



## ***Principle 3***

### **BUILD AND MAINTAIN A LIVABLE COMMUNITY WITH ADEQUATE SERVICES AND FACILITIES**

*Adequate community services and facilities such as police protection and schools and amenities such as parks are important community assets that should be provided.*

Community services and facilities are often what attract new residents to a community like Warwick Township. The respondents to the community questionnaire said that the school system is an important part to living in the Township. In addition, police, fire, and EMS services are a priority in addition to the maintenance of Township roads. Some community facilities and services are provided by the township. Other services are provided by private contractors, by non-profit organizations, or by other levels of government.

#### **Community Facilities and Services Provided By The Township**

The focus of this plan is on those services provided by the township and those over which the township has some control. These are:

- Police protection
- Township administration
- Public works - maintenance of streets and public facilities
- Stormwater management
- Parks and recreation
- Code Enforcement
- Land Use Planning

Other important community services and facilities needed to make Warwick a good community to live in are: emergency services (ambulance and fire), schools, solid waste disposal, health care facilities, and utilities. Although, the township may have a role by providing financial support, governmental cooperation, or licenses, these services are provided by others. The township has no direct responsibility for some community facilities and services, but land use planning and zoning will have an impact on the location and extent of many services.

## Police Protection

The township police department has offices in the rear of the township administration building at 1733 Township Green. The township offers Quick Response Service which involves first responder training for officers. The department cooperates with other police departments in the Central Bucks Special Response Team which has special responsibilities and training.

Forces affecting the department are population increases, new demands from more traffic and more commercial development, budget, the judicial process, and loss of federal funding.

The number of calls increases gradually every year and places increasing demands upon the department. A continued emphasis on Homeland Security, school safety, and state requirements have placed greater attention on public safety, requiring additional training and funding for training.

### Special Response Team (SRT)

The SRT operates in cooperation with approximately 19 police departments and the Bucks County Department of Corrections. The SRT provides specially trained tactical officers, a negotiation team as well as support and command staff for high-risk police operations. Funding for SRT is a shared expense among the participating municipalities. The unit has been utilized throughout the region.

### Crime Scene Unit

The same municipalities that participate in SRT formed this unit to respond to major crime scenes. The officers assigned to this unit have special skills and training in processing crime scenes and collection of evidence. This unit will be funded through shared expense among participating municipalities. The unit has been utilized throughout the region.

### **Drug Enforcement Unit (DEU)**

The DEU is comprised of officers with special training and experience in narcotics enforcement. Officers assigned to DEU are sworn as Special Bucks County Detectives to allow them to cross jurisdictional boundaries. Warwick DEU works in cooperation with the Bucks County District Attorney's Office and other state, federal, and local DEUs. Funding for DEU is through the District Attorney's Narcotics Forfeiture Fund.

### **Township Administration**

The township administration supervises the operations of township government. The administration building is located at 1733 Township Greene and was dedicated in 1997. Township administration has adequate space and staff, although the township's population growth may create demands for additional staff, which in turn may create demand for more space in the future. The administration needs are reviewed yearly to assure that residents receive a high level of service. The administration building is sufficient for current operation. Future needs will be assessed as required.

## **Land Use Planning**

The Township employs a Director of Planning & Zoning and a Zoning Officer to ensure proper use and occupancy of property within the Township. These individuals are tasked with ensuring compliance and enforcing the Township Zoning and Subdivision/Land Development Ordinances.

## **Code Enforcement**

The Township employs a Code Enforcement officer who is responsible for ensuring compliance with and enforcing national, state and local laws, ordinances and codes. The Code Enforcement Officer performs field inspections of buildings, structures and property. When infractions are found, this individual issues notices and proceeds in court when applicable.

## **Public Works**

The Public Works Department, located at 2045 Guinea Lane, employs staff including a director, roadmaster, administrative assistant, and staff who is responsible for maintenance of roads, stormwater management facilities, open space, township buildings and parks. The number has been increasing due to the number of streets within residential subdivisions dedicated to the Township. This department also spends time responding to resident complaints associated with roads and drainage.



## **Parks and Recreation Department**

The Park and Recreation department develops year-round recreation programs for all ages, preserves open space, maintains parks, and plans for parks and recreation. The department administers programs all year including a summer camp and trips as well as special events through the year. Trips are offered jointly with Doylestown Township to maximize use of transportation. The department also oversees six township parks, which are maintained by the parks maintenance staff with assistance from the Public Works department when needed.

Programs are offered at many facilities used for recreation: the two community rooms in the Township building, the pavilions and fields at Community Park, the ballfield at Hidden Pond Park and facilities in Guinea Lane Park. The demands for the services and facilities increased due to population increases and a desire for recreation close to home. Creative arrangements with the school district have made Bridge Valley Elementary School indoor space available for recreation activities. The Township utilizes gym space during the school year to provide recreation programs and has exclusive summer use of the gym and cafeteria for its Day Camp.

## **Stormwater Management**

Warwick has adopted a stormwater management ordinance in accordance with recent DEP requirements. New development must manage stormwater in accordance with these plans and township ordinances. Stormwater from the one-year storm must be detained for 24 hours to protect water quality, as well as controlling quantities of discharge, in the Neshaminy Creek and the Little Neshaminy Creeks. Stormwater runoff beyond the one-year storm may be released at different rates based on the location of a site within the watershed. Release rates vary for sites according to the existing hydrologic conditions, proximity to existing flood control structures, and streams, and need to protect downstream areas.

Portions of the township were developed prior to adoption of these plans and mandated ordinances. Stormwater in older areas is channeled into storm sewers and directly into streams. Controlling runoff from older areas is a problem facing many communities.

The design of stormwater facilities is changing, as the older basins with concrete channels and mowed grass have proved to be costly and ineffective. Alternative designs and maintenance regimens will be part of the stormwater planning and ordinance updates that are mandated by the state. Some communities including Warwick have undertaken retrofits of older basins to naturalize them and make older basins more functional.

## **National Pollution Discharge Elimination System**

The National Pollutant Discharge Elimination System (NPDES) is a federal mandate created as an outgrowth of the Federal Clean Water Act (1972), which establishes local regulations to reduce pollutants in waterways. The purpose of the program is to reduce pollution, promote and require better stormwater management, and educate the public about water pollution.

To comply with federal laws, the township will require emphasis on infiltration, maintenance and long-term integrity of stormwater facilities, and township oversight of the stormwater system.

## Services and Facilities Provided By Other Organizations

### Fire Protection

The Warwick Company's station is located at 2390 York Road and its intersection with Mill Road. A new facility was built and dedicated in 2013. Primary fire protection service for the township and parts of Buckingham Township are provided. The Hartsville Fire Company in adjacent Warminster Township assists with coverage to the southern corner of Warwick. The staff is all volunteer. The township levies a tax to help support fire protection efforts. In 2018, the Township gave WFC an interest-free loan to replace their bank mortgage. This affords the WFC with more funds to dedicate to fire prevention services and member recruitment.

The company has active firefighters adequate for current demand. Attrition of existing staff, fewer new volunteers willing to undergo extensive training, and the inability to offer time away from family and work leave squads with fewer qualified people. Many residents work outside the township and cannot provide assistance during the workday.

New equipment and a steady supply of volunteers may be needed to meet fire protection demands. The fire company faces staffing issues due to declining numbers of volunteers. The township has supported firefighting by allowing and training public works employees to answer calls during the day. Additionally, the Township contributes annually to a retention and recruitment incentive program.

A fire study was completed in 2016. Future firefighting needs continue to be addressed in the region, as declining volunteers and competition for funding present problems for communities such as Warwick and its neighbors.

## Ambulance Service

Beginning in June, 2016, Warwick Township has arranged for an ALS/BLS (paramedic) ambulance to be stationed within the Township. The Township now owns an EMS station on Meyer Way. The station has one bay for an ambulance, and living quarters for a crew of two. The ambulance is staffed 24/7 with a crew from Central Bucks Emergency Medical Services (CB EMS). Despite steadily increasing demands, CB EMS has been able to maintain response times to medical emergencies well below the Bucks County average. Since opening, average response times in Warwick have been reduced by over one minute.

## Schools

The Central Bucks School District, which serves Warrington, Warwick, Doylestown, Plumstead, Buckingham and New Britain townships and the boroughs of Doylestown, New Britain and Chalfont, had a 2017 enrollment of 18,205. Schools in Warwick are Warwick, Jamison, and Bridge Valley elementary schools. The Middle Bucks Institute of Technology is located on York Road.

A fee agreement exists between the school district and township so athletic facilities may be used for township purposes. The township and Bridge Valley Elementary School have an agreement that allows the township to use the recreational facilities of the school.

## **Middle Bucks Institute of Technology (MBIT)**

Middle Bucks Institute of Technology is a career and technical high school that provides training in medical & health professions, automotive technology, culinary arts, welding, engineering, public safety, construction trades, web design and multimedia to students from Centennial, Central Bucks, Council Rock, and New-Hope Solebury School Districts. Adult Education courses are offered during both the fall and spring semesters in evenings.

There are no private elementary or secondary schools in Warwick. Private schools, both religious and secular are located in nearby communities.

