoor activities it offers.

In summary, the responses overwhelmingly favor trails – hiking, walking, biking, riding, paved, connecting with other trails and parks, along water, with benches, near restrooms, and maintained and secure. The preservation and purchase of open space is paramount, as is sustainability and environmental stewardship of those spaces. Newer, safer, age-appropriate playground equipment is being requested, with an even distribution of requests for equipment for both *older* and *younger* children. More “community” events and projects are sought by residents, including community gardens, workshops, movie nights, outdoor concerts and theater, outdoor arts and crafts shows, summer camps, fireworks, parades, birding walks, book lectures, holiday and heritage festivals.

Prior to the 2009 survey, the Township mailed all Township residents a park and recreation survey in 2004; the intent being to understand and plan for the future of Willistown's park and recreation facilities. A comparison of the two surveys shows similar park and recreation priorities of residents over the passage of time. The 2009 number one recreational activity, Hiking/Walking, is the same as in the 2004 survey. Nature enjoyment moved into second place from a ranking of ninth in 2004. Gardening moved to third place in 2009 from fourth in 2004. Bicycling moved down to fourth in 2009 from second in 2004. Dog walking moved to fifth in 2009 from third in 2004.

The establishment of a Township trail network derives its priority from the results of both the 2004 and 2009 resident surveys: in each, the highest priority recreational activity is hiking

and walking; in the 2009 survey, the number one and number two recreational inadequacies were the Township's lack of sidewalks and need for more walking and hiking trails; in the 2004 survey, the number one improvement requested by residents was more walking/hiking trails.

A Trail Classification System for Willistown Township with Proposed Corridors

Ideally, trails will occupy suitable natural corridors such as stream valleys or woodlands, or suitable man-made corridors such as railroad rights-of-way, utility easements and scenic, low-traffic-volume roadways. Off-road rights-of-way are preferable to roadside rights-of-way routes and should be made permanent where possible. Trails can be made permanent through public acquisition or through establishment of easements. Lacking such opportunities, locations parallel to public roadways, yet separated from them, should be formalized. In higher density northern and some southern residential areas, trails should connect to existing sidewalks; trails in such areas will need to handle heavy use. Minimum design standards required for intended trail use type(s) should be developed and adhered to. Multi-use trails must have sufficient width and clearance to accommodate all permitted uses. Ideally, bicycle routes will be separated from pedestrian routes and must be separated from equestrian routes.

Pathways or trails only occupy a narrow, linear land area, yet frequently are the primary means of access, both physical and/or visual, to the broad open space and recreational landscape. Trails may be geared to one or more types of trail use, including hiking, jogging, running, bicycling, equestrian, cross-country skiing, baby strollers, etc.

Partnering with neighboring municipalities and local organizations will be a critical component to the success of a Township comprehensive trail network.

In order to use Township and PennDOT rights-of-way, the Township and its partners should work with local landowners and respect right-of-way setbacks where impeding critical trail corridors are to be located. Conservation easements and trail easements will be an important tool in creating trail connections; this process may involve working with private, quasi-public and public land owner agreements or easements.

As a basis for the creation of a Township Comprehensive Trail Network, the following designations should be considered:

- **COMPREHENSIVE TRAIL NETWORK** - A destination-based network of interlinking trails and paths throughout the Township that are designated for transportation and recreation purposes.

The information included in Map 6: Existing Recreation Sites, Publicly Accessible Open Spaces, and Trails, and Map 13: Park and Recreation Plan form the foundation for a comprehensive trail network and should be used by the Township to create a comprehensive trail plan for the Township.

- **TRAIL:** A corridor through which passes, or will pass, a pedestrian or equestrian accessway or a bikeway as part of the Willistown Township Comprehensive Trail Network or as otherwise authorized or designated by the Township. Trails are intended to serve transportation, commuting, and/or recreational functions as part of an inter-modal transportation system. Trails shall exclude all motorized vehicles except motorized wheel chairs or as authorized by the Township for maintenance, management, and emergency purposes. In general, the Township's trails offer low-speed transportation and recreation opportunities to pedestrian, and/or bicycle, and/or equestrian users.

- **DESTINATION:** Locations in Willistown Township or neighboring municipalities that are linked through the Willistown Township Comprehensive Trail Network; included are parks, designated open spaces, neighborhoods, schools, historic areas, business districts, churches, town centers, libraries, sports facilities, government services, and community organizations, among others.