The Central Bucks School District and MBIT have facilities that may be used for resident activities in coordination with the township. Off-hours use is an effective use of school facilities and taxpayer dollars, and continued coordination between the township and school district is important to ensure effective decisions on locations and meeting future facility needs.

## **Water and Wastewater**

Much of Warwick Township is served by public water and wastewater disposal facilities. The Warwick Township Water and Sewer Authority provide the Township with drinking water and wastewater disposal. The Authority's office is located on the 3<sup>rd</sup> floor at 1733 Township Green above the administration offices. The day-to-day operations are overseen by the executive director who reports to a Board of Directors. Staff is maintained to meet operational demands. The authority is incorporated by the Commonwealth of Pennsylvania under the Municipal Authorities Act, and members of the Board of Directors are appointed to staggered five-year terms by the Warwick Township Board of Supervisors.

## Water Treatment

The authority used groundwater to meet the needs for drinking water for its public water system until 1998. Use of groundwater was discontinued due to costs associated with treatment and concerns about withdrawals exceeding replenishment. The authority has since established long-term contracts with Aqua Pennsylvania, Inc. a publicly-traded water utility, and North Wales Water Authority, a municipal authority, to provide potable water to the Authority for its customers. Both utilities primarily use surface water treated at state-of-the-art treatment facilities which enables the Warwick Township Water and Sewer Authority to have a redundant supply of water that is safe and abundant for future growth in the Township.

Land use planning should take into account protection of groundwater resources for private and commercial wells. Potential pollutants should be kept away from wellheads, and standards for high-risk uses such as gasoline stations should be incorporated into township ordinances. Devices to mitigate spill risk may also be required.

## Wastewater Disposal and Sewage Facilities Planning

The Authority operates two wastewater treatment plants. Sewage flows from the northern part of the Township are treated at a plant on Deer Run Drive adjacent to the Bucks County Country Club known as the Fish Creek Treatment Plant, which first received sewage flow in 1998.

The sewage flows from the southern corner of the township are treated at the Country Crossing Treatment plant on Mearns Road, which was established in 1999.

Both facilities have been upgraded several times to meet ever increasing regulatory standards and clean streams laws.

Townships are required to have a Sewage Facilities Plan, in accordance with Act 537. Land use planning regulations fall under the authority of a different state law, Act 247. Municipalities should make sound land use decisions about density and location of development, based on a broad list of planning factors, such as natural features, neighborhood

character, transportation considerations, and overall development intensity, and then support those decisions with a consistent sewage facilities plan.

The Township Act 537 Sewage Facilities Plan is currently under review for consistency with current Township land use policy and revised as needed. The plan is tentatively scheduled for approval in 2019.

In 2011, Warwick Township adopted the on-lot sewage maintenance ordinance to ensure basic maintenance of on-lot septic systems in the Township. Septic tanks must be pumped at intervals not to exceed three years. Residents only need to register for the program one time but they will be notified every three years in reference to pumping their tank. Pumping their tank regularly will greatly reduce the chance of accumulated solids escaping the tank and clogging other components especially the drainfield, which is the most critical component of most septic systems. In addition, pumping the tank regularly will prolong the life on any on-lot system. The program is currently in its 8th year with each phase having completed 2 cycles. The Township has achieved 100% compliance with each phase so far.

## **Residential Sprinklers**

Due to a rapid residential fire, which resulted in a total loss, the Township officials adopted the residential sprinkler ordinance in 1999. Present day, most of the 2,500+ homes in Warwick Township with residential sprinklers use water from the municipal water system. Approximately 40 homes used water stored in tanks in the basement to supply 10 minutes of water to a maximum of two operating sprinkler heads. All systems are designed and installed in accordance with NFPA 13D. Sprinkler systems are designed to give the occupants 10 minutes to escape. In reality, 98% of fires in homes with an operating sprinkler are extinguished with one sprinkler head, limiting damage to the home and saving lives.

Residential sprinkler systems have become a requirement of the International Residential Code since 2009, but have been limited by legislative action in Pennsylvania to only new townhomes. With these limited requirements, many cities and municipalities have a local ordinance requirement like Warwick Township.

After installing sprinkler systems for 20+ years, Warwick Township, in conjunction with their Use & Occupancy Ordinance requiring the upgrade of smoke detectors, is at the pinnacle of residential fire safety.

## **Solid Waste Management**

Most of the property owners and business owners in the township contract directly with private haulers to collect, transport and dispose of their solid waste. The three public elementary schools in Warwick and the Middle Bucks Institute of Technology recycle. Depending upon the hauler, municipal waste collected in Warwick Township may be disposed of directly into a landfill or waste-to-energy facility in the region or it may be delivered to a transfer station in Bucks or Montgomery counties.

Warwick Township has an operating mulching facility within its borders that is, at least in part, affiliated with the township. The facility, which is operated on the Warwick Grinders farm, accepts yardwaste from Warwick Township residents and landscapers in the region to make into mulch.



## **Parks, Recreation, and Open Space Planning**

The provision of community recreational facilities is recognized as an important function of local government. Most people spend a significant portion of their recreation time close to where they live or work. Open space, including parkland, is shown on the Warwick Township Open Space Map.

### **Township Parks**

The township has many parks to provide for active or passive recreation. The township's parks, shown on the next page, have a variety of sizes, functions, and service areas.

The Township has also facilitated or constructed trails and walkways, an important part of an overall recreation program designed to serve all age groups and activity interests.

### **Bucks County Parks—Dark Hollow**

Bucks County owns land along the Neshaminy Creek north of Dark Hollow Road. The site is a county park land and contains about 400 acres in Warwick, with access for fishing and passive recreation. The park is designated as part of a "link park" which would stretch between Peace Valley Park and Tyler State Park.

## Park and Recreation Planning

The *Warwick Township Recreation, Park, and Open Space Plan 2007* identifies park and recreation needs for the township. This plan will be updated as needed and incorporated into this Comprehensive Plan by reference.

### **Township Parks in Warwick**

#### **Warwick Community Park - 1733 Township Greene**

- Three multipurpose fields  
(Soccer/Lacrosse)
- Two Basketball Courts with lights
- Playground
- Spray pole
- Fitness equipment
- Two pavilions, one with bathrooms
- Hockey rink
- Walking trails

#### **Guinea Lane Park - 2045 Guinea Lane**

- Seven Baseball Fields
- Playground
- Six pickleball courts
- One tennis court
- Pavilion
- One basketball court
- Walking trails
- Pond

## Park and Recreation Planning

### **Township Parks in Warwick**

#### **Hampton Chase Park - Corner of Dark Hollow Road and Almshouse Road**

- Two softball fields
- One multipurpose field  
(Soccer/Lacrosse)
- Pavilion
- Playground
- Walking trails
- Pond

#### **Hidden Pond Park - Corner of Longpond Drive & West Fernbrook Drive**

- One Baseball Field (used for soccer as well)
- Playground
- One basketball court
- Playground
- Walking trails
- Pond

#### **Jamison Hunt Park - West Rockspray Road near Dogwood Drive**

- Playground
- Three tennis courts
- One basketball court
- Walking trails

#### **Moland House Historic Park - 1641 Old York Road**

The Warwick Historical Society is responsible for maintaining the house, property, walking paths, and historical tours

#### **Memorial Park—1200 Memorial Drive**

- Playground
- Safety Town
- Pavilion
- Walking Paths

#### **The Township owns two small play areas that are located with developments:**

- Creekwood Development—Small Tot Lot
- Warwick Green Development—Small Tot Lot

## Land Use Regulations for Parks, Recreation, and Open Space

The Township Zoning Ordinance requires all major subdivisions and land developments, as identified in the Subdivision and Land Development Ordinance, to provide common open space. Generally, 20 percent of the base site area is to be preserved as common open space, unless otherwise specified. The area shall not contain any more than 70% of the natural resource protected land.

The Zoning Ordinance also requires active open space which is defined as land suitable for active recreation. Generally speaking, a minimum of 2.5 acres is required for major residential subdivisions and land developments unless otherwise specified.

Since the Park and Recreation Plan was adopted in 2007, the township has accepted donations of land from developers and acquired new parks. The updated Recreation, Park and Open Space Plan provides an analysis of the needs for parks and recreation to serve the needs of residents of all ages and interests.

## Open Space Planning

The *Warwick Township Open Space Plan 1999, updated in the Warwick Township Recreation, Park, and Open Space Plan 2007*, was adopted to provide the foundation for a township open space program and to secure funding from the Bucks County Open Space program. The township's efforts in open space planning have focused on preservation of farmland and natural areas, primarily along the Rushland Road corridor where large farms remain and where the land slopes dramatically toward the Forks of the Neshaminy. The combination of farmland and wooded hillsides create a landscape that has been the focal point for both local and regional open space preservation efforts.

The 52-acre property formerly known as the Ritter Farm on Rushland Road was preserved through the Bucks County Agricultural Land Preservation Program, funded by county and state grants. Warwick Township used its Bucks County Open Space grant money to preserve, through conservation easement, three other properties totaling 71 acres. The preservation of these farms conserves the land for food production and scenic views and helps retain Warwick's agricultural heritage.

The Township's own open space funding has been used to acquire easements on several large properties in the Forks of the Neshaminy area, through the use of conservation easements. The Heritage Conservancy has secured easements on other lands, contributing to significant preservation of the Forks area.

## **Future Park, Recreation and Open Space Planning**

Preservation of open space has proven to be an effective tool in managing growth, protecting valuable resources, preserving land for farming, and reducing municipal and school costs. The cost of preservation is less than the cost of providing services and facilities for new development. The township has preserved about 490 acres of open space using township and county funding, taking advantage of its full allocation of county open space funds as well as the township open space bond.

The 2007 Recreation, Park, and Open Space Plan sets goals and makes specific recommendations for action steps to meet future needs.

## Recommendations for Park, Recreation and Open Space Planning

- Continue participation in conservation programs and partnerships, taking advantage of available funding and township dollars, to preserve key portions of important open space.
- Ensure that Township ordinances protect natural resource corridors and environmentally sensitive lands.
- Expand the township-wide trails system.
- Require construction of paths as part of the development process.
- Establish greenways along stream corridors such as the Neshaminy and Little Neshaminy creeks and establish trails to connect neighborhoods.
- Require open space per ordinance during the land development process.

Source: Bucks County Planning Commission. (2007) *Warwick Township: Comprehensive Plan Update 2007*, Doylestown, PA.

## Principle 4

### ENSURE THE ECONOMIC VITALITY OF THE COMMUNITY

*To maintain and enhance Warwick's economic vitality, the township should have businesses and industries that provide jobs and tax revenue to support public services and the quality of community life. Good land use planning can direct nonresidential development to areas where it makes sense.*



#### Local Businesses

The township land use patterns affect businesses and their ability to thrive in local markets. By selecting suitable areas for retail, service, and industrial development, the township's plan can help build the economic capacity of a local area and sustain its economic future and the quality of life.

The township can shape development in nonresidential areas to meet the needs of township residents and to assist with the tax base by setting proper zoning regulations.

Economic and business development should be limited to areas so designated on the future land use plan. Types of businesses should be those that serve Warwick communities and the immediate surrounding area, as opposed to larger retail stores with a regional draw. The decline of retail developments a few miles from Warwick is a caution against overzoning for retail and service use. Other community goals of appropriate scale and appearance should become part of the economic development program, so that establishments fit into the community.

Items to consider include the following:

## Recommendations for Local Business Development

- Limit areas designated for nonresidential, business uses.
- Encourage community-scale development, not regional development.
- Incorporate scale and aesthetic standards into township regulations.
- Explore sponsorship opportunities to promote local businesses.

## Township Finance and Management

### Township Finances and Budgeting

Township finances are linked to planning and development in several ways. Population growth creates demands for additional services and facilities, and township finances must keep pace to meet needs. The comprehensive plan recommends expenditures for certain improvements. As the pace of development changes, income from revenue sources changes. Communities at the peak of development gain revenue from transfer taxes and permit fees, sources that dwindle as development slows.

### Township Revenues

Warwick Township's general fund is the principal operating fund of the township. General fund revenues come from the earned income, real estate tax, and real estate transfer taxes. The levying of the earned income tax has shifted the tax burden away from real property tax.

The township tax burden is a small percentage of the overall tax burden for township residents. More than three-fourths of taxes go to the Central Bucks School District, with a much smaller percentage going to the County of Bucks. Warwick Township receives the smallest share of total taxes paid.



## Township Expenditures

Township general fund expenditures fall into the following general categories: general administration, building maintenance, public safety, zoning and subdivision administration, public works, miscellaneous expenditures, and capital projects.

The largest expenses in suburban communities such as Warwick are police protection and road maintenance. Factors causing increases in this area include costs of personnel, benefits, insurance, contracts, construction materials, equipment, and the need to expand services as population and traffic increase.

## Future Trends in Municipal Revenues and Expenses

As the township becomes more developed, changes can be expected in both revenues and expenditures. Below is a summary of changes that can be expected.

### Revenues

Township revenues will grow in the short term due to new development fees and enhanced property assessments. These developments need services, and real estate and wage taxes may not increase enough to cover the new costs. Specific revenues include:

**Earned Income Tax**-Revenues from the earned income tax will continue to increase as residential growth increases.

## Revenues

**Real Property Tax**-Revenues from the real property tax will rise as the total assessed value of property rises through new construction, rehabilitation, and renovation of older structures. New activity will be assessed at current rates.

**Real Estate Transfer Tax**-Revenue from transfer taxes will grow according to the pace of development in the township. The greater the number of transfers, the more revenue from this tax can be expected. Because the tax also applies to any transfer, there will be a certain amount of revenue generated by people moving out and moving in.

**Licenses and Permits**-Permits used to pay for the inspection of construction will rise and fall with the level of construction and development. Other license fees, such as the cable television franchise license, will decrease as residents move away from cable and embrace streaming. The township charges a fee based on a percentage of the units served.

**Fines and Fees**-Fees used to pay for the processing of land development applications will rise and fall with the level of development but are designed to cover the costs of processing, not to generate revenue.

## Expenditures

The township's expenditures will change over time as more residents and development create greater demand for public services. Aging facilities will require more frequent repair or outright replacement. Specific expenditures include:

**Public Safety**-Expenses due to public safety will increase as the township's nonresidential development continues to grow, as there are more opportunities for interpersonal conflicts and traffic violations.

**Public Works**-Public works expenses will increase with the township's efforts to construct additional infrastructure to serve new development. Roads will continue to wear and improvements will be needed to reduce intersection conflicts and manage congestion.

**General Administration**-General administration costs will rise if there is a need to hire new staff to administer the functions of the local government.

**Licenses and Inspections**-License and inspection costs will rise according to the pace of growth and development in the township and the aging of dwellings and other structures.

**Unfunded State & Federal Mandates**-Unfunded mandates increase township expenditures in order to comply. By example, the MS4 compliance. The township can consider a stormwater management tax to assist in compliance.

The township can benefit from the experiences of more developed townships by (1) considering the impact of development and changes in zoning on the township finances and (2) not relying on the temporary income of rapid development to fund expenses that are on-going and which will continue when development slows.

Source: Bucks County Planning Commission. (2007) *Warwick Township: Comprehensive Plan Update 2007*, Doylestown, PA.

## *Principle 5*

### **CONSERVE WARWICK'S NATURAL AND CULTURAL RESOURCES**



*Successful communities identify the areas that are most important to protect—such as farmland forests, streams, scenic views or historic structures—and guide growth into areas better suited for development. Traditional landscapes and historic structures help define the township. Conservation of natural and cultural resources contributes to the township's character and community health.*

#### **Resource Protection Plan**

Development without concern for the natural limitations can be costly to residents and to the community and can result in losing valuable community amenities.

The Pennsylvania Municipalities Planning Code requires that comprehensive plans address the protection of natural resources including wetlands, woodlands, steep slopes, prime agricultural land and floodplains. Preserving natural resources should be central in considering the significant development opportunities in the township.

#### **Critical Natural Features**

Protecting important natural features means using the right land for development and using the land right. It means identifying areas where development makes sense, and setting rules for protection as part of development.

## Geology

Why is geology important to township planning? Geology affects future planning and land use decisions through impacts on water supply and topography and soil characteristics. Groundwater supply depends on geology, surface characteristics, water use, and seasonal precipitation.

The geology of the township has been documented in *Geology and Mineral Resources of Bucks County Pennsylvania* (1959) and is described as Lockatong and Stockton lithofacies and a small dike, or intrusion, of diabase. These formations have helped give shape to the topography of Warwick. The capacity of underground aquifers to transmit and store water is directly related to the specific physical and chemical properties of the underlying geology formation. The descriptions and water bearing characteristics of each formation in Warwick are described hereafter.

**Stockton**-This formation is made of red, gray, and brown sandstone interbedded with shale, and is found along the western and southern portions of the township. It is nonporous and moderately resistant to erosion and weathering. It is highly fractured and considered a reliable source of groundwater.

**Lockatong**-This formation is composed of argillite, a very hard gray stone, and underlies much of the township north of the Little Neshaminy Creek and provides a rolling plateau. A relatively deep and narrow valley has been eroded into this stone by the Neshaminy Creek which forms the township's eastern boundary. Storage areas within the fractures are generally small and often obstructed by the formation itself that weathers to a dense clay-like soil that fills joints and prevents water flow. The Lockatong formation has a low capacity to transmit and store water and is not a reliable source of groundwater.

**Diabase**-This formation consists of a dense erosion-resistant crystalline which is the primary rock type underlying the township's western edge. A ridge of diabase lies beneath a portion of the Mountainview subdivision. This diabase dike is composed of hardened magma that protruded into a crack in the softer Stockton formation. Most diabase is too dense and fractures too narrow to provide well water on a reliable scale.

## Topography

The township topography, formed by the erosion of underlying rock, is rolling with slopes generally less than 15 percent. Steeper slopes can be found along creeks where the water has eroded the surface. The highest elevation in Warwick is 380 feet above sea level in the western corner near Almshouse Road. The lowest point, at approximately 120 feet above sea level, is found along the Little Neshaminy Creek near Creek Road. Steep slopes greater than 20 percent exist as well.

Because of severe on and off-site impacts, development on steep slopes must be regulated through land use planning and performance standards to reduce erosion and flooding.