Destinations within Willistown are depicted in Map 13: Park and Recreation Plan, as are many sites adjacent to the Township. Willistown destinations include, among other things, all Willistown Parks, Kirkwood Preserve, Willisbrooke Preserve, Rushton Woods and Farm, Willistown Conservation Trust, Historic Sugartown Village, Willistown Township Administration Building, Willistown Township Police Department, Sugartown and General Wayne Elementary Schools, Greater Chester Valley Soccer Association fields and churches (including St Thomas Mar Thoma of Delaware Valley, Willistown United Methodist, Christ Memorial Lutheran, Good Samaritan, Paoli Presbyterian, St. Francis-in-the-Fields; and Willistown Friends Meeting). Among the destinations in neighboring municipalities are the following: East Goshen Township - the Township Park and Ashbridge Preserve; Malvern Borough - Burke Park, Quann Park, Paoli Battlefield, Chester Valley Little League fields at Monument Park; Edgmont Township - Ridley Creek State Park, Tyler Arboretum; Newtown Township - Bartram's Bridge; Tredyffrin Township - the Upper Main Line YMCA; Chester County facilities - the County Chester Valley Trail, and Delaware County facilities - the Chester Creek Rail-Trail, the Rocky Run Trail and the Darlington Trail.

- **NORTH-SOUTH ARTERIAL TRAIL CORRIDORS** – Such trail corridors provide the principal connecting routes between northern and southern Willistown, linking destinations within the Township, as well as multi-municipal and regional trail networks and destinations beyond the Township.

The North-South Arterial Trail Corridors include: 1) The Sugartown-Delchester Corridor, and 2) the South Warren Avenue-Plumsock Road Corridor.

- **EAST-WEST ARTERIAL TRAIL CORRIDORS** – Such trail corridors provide the principal connecting routes between eastern and western Willistown, linking destinations within the Township, as well as multi-municipal and regional trail net-

works and destinations beyond the Township. These corridors also connect to the North-South Arterial Trail Corridors at appropriate junctures.

The East -West Arterial Trail Corridors include: 1) The Malvern-Willistown Greenway Corridor; 2) Sugartown-General Wayne School Corridor; 3) Spring Road Corridor; 4) Goshen Road Corridor; and, 5) Okehocking Preserve Corridor (Garrett Mill Park on Garrett Mill Road to Plumsock Road) (See Map 13: Park and Recreation Plan for corresponding numbered corridors.)

- **CONNECTOR TRAILS:** A type of improved or unimproved trail that provides a means of connection to the North-South or East-West Trail Corridors or Destinations in Willistown and beyond and offers low-speed transportation and recreation opportunities to pedestrian, and/or bicycle, and/or equestrian users. Improved trails (sidewalks or other trails with surfacing) are mainly located in the more densely developed northeastern corner of the Township. Unimproved (natural grass or soil trails) are largely located in the southern portion of the Township and are mainly equestrian trails, lightly used by pedestrians.

An example of a Connector Trail is the planned Kirkwood-Okehocking Trail Corridor being spearheaded by the Willistown Conservation Trust ("Trust"). This Connector Trail will link the following destinations: The Trust's Kirkwood Preserve, the Trust's Rushton Woods Preserve, Willistown Township's Okehocking Preserve, and the Trust's Ashbridge Preserve in East Goshen Township. This proposed corridor will also link into the greater Willistown trail network.

- **CONNECTOR PATHS:** A type of informal foot path that provides a means of close radius inner-neighborhood connections in the more densely developed residential areas of the Township. These trails are not currently documented, but provide a significant service to Willistown residents.

- **BIKEWAY:** A type of trail corridor designed primarily for bicycle traffic. Bikeways may serve transportation and/or recreational functions. Except where a designated bikeway route is contained within a road cartway or road shoulder, bikeways shall exclude all motorized vehicles except motorized wheel chairs or as authorized by the Township for maintenance, management, and emergency purposes.

- **OBSTACLES:** Any type of hindrance to safe or general progress along a designated trail. Obstructions include stream crossings; road crossings where speed is a safety factor, road crossings where site distances are a factor, road crossings that do not have any traffic regulation such as a stop sign or traffic light; bridges; lack of right-of-way; steep slopes; etc. (see Maps 6 and 13 for existing and potential obstacles).



Additional Considerations for Future Park and Recreation Planning

- Ensure that existing recreational lands are adequately developed to provide opportunities for various recreational activities. For example, a non-profit organization, the Okehocking Nature Center Board, has been formed and is working to improve access, parking, utility and pavilion infrastructure at Okehocking Preserve. Other like organizations should be considered for other facilities in the future. Furthermore, the Township should ensure that existing lands are developed to meet specific population-based needs. For example, the Township has been approached by residents and local organizations to consider 5-12 year old age appropriate play sets at Greentree Park.
- Ensure that all community recreational facilities and trails are developed in conformance with requirements of the Americans with Disabilities Act, aiming to maximize recreation access for handicapped individuals.
- Consider undertaking a Township-wide trail plan. Suggested components of the plan include:
 - Trail planning and implementation, with funding options.
 - Identification of a trail network that integrates design, construction and graphic features and creates an identifiable sense of continuity and journey for the user.
- A comprehensive inventory of known trails, with notations as to restrictions of use or access of any kind (such inventory would be intended to remain a working tool for planning purposes and not an item for broad public circulation).
- Designation of major arterial trails including incomplete sections or other desired links.
- Designation of local trails to which access may be restricted to local or Township residents, including incomplete sections and other desired links.
- Creation of a right-of-way map identifying different widths of rights-of-way on all roads within the Township; gather information on permitted usage from Township and PENNDOT codes and regulations.
- Suggested recommendations for updating the Parks and Recreation Code as necessary to further Township trail establishment efforts.
- Options for updating trail design standards to the Subdivision and Land Development Ordinance (S/LDO) that reflect intended users and locations.
- Utilize and update Maps 6 and 13 as necessary to facilitate additional trail planning efforts.
- Re-examine appropriate roles for the Township and others regarding trail ownership, maintenance, and monitoring obligations.