## Watersheds

The Neshaminy and Little Neshaminy creeks have eroded the land surface over time and divided the lands in Warwick into two primary watersheds that contribute to the township's topography. The northern half of the township is drained by the Neshaminy Creek which flows southeasterly and also drains much of Bucks County to the Delaware River. Fish and Dark Hollow creeks and several other unnamed tributaries flow into the Neshaminy Creek. The Little Neshaminy Creek flows to the east and drains the southernmost half of the township and enters the main branch of the Neshaminy Creek near the township's eastern corner.

## Soils

Soils characteristics can hinder or facilitate development. Soils that percolate quickly and absorb stormwater can support structures and are appropriate sites for development. Other soils drain slowly or due to their shallow depth may not be suitable for buildings with basements and cannot support the weight of structures. Consequences of construction on poor soils include wet basements and subsidence. Understanding soils is important to directing Warwick's future growth.

Warwick's soils are primarily silt loam soils created by the erosion of the underlying rock formations. The soils in Warwick have moderate to severe limitations for development. Some of the soils are suitable for on-site sewage disposal, found in the southeast corner of the township. These soils are also susceptible to seasonal flooding or high water. The lowland soils along the stream valleys are floodprone with high water tables and are generally unbuildable.

In the lowland areas near the Little Neshaminy and Neshaminy creeks, Warwick has good soils for farming. Brownsburg, Lansdale, and Lawrenceville soils are some of the soils considered prime agricultural Class I soils. Some of the upland soils found in Warwick, such as Croton, Penn Klinesville, and Readington are Class II and III and of state-wide importance for farming. Municipalities can preserve good

agricultural soils through zoning.

Soils are important to the planning process because they impact the level of development that may occur on a given site. Soil limitations need to be considered when construction is proposed in areas with wet soils, shallow water tables, or shallow depth to bedrock.

## Woodlands

Numerous stands of mature trees remain in the township. Many trees were cleared by early settlers to create fields for agriculture. Those that remain are found primarily along the stream corridors and on the steep slopes. Some of the oldest trees that remain are located on lands that have remained undeveloped and on the grounds of historic properties.

Woodlands play an important role in maintaining natural systems. Benefits to the environment include water and air purification, regional and local climate control, erosion control, open space, and habitat for wildlife. Preservation of forests is also important to community aesthetics. In the past, most of the township was farmed, and the remaining woodlands are primarily along the streams and other areas that were left undisturbed.



## Wetlands

Wetlands typically occur as bogs, marshes, and swamps. They are often saturated lands or areas that display a seasonal high water table. Some of the wetlands in Warwick Township are found along streams or creeks. Even in built-out and urbanized areas, wetlands are important because they help to improve water quality by filtering toxins, and they assist with groundwater recharge. They serve as natural retention basins for stormwater. After storm events, the slow release of stormwater from wetlands helps to reduce the amount of flooding of surrounding areas. They also serve as wildlife habitat.

Wetlands are identified by one or more of the three following indicators: soil type, wetland vegetation, and hydrology, all of which are evidenced by soil saturation and drainage characteristics. Wet and hydric soils in the township include Bowmansville-Knauers, Chalfont, and Doylestown soils. Wetlands are found throughout the township in concert with streams and ponds. Wetland areas (larger than 2 acres in size) are found in the township along the Little Neshaminy and Neshaminy and Fish creeks. A tributary to the Little Neshaminy Creek which parallels Mearns Road also contains significant wetlands. Some smaller wetlands are farm ponds that are presently open water or are being filled in by vegetation. The wetlands over two acres in the township are shown in the Hydrogeologic Resources figure.

Wetlands are regulated by the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection (PADEP) under the Federal Clean Water Act and various state laws. The Corps requires a permit to fill wetlands greater than one acre in size. State and/or federal agencies which permit wetlands disturbance may require that the loss of wetlands be mitigated by the creation of wetland areas elsewhere. Disturbance of areas near wetlands can affect the hydrology and diminish their value.

## Floodplains

Floodplains are areas adjoining streams that accommodate floodwater. Floodplains exist along the stream banks of the Neshaminy, Little Neshaminy creeks and many of their tributaries in Warwick. The floodplain, as mapped by the Federal Emergency Management Agency (FEMA), is defined by the 100-year or base flood which has a one percent chance of being equaled or exceeded in a given year. The floodplains are shown in the Hydrogeologic Resources figure.

Floodplain soils or alluvial soils indicate where flooding has occurred in the past. These soils are composed of a mix of other soil types that have eroded from the land and deposited along stream beds by stormwater.

Warwick participates in the FEMA National Flood Insurance Program which allows township residents who have homes in the floodplain to obtain federally backed flood insurance. The township has agreed to designate the floodplain and restrict development within its boundaries. Warwick is a member of the distinguished FEMA Community Rating System (CRS), which gives residents a discount in their annual flood insurance premium

## Water Quantity and Quality

The water quality of streams is affected by runoff from a developing community. Nonpoint source pollutants from stormwater runoff include gasoline, motor oil, and road salt on paved surfaces. Runoff from residential yard surfaces contains herbicides, pesticides, and fertilizers.

Construction sites contribute to stream pollution by erosion and sedimentation carried in runoff washing into storm drains. The runoff transports suspended solids and toxins that may harm organic and aquatic life in streams as well as polluting groundwater. Sediments can accumulate and clog storm drains, stream channels, and flood control dams. Controlling water quality of stormwater runoff and including remediation to address stream maintenance and stormwater

management systems are mandates of the state and federal government that the township must address.

Groundwater, like surface water in streams, is an important natural resource. Although Warwick uses surface water as a potable source for its public water system, it is important to protect groundwater as the backup source for this system as well as the primary source for households that use individual wells. Groundwater also provides for base stream flow during dry periods.

Groundwater contamination is costly to remediate and it is difficult to restore water quality.

Contamination of groundwater has occurred in several areas of the township due to failing on-lot sewage systems, leaking underground storage tanks, and industrial pollution. Provision of public sewer has solved some groundwater problems associated with sewage systems. Volatile organic compounds from underground tanks and industrial sites, which are being remediated at the site of contamination and by air strippers at wellheads, are being monitored by PaDEP.

## Policies, Planning, and Practices to Conserve and Protect Natural Resources

The best way to preserve and protect areas of critical natural features is to limit the encroachment in these areas. Existing township ordinances have performed well in conserving resources and minimizing the impacts to critical natural features from development.

The zoning ordinance restricts the disturbance of critical natural features from intrusion by development as follows:

Resource	Minimum Protection Standard	Maximum Intrusion Permitted
Prime Farmland	50%	50%
Flood Plains	100%	0%
Flood Plains Soil	100%	0%
Steep Slopes		
8 to 15%	60%	40%
15 to 25%	70%	30%
25% +	85%	15%
Woodlands	80%	20%
Env. Sensitive Woodlands	90%	10%
Others	60%	40%
Streams, Watercourses, Wetlands, Lakes & Ponds	100%*	0%
Wetland Margin	80%	20%
Lake or Pond Shorelines	80%	20%
Riparian Buffer	100%	0%

\*Except that roads and utilities may cross these features where design approval is obtained from the Township and PaDEP and where no other reasonable access is available.

The Stream Protection Area standards in the zoning ordinance prohibit alteration of the area within 25 feet of the centerline of an intermittent stream and 80 feet of a perennial stream. Where natural vegetation does not exist within the stream protection area, an applicant shall plant native species or allow reestablishment of native species through natural succession.

The zoning ordinance also contains a Riparian Corridor Conservation District which protects all streams and tributaries including perennial and intermittent streams leading to those streams. The corridor preserves vegetation along streams so that it may act to filter stormwater, shade streams and cool waters and fortify stream banks against erosion.

The riparian corridor extends 75 feet from the edge of an identified waterway. The corridor's two zones each have different standards based on proximity to the stream. Zone One, 25 feet from the waterway, permits nature preserve and passive recreation. Zone Two, which extends 50 feet from zone one, permits nature preserves and passive recreation, existing agricultural uses, and required yards. Among the uses prohibited are clear cutting of trees, storage of hazardous material, and paved surfaces such as roads and parking lots.

The zoning ordinance requires that trees be replaced when removal exceeds 20 percent. The township subdivision and land development ordinance also has tree protection standards which protect trees during construction.

The township subdivision and land development ordinance and stand-alone ordinances address soil erosion and sedimentation. Erosion and sedimentation control plans are required to be submitted for land developments, and the township coordinates review of the plans with the Bucks County Conservation District, which regulates erosion and sedimentation in accordance with Title 25 of the PaDEP rules and regulations. The subdivision and land development ordinance promotes general erosion and sedimentation control principles such as protecting and enhancing natural vegetation, stabilizing disturbed soils, trapping sediment until stabilization of soils, and requiring grading plans.

## **Bucks County Natural Resources Inventory**

The Bucks County Natural Areas Inventory indicates that the township has two unique resources: the Forks of the Neshaminy and Dark Hollow. These sites are of countywide and statewide significance due to their overall quality and diversity and importance of their resources. Dark Hollow extends just south of Mill Road to Dark Hollow Road. The park features steep forested slopes, rock outcrops, and floodplain forests, and wetlands. Many large trees and several locally rare plant species are found there.

The Forks of the Neshaminy is located along the Neshaminy Creek, between Mill Road and the intersection with the Little Neshaminy and along the Little Neshaminy between Grenoble Road and the intersection with the Neshaminy Creek. The site contains forested slopes and floodplains and contains unusually undisturbed creek valleys.