- Further consider trail connection needs and prioritize trail connection and construction projects; create implementation plan.

- Develop community outreach and education plan; develop rules and regulations for trail use and institute a trail safety plan in cooperation with the Willistown Township Police Department.

- Make provisions for the refinement of plan recommendations as Township priorities and needs change.

- Consider future staff needs for park and recreation activities, including the role of other Township departments for park maintenance, security and programming. Note: In recent years the Township hired a full-time Director of Parks and Recreation and part time assistant (2004 and 2006, respectively); not coincidentally, both positions are consistent with a recommendation of the 1997 Comprehensive Plan that the Township create recreation staff responsibilities as its park network expanded.

- Continue to implement the Okehocking Preserve Management Plan and revise and update the plan as necessary over time.

- Develop a regular park maintenance program and periodically update the program as new facilities come on line. Note: This recommendation, which also was contained in the 1997 plan, may necessitate the need for additional involvement by the Public Works Department, which currently has limited ability to address park maintenance issues.

- Update the Parks and Recreation Code and any other pertinent Township Codes as needed to support maintenance and management of the park system.

- Continue to maintain and improve all current modes of communication with the public and employ new modes as they are developed. Current communications and outreach to Willistown residents involves the Township newsletter, www.willstown-parks.org website, memo boards, libraries, and school newsletters, among others. Continue outreach to and solicit feedback from Township residents about their park and recreation system and program offerings.

- Continue to build strong volunteer support for the Township's park and recreation assets and develop a volunteer data base.

- Maintain and encourage an active Parks and Recreation Board.

- Evaluate and consider alternative funding mechanisms for Township parks and recreation. Recreational improvements and programming are fundable through the Township's general fund, dedicated millage, transfer tax monies, short term loans, bonded indebtedness, or funds assessed of new residential development as fees-in-lieu of recreation land and/or amenities. Continue monitoring fees for field use and pavilion rentals so they are competitive giving discounted fee consideration to Willistown residents. Continue to operate existing summer camps that are fee funded at no cost to the Township. Continue to offer free public events on a periodic nature; such events have been highly successful and have required only modest funding (currently six such events are funded).

- Continue to work within the parks and recreation budget as approved by the Board of Supervisors.



Appendix 8:

A SELECTION OF FUNDING PROGRAMS CURRENTLY AVAILABLE FOR PLAN IMPLEMENTATION

Given the planning horizon for this comprehensive plan and the recognition that funding sources change and evolve over time, this appendix is intended as a sampling of the types of funding programs currently available. By nature, no such list can be exhaustive, nor are they intended to be; rather, they are intended to acknowledge the type of funding opportunities available and the potential for shared opportunities for plan implementation.

The state of the economy at the time of plan adoption provides challenges to direct funding of implementation efforts. While several funding options may not exist throughout the life of this plan, other funding programs may be created for similar purposes.

Examples of funding options currently available include:

| Funding Source | Funding Agency | Funding Program Name |
|-----------------|---|--|
| FEDERAL | HUD (in close cooperation with EPA and DOT) | Sustainable Communities Planning Grants |
| STATE | PA DCED | Land Use and Technical Assistance Program (LUPTAP) |
| | PA DCNR, Community Conservation Partnerships Program (C2P2) | Community Recreation and Conservation |
| | | Pennsylvania Recreational Trails |
| | | Rails-to-Trails |
| | | Rivers Conservation |
| | | Technical Assistance |
| | PA | Agricultural Lands Preservation |
| REGIONAL | Delaware Valley Regional Planning Commission (DVRPC) | Efficient Growth for Growing Suburbs (EGGS) and Transportation and Community Development Initiative (TCDI) |
| COUNTY | Chester County Planning Commission | Vision Partnership Program (VPP) |
| | Chester County | Open Space Funding |
| | Chester County | Energy and Community Development Block Grants |
| | Chester County | Agricultural Lands Preservation |
| OTHER | PECO | Green Region |
| | Local and Regional Foundations | Planning, Acquisition and Construction Grants |

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