This plan recommends that these sites be protected and managed so that the quality and diversity of resources are preserved for future generations and for the functioning of the natural systems.

## **Future Protection/Conservation Needs**

Warwick Township should continue the protection of natural features through the current zoning and subdivision and land development regulations. In addition, the Township should work in conjunction with the County of Bucks and other non-profit organizations to promote and protect natural resources throughout the Township.

## Low Impact Development

The conversion of prime agricultural soils, erosion, clearing of woodlands, filling of wetlands, and improper land uses in sensitive floodplain areas are some of the principal negative impacts of development. The challenge for municipalities becomes how to plan and manage growth while preserving natural resources. One opportunity to help achieve this goal is the implementation of low-impact development (LID), an overarching approach to development that uses various land planning, design practices, and technologies to conserve and protect environmental resources.

Standard suburban-styled residential layouts are often based on maximum unit yield without regard to a site's natural features and environmental sensitivities. LID stresses the minimization of development impacts and site disturbances such as grading and tree removal and favors the preservation and utilization of a site's natural drainage system. A key component of the LID theory is for municipal officials and developers to work together during the initial planning process to identify resource protection opportunities that are inherently site-specific for each project. The LID approach should be considered the first step in resource protection, strengthening complementary ordinance regulations. Developers should be encouraged to use LID techniques by incorporating them into the subdivision and land development and zoning ordinances.

## Site Analysis and Resource Conservation Plan

Site Analysis and Resource Conservation Plan requirements combine elements from "standard" subdivision ordinance requirements with conservation design principles, both for natural resources and cultural features (i.e., historic resources). Such requirements do not affect the development potential of a site, but encourage better site planning essential to ensuring the preservation of natural resources while addressing potential biodiversity and habitat conservation.

The purpose of a site analysis and resource conservation plan is to ensure that all development occurs in a manner that respects the natural environment and the cultural features important to the site, the surrounding area, and the township. With such an analysis and plan, the applicant and township officials have a solid understanding of the conditions around the site that provide the context for the proposed development. It is used in conjunction with an environmental impact assessment (EIA), but unlike an EIA, it addresses how valuable resources are preserved, particularly those that relate to larger habitats and ecosystems, versus just indicating what impacts would result after the development is built. Impact assessment is required for land development and resource protection standards are in place in the zoning ordinance in Warwick Township.

An "existing resources" inventory is required to provide a comprehensive analysis of conditions on the proposed development site and areas within 500 feet, showing topography, natural drainage patterns, vegetative cover, soils and geology, historic buildings or sites, viewsheds/scenic views, pastureland and cropland, areas identified by the Pennsylvania Natural Diversity Inventory, solar access and orientation, and other features on and off the site. Narratives are provided to indicate ways the applicant will respect the existing valuable resources described in the site analysis.

The resource conservation plan requires that the layout of the lots or development occur so that the areas identified as being important in the site analysis are preserved and the areas of secondary importance are used for development. Limits on site disturbance, use of natural drainage patterns, preservation of historic areas and scenic views, preservation of solar access, protection of natural areas, and protection of groundwater resources are required considerations.

The requirements of the site analysis and resource conservation plan are supplemented by encouraging applicants to schedule preapplication meetings and site visits with the township officials before full-scale engineering work is started.



## **Waterway Planning**

Warwick shares waterways with Warminster, Doylestown, Buckingham, and Northampton townships. The Neshaminy and Little Neshaminy creeks provide a greenway for recreation and wildlife and drainage for stormwater. The township may coordinate activities for recreation and natural resource protection to enhance the function of the creeks in ways that will be greater than the sum of individual municipal actions. Linking this waterway as a continuous greenway will allow for recreation, wildlife, and natural resource enhancement. Coordinated activities such as riparian corridor plantings will benefit the individual site and the waterway throughout its length.

## **Recommendations Natural Features Protection**

- Maintain natural resource protection standards in zoning and subdivision and land development ordinances.
- Coordinate planning for the Little Neshaminy Corridor with Warminster and Northampton townships and the Neshaminy Creek with Doylestown and Buckingham townships.

## **Historic Resources in the Township**

Historic buildings contribute to the township character and vitality, and neglect or loss of historic buildings and structures is a threat to the identity of the township. The Pennsylvania Municipalities Planning Code requires that zoning ordinances protect historic resources.

## Individual Resources

A 1992 survey conducted by the Bucks County Conservancy created a list of properties with historic structures greater than 50 years old. The survey also evaluated the resources to determine their historic or architectural importance and potential eligibility for state or national historic registers. The properties are located throughout the township with several clustered in or near Hartsville and Jamison.

Two of the individual historic resources in Warwick are on the National Register of Historic Places due to their significance in the history of the nation: The Moland House, which served as the headquarters of George Washington and the Colonial Army from August 10 to August 23 of 1777, and the 1804 Eight Arch Stone Bridge which is the oldest standing structure of public architecture in Bucks County.

## Villages

The villages in Warwick are small and originally contained no more than a dozen buildings. Hartsville and Jamison retain identity and character due to the massing of the buildings and location on major arterials.

Hartsville lies in both Warminster and Warwick townships and is generally intact due to the construction of the York Road bypass around the village. The village can be traced back to the late 1700s and is named for Revolutionary War Colonel William Hart. The fieldstone structures and uses in the village are primarily residential, with some commercial uses.

Jamison is located at the intersection of York and Almshouse roads. Some of the original structures have been removed for new development. The remaining structures are generally built of wood and were constructed in the 1800s. The village is named after Henry Jamison who settled in Warwick in the early 1700s after emigrating from Ireland.

## Criteria for Listing on the National Register of Historic Places

The National Parks Service's standards for evaluating the significance of properties were developed to recognize the accomplishments of all peoples who have made a significant contribution to our country's history and heritage. The criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the National Register.

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and

- That are associated with events that have made a significant contribution to the broad patterns of our history; or,
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That has yielded or may likely to yield, information in prehistory or history.

Source: National Park Service

Landscaping, lighting, pavement, vehicular circulation patterns, speed limits, pedestrian circulation, and parking can help protect village character and identity in an increasingly suburban environment. Additional ways to set villages apart is to set standards for signs, architectural improvements, property maintenance and changes in use such as conversions and adaptive reuse.

## Locally Important Resources

In addition to the historically significant sites deemed eligible for listing on the National Register, resources of local importance exist in Warwick. The stone farmhouses that dot the landscape recall the township's agrarian past and contribute to the community character.

A county-owned farm north of Dark Hollow Road was once the North American headquarters of a political movement founded in the 1930s known as the Technocrats. The headquarters contained a library, as well as dental and medical facilities. The group drew followers from all over the U.S. and Canada to its annual meetings on the farm. This farm is part of the Dark Hollow Dam property owned by Bucks County.

The Bridge Valley Heights area on Sugar Bottom Road at York Road was a summer vacation spot that contained amusements such as swan boats on the Neshaminy Creek. Creeklyn along Valley Road was once a summer residence for notable Philadelphians. The Germinal Colony area on Almshouse Road was once a Jewish summer camp for those of Russian and German descent. The camp contained significant infrastructure improvements such as running water from a wooden water tower and a hospital. These summer communities consist of a grouping of structures which when considered as a whole, are more significant than the individual structures by themselves. The communities also provide us with the opportunity to observe remnants of the lives of past visitors and residents of the township.

Numerous archeological resources exist in the township. Evidence of Lenni Lenape villages along the stream valleys has been found in Warwick. The colonial regiments which camped near the Moland House also left behind remnants of their stay.

## Current Zoning and Planning Policies

The Pennsylvania Municipalities Planning Code acknowledges the importance of historic resources and requires that historic resources be protected through the zoning ordinance. Section 603.(G)(2) states that zoning ordinances shall provide protection of natural and historic features and resources.

The Warwick Township zoning ordinance does not specifically address historic resources. Resources are found in most zoning districts and are treated the same as other structures. The majority of the parcels in the Jamison village area are zoned C-1, C-2 and C-3 which permits a variety of commercial uses. Hartsville is zoned C-1 which permits commercial uses on lots of 10,000 square feet. These zoning districts require yard setbacks, and permit uses which may not be appropriate for the existing layout of buildings on the lots. Some of the structures in the villages are used for nonconforming single family residences.

## Future Needs

A particular challenge facing preservation efforts for Jamison is development of vacant parcels. New development should be similar in scale and appearance to preserve the character of the existing village. A plan for development of this village is discussed in *Principle 1: Protect the Character and Sense of Community of Warwick*.

In previous efforts, the township has focused on its most historically significant site, the Moland House. This resource has been preserved and the lands around it have been protected from intrusions. The focus should now be on other resources throughout the township and developing a history of life in the past. One example of this is to work to preserve the structures along Old York Road and the appearance of the corridor itself which was a major thoroughfare from Philadelphia to New York until the 1960s.

Protecting villages or collections of historic resources is important because the whole is greater than the sum of its parts. Villages show how a historic settlement pattern is structured and how building and structures relate to each other. The ensemble of buildings are as important as the individual structures themselves. Zoning can protect this pattern and set a standard that requires that any new development be sensitive to the existing context. For instance, in villages, buildings are set close to the road. Zoning provisions can establish a build to, or maximum building setback line, ensuring that the new structures will fit within the context of the existing buildings.

Design guidelines consist of recommended design options for alteration or rehabilitation of existing buildings and construction of new buildings. Guidelines are helpful for an effective heritage protection program whether or not the community contains any property listed on any historic register.

## Recommendations for Historic Resources

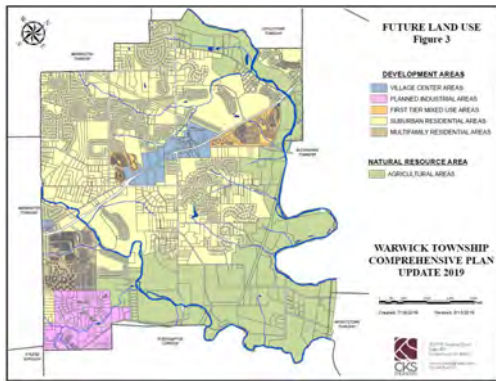
- Coordinate village planning efforts for Hartsville and improvements to the Old York Road corridor with Warminster Township.
- Adopt design guidelines for historic village of Hartsville in coordination with Warminster Township.

Source: Bucks County Planning Commission. (2007) *Warwick Township: Comprehensive Plan Update 2007*, Doylestown, PA.

# **IMPLEMENTATION:**

## **ACTION PLAN SUMMARY**





## IMPLEMENTATION: ACTION PLAN SUMMARY

The goal of this plan is to provide direction for the future. The principles and objectives provide the framework of the township's plan to achieve its goal. For each of the objectives, implementation strategies have been identified. The time frames are ongoing, short-term, medium-term and long-term. Ongoing efforts are those currently being undertaken and which should continue into the future. A short-term effort should continue soon after plan adoption. Medium-term efforts should start 3-5 years after plan adoption. Groundwork laid by short- and medium-term efforts must take place before many of the long-term efforts can be implemented 5-10 years after plan adoption. The recommendations are organized in a manner based on the five development principles and respective objectives in the Community Development Statement.

Each principle and its objective are complementary and interrelated. The policy espoused in each principle supports that of another principle. This interconnectedness ensures that action towards one principle will support other principles and minimize unnecessary implementation effort.

### Community Goal

Manage development to protect community character; preserve the natural environment and farmland; improve mobility; provide adequate township services and public facilities efficiently and equitably; and promote the economic and social well-being of the community.

## Principle 1: Protect the character and sense of community of Warwick

**Description:** Vibrant communities are attractive and sustainable and meet the community needs of residents. Warwick's history and character create the sense of community. New development should respect the township's character. The township should use standards to encourage attractive development and a strong sense of place. Warwick should do its best to ensure that new construction respects the community's local character. Thriving town centers are important because they serve as places where people of all ages come together for recreation and community interaction.

### Objectives

Preserve, maintain, and enhance the traditional character of the township while accommodating a reasonable level of new development.

### Recommendations of Action

Use zoning tools to protect open space and natural features. Require contiguous open space and strict adherence to ordinances.

Support accessory farm uses through land use policies, such as roadside stands for products sold on local farms.

Continue township farmland preservation efforts through acquisition of development rights.

Identify and establish special setbacks and treatment for rural roads. Designate and protect rural preservation roads.

Limit the area of commercially zoned land to what exists now; reject requests to expand retail commercial zoning except for small-scale neighborhood commercial areas serving residential developments.

As developable land decreases, ensure that ordinances promote compatible development and adequately address flag lots.

## Objectives

Accommodate township's share of regional population growth by permitting development of housing at a variety of densities, types, and sizes.

## Recommendations of Action

Provide for village commercial and residential uses in the Village Center, in accordance with the township's village study. Promote village development, town center, and downtown concepts.

Plan and create pedestrian, bicycle and vehicular connections between developments.

Support sustainable development and controlled growth by amending the zoning and subdivision ordinances and compliance with the 537 Plan.

Protect historic resources through zoning regulations: additional use opportunities; encourage preservation and reuse.

Establish lighting standards that are compatible with residential and nonresidential areas.

Maintain land use plan that accommodates future population growth through 2030.

Consider transfer of development rights as a preservation tool.

No new age-restricted housing zones.

Promote compact mixed use development that is conducive to pedestrian and bicycle travel, as well as alternative vehicles.

## Objectives

Make community improvements that bring people together and promote interaction. These improvements include sidewalks, bike paths, street interconnections among developments, and active recreation areas for organized activities.

Ensure that new growth in the township meets the planning principles.

## Recommendations of Action

Plan and create trails, pedestrian, bicycle, and vehicular connections between developments and through the township. Use the development process to establish a perimeter path along existing roads when new developments are approved.

Develop a plan for gateway and corridor improvements along York Road to improve the function and appearance of Jamison. Plan should reflect Township goal of "Greenscaping" York Road.

Work with business association and neighboring townships to promote and coordinate improvements to York Road corridor.

Recognize and support a heritage corridor incorporating Old York and Meetinghouse roads, Moland House, and Hartsville.

Provide buffers and special setbacks along reverse frontage lots to protect the view from roads.

Encourage mixed use development. Avoid waivers of land development requirements such as sidewalks and landscaping.

## Principle 2: Improve Mobility

**Description:** Improving mobility means providing more transportation choices, designing functional transportation facilities that complement community character as well as carrying traffic, and encouraging housing to be situated near work and community facilities. Warwick should continue to create a network of trails and sidewalks that can be used by pedestrians and cyclists. Warwick can make walking, cycling, or other alternate travel methods feasible and desirable by promoting paths, by encouraging a mix of land uses, and by making streets pedestrian and bicycle friendly.

### Objectives

Foster an efficient, comprehensive transportation system by protecting, maintaining, and improving the carrying capacity of the township's street network, and by expanding the options for travel within the township.

### Recommendations of Action

Incorporate land use considerations into transportation planning and ensure that transportation facilities have adequate capacity to meet demand.

Ensure that developers incorporate transportation improvements into land development projects.

Coordinate access points on York Road and consider reverse access in areas where redevelopment can occur.

Continue traffic calming steps within new developments.

Use an official map to provide for reverse access streets where appropriate.

Parking standards for nonconforming uses should be evaluated.

Where appropriate, spur and connector roads should be considered to disperse traffic.

## Objectives

Foster an efficient, comprehensive transportation system by protecting, maintaining, and improving the carrying capacity of the township's street network, and by expanding the options for travel within the township.

## Recommendations of Action

Preserve and create rights-of-way for bicycle and pedestrian use. Amend ordinances to use the development process to maximize the provision of paths and landscaping.

Make connections to existing trails when opportunities arise within and between developments.

Overall, walkability, bikeability, and interconnectivity are vital components of this plan. The Township should reject waivers for sidewalks for new developments.

In conjunction with resurfacing projects, bike lanes should be considered.

An overall Township sidewalk/trail plan should be considered to identify priority areas.

Walkability to the Township's commercial areas should be explored, including sidewalks on Almshouse Road.

Old York Road improvements and mobility should be coordinated with Warminster Township.

Infrastructure should be adequately maintained in accordance with a capital improvement program.

Traffic signals should be updated and coordinated. Specifications, including necessary equipment, should be established.

### Principle 3: Build and maintain a livable community with good services and facilities

**Description:** Adequate community services and facilities such as police protection and schools and amenities like parks are important community assets that should be provided.

#### Objectives

Guide the form, location, and timing of new development in order to protect the natural environment, enhance the man-made environment, and establish living and working environments that are properly provided with a full range of necessary services and facilities.

#### Recommendations of Action

Continue to support through taxation the emergency services providers; monitor state legislation and goals for fire and ambulance services. Maintain infrastructure for these providers.

Maintain the cooperative relationship between the township, Middle Bucks Institute of Technology (MBIT), and school district.

Continue to keep pace with township current and future staff and facility needs within budget limitations.

Address the Act 537 Sewage Facilities Plan to ensure its consistency with planning policies.

Continue residential yard waste disposal program.

Continue best management practices for maintenance and retrofitting existing stormwater management basins in accordance with DEP requirements.

Maintain good stormwater management practices and compliance with state and federal requirements. Establish regular maintenance program for stormwater management facilities.

Continue to require all new utilities to be located underground.

## **Objectives**

Provide park and open space areas for active and passive recreation for township residents of all ages.

Provide a system of trails which connect neighborhoods and major activity centers throughout the township.

## **Recommendations of Action**

Follow through with the recommendations of the Township's 2007 Recreation, Parks, and Open Space Plan and future updates.

Complete trail planning and work on construction.

Establish greenways along stream corridors such as the Neshaminy and Little Neshaminy Creeks and establish connections where feasible.



**Principle 4: Ensure the economic vitality of the community**

**Description:** To maintain and enhance Warwick's economic vitality, the township should have businesses and industries that provide jobs and tax revenue to support public services and the quality of community life. Good land use planning can direct nonresidential development to areas where it makes sense.  
be provided.

**Objectives**

Promote nonresidential development including commercial land uses such as professional and business office facilities as well as light industrial uses that serves the needs of the township first and ensures a balanced tax base.

Ensure efficient and economical provision of township facilities and services that are consistent with conservation and development policies.

**Recommendations of Action**

Limit commercial and industrial development to appropriately zoned areas and avoid strip commercial development. Look at development in the Village to create Town Center concepts.

Require a fiscal impact study and traffic impact study for zoning change requests.

Examine the permitted uses in the zoning ordinance with respect to the industrial park. Explore the possibility of creating a “Business Park” as opposed to an “Industrial Park” given the variance requests for new uses and a changing economy.

**Principle 5: Conserve Warwick’s natural and cultural resources**

**Description:** Successful communities identify the areas that are most important to protect- such as farmland, forests, streams, scenic views or historic structures-and guide growth into areas better suited for development. Traditional landscapes and historic structures help define the township. Conservation of natural and cultural resources contributes to the township's character and community health.

**Objectives**

Preserve the areas critical to the protection of natural resources and their functions.

Protect historic individual resources, villages and scenic corridors in the township to retain a sense of place.

**Recommendations of Action**

- Maintain natural resource protection standards in zoning and subdivision and land development ordinances.
- Promote efficient use of water resources through conservation, infiltration, and reuse. Protect water quality by addressing failing wastewater systems and mandating stormwater practices that protect water quality.
- Adopt ordinance amendments that require developers to assess the natural features and provide documents and opportunities for early input by the township. Minimize grading and impervious surface.
- Coordinate village planning efforts for Hartsville and improvements to the Old York Road corridor with Warminster Township, addressing signs, gateways, and land uses. Adopt design guidelines for historic village of Hartsville in coordination with Warminster Township.

## Objectives

## Recommendations of Action

Protect historic individual resources, villages and scenic corridors in the township to retain a sense of place.

Work with Historical Society to develop a business plan for the future use of the Moland House.

Source: Bucks County Planning Commission. (2007) *Warwick Township: Comprehensive Plan Update 2007*, Doylestown, PA.

# **APPENDIX A**

## **Demographic and Socioeconomic Trends**

# Appendix A

## Demographic and Socioeconomic Trends

### Population and Housing Trends

The information in this chapter describes population and housing growth in the past and into the near future.

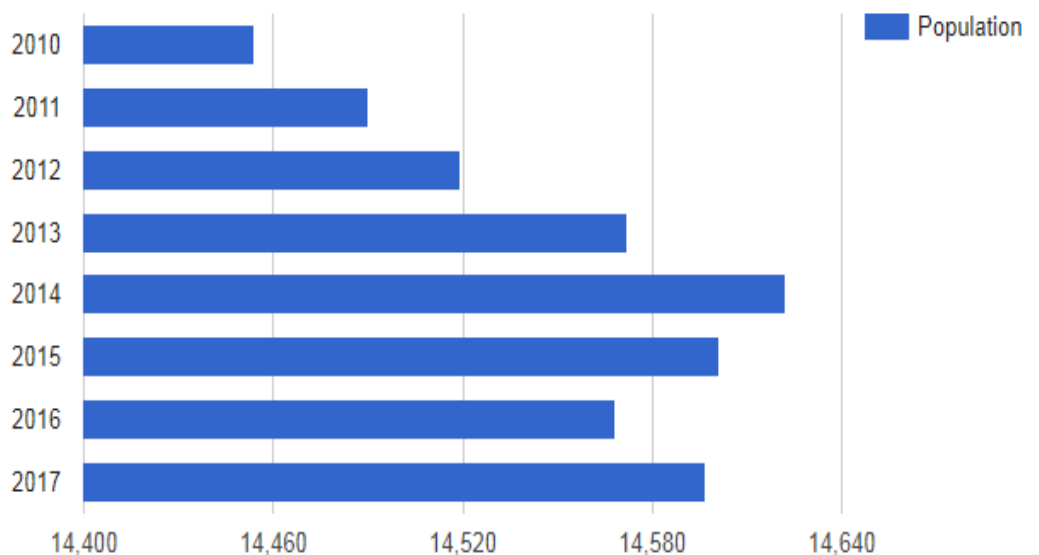
Warwick has seen significant growth over the past few decades. Since 1980, the township population has grown 156 and 103 percent for each 10-year period through 2000. Bucks County's population gained only 10.4 percent between 1990 and 2000. Warwick's rate of growth was the highest of any municipality in Bucks County between 1990 and 2000.

The estimated population for 2005 was 14,538, a 21 percent increase since 2000. This compares with a county increase of only 4 percent. While the 2000 Census data do not completely reflect current conditions in the township, it is the most comprehensive data available.

Based on the 2010 Census, Warwick had 14,437 residents, which is in line with the 2005 projection. Between 2000 and 2010, Warwick gained an additional 2,460 residents, which is an increase of 20.5%. Looking ahead, the amount of developable land will impact future population. Based on the following projection, Warwick will have a 2017 population of 14,597 showing very slow growth as opposed to past decades.

**Figure A-1**

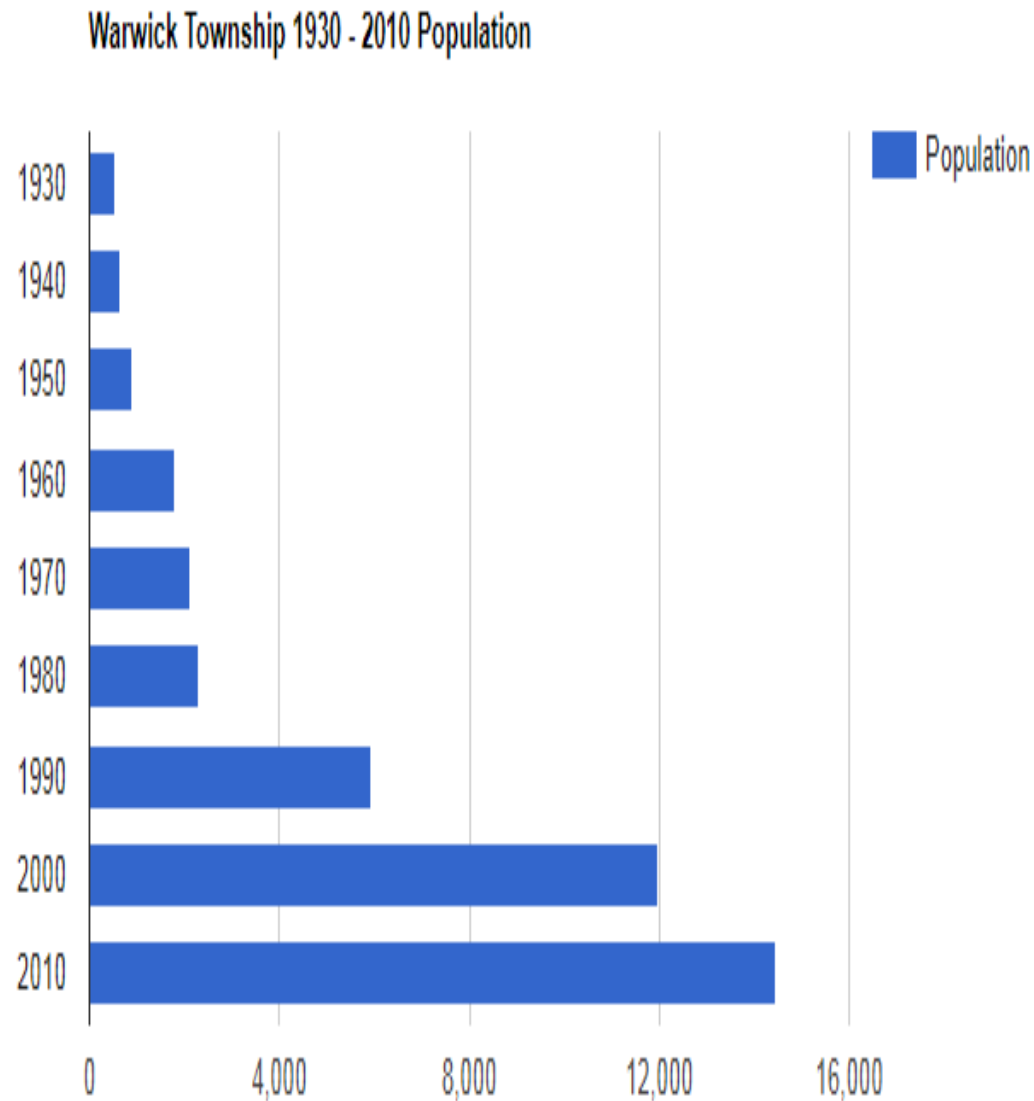
**Warwick Township 2010 - 2017 Population Estimates**



Source: US Census  
DVRPC

When looking to the future, however, it’s interesting to look historically at the growth that has occurred in the Township. From 550 residents in 1930 to a population of 5,915 in 1990, the Township has seen explosive growth to the current 14,437 residents based on the 2010 Census.

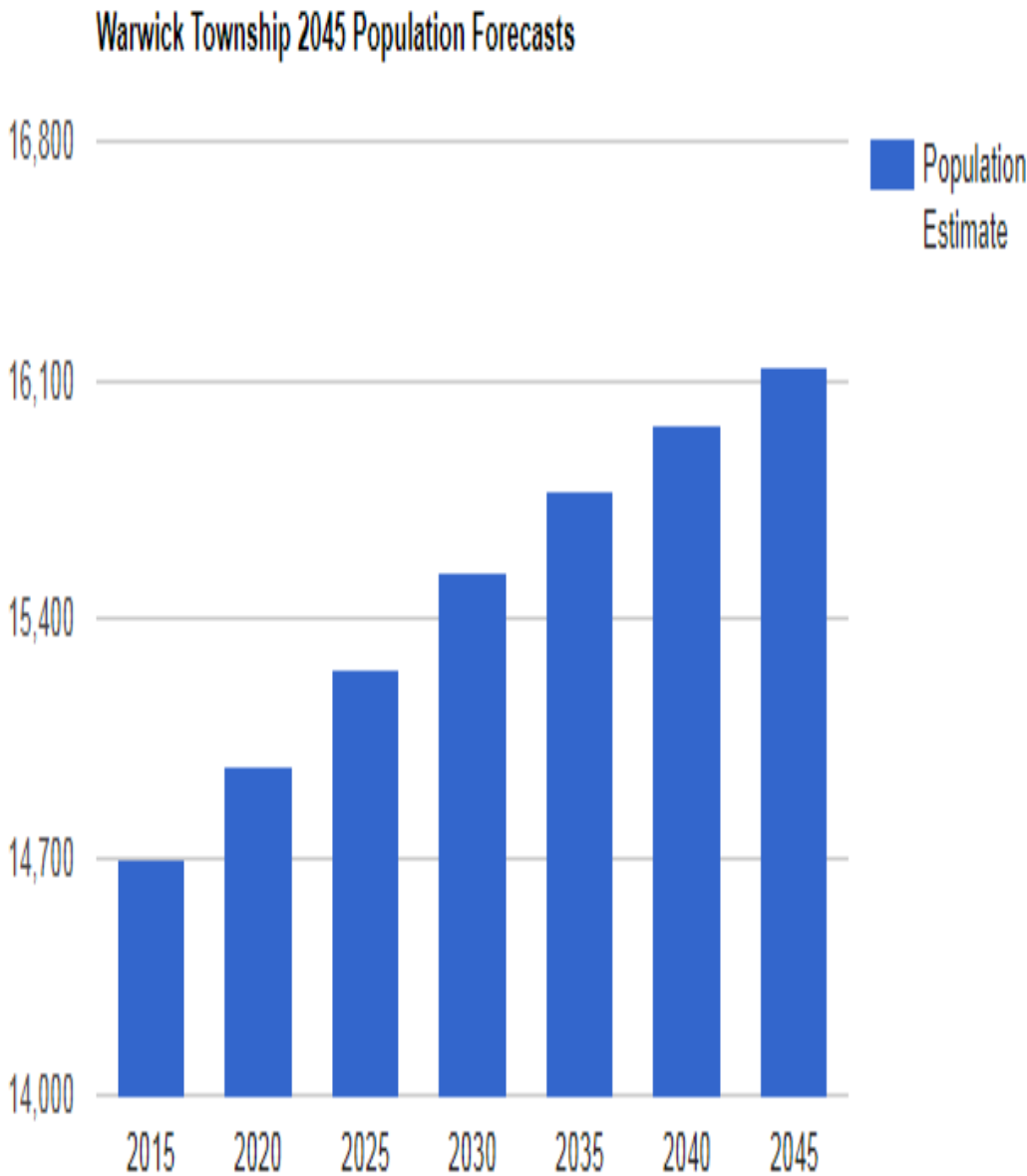
**Figure A-2**



Source: US Census  
DVRPC

Based on future population forecasts, a population of 15,249 is forecasted in 2025, 15,521 in 2030, 15,774 in 2035, and 16,144 in 2045. Figure A-3 below shows the future population forecasts.

**Figure A-3**



Source: US Census  
DVRPC

## Households

Household data is shown in Table A-4. Compared to a household size of 3.04 in 2000, the household size has dropped to 2.82 based on the 2010 Census. As a whole, Bucks County had a household size of 2.63 in 2010.

The number of occupied households in the township totaled 5,109 in 2010. This is an increase from the 3,933 in 2000.

In 2000, about 51.9 percent of Warwick households had at least one child under age 18 in 2000. Just over 13.1 percent had at least one member age 65 or older. The corresponding numbers for Bucks County were 37.7 percent and 23.3 percent, respectively.

In 2010, however, there was decline with 38.9 percent of households having at least one child under 18. In addition, 25.3 percent of households had at least one member age 65 or older. With respect to the County, 30.8 percent have at least one child under 18 and 27.3 percent have at least one individual age 65 and older. This shows an aging of the population within the Township over the last decade.

Compared to the County as a whole, Warwick Township has a larger household size and more likely to have a child under 18. This shows a demand for youth related services and also the needs for an aging population as well.

**Table A-4. Characteristics of Warwick Households, 2000-2010**

<b><u>Characteristics</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>
Number of Households	3,993	5,109
Average Household Size	3.04	2.82
Average Family Size	3.38	3.20
Family Households	3,267	4,106
Married Couple Families	2,923	3,579
Nonfamily Households	666	1,003
Householders Living Alone	517	862

Source: US Census  
DVRPC



## Population Characteristics

As noted in the last Comprehensive Plan Update, the township's population has been aging and this trend can be expected to continue. The median age in the township has been climbing steadily upward, rising from 31.2 years in 1980, 33.7 years in 1990, and 34 years in 2000. Based on the 2010 Census, it is now at 41.9. The median age in Bucks County is similar at 42. As the township's population continues to age, the demand for specialized services and housing for the elderly will heighten.

From a demographic perspective, please note the following:

- In the 45 to 54 age cohort, there were 1,590 residents in 2000. That number grew to 2,883 in the 2010 Census.
- In the 55 to 59 age cohort, there were 484 residents in 2000 compared to 971 in 2010.
- The number of residents in the 60 to 64 age cohort is over double from 330 in 2000 to 753 in 2010.
- The 65 to 74 age cohort almost tripled from 433 in 2000 to 1,116 in 2010.
- The 75 to 84 age cohort doubled from 215 in 2000 to 466 in 2010.
- Finally, those in the over 85 cohort tripled from 50 in 2000 to 164 in 2010.

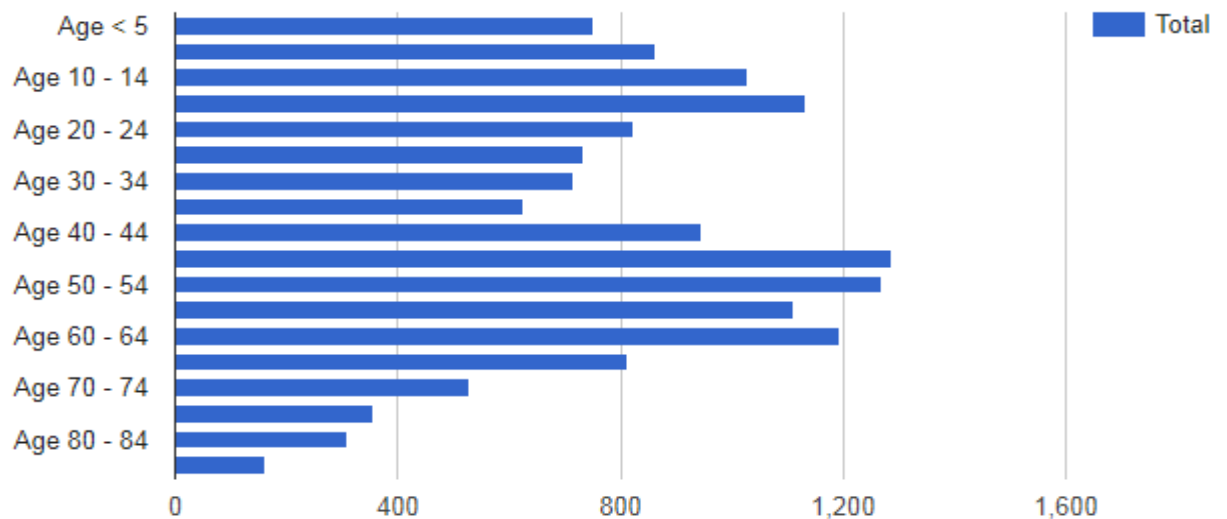
With respect to children, there was a decline of children under 5 and in the 5 to 9 age cohort. Further, there were only slight increases in the 10 to 14 and 15 to 19 cohorts. Overall, this not only shows an aging population, but a demand for services for teenagers as well.

## Population Characteristics

**Table A-5. Changes in Age Distribution in Warwick, 2000-2010**

Age	<u>2000</u>		<u>2010</u>	
	Number	Percent	Number	Percent
Under 5	1,102	9.2	790	5.5
5 to 9	1,198	10	1,055	7.3
10 to 14	1,144	9.5	1,209	8.4
15 to 19	724	6	1,094	7.6
20 to 24	376	3	667	4.6
25 to 34	1,687	14	1,130	7.8
35 to 44	2,644	22	2,039	14.1
45 to 54	1,590	13.3	2,883	20
55 to 59	484	4	971	6.7
60 to 64	330	2.7	753	5.2
65 to 74	433	3.6	1,116	7.8
75 to 84	215	1.8	466	3.9
85+	50	.42	164	1.1
TOTAL				

**Figure A-6** Warwick township 2012-2016 Population by Age



Source: US Census  
DVRPC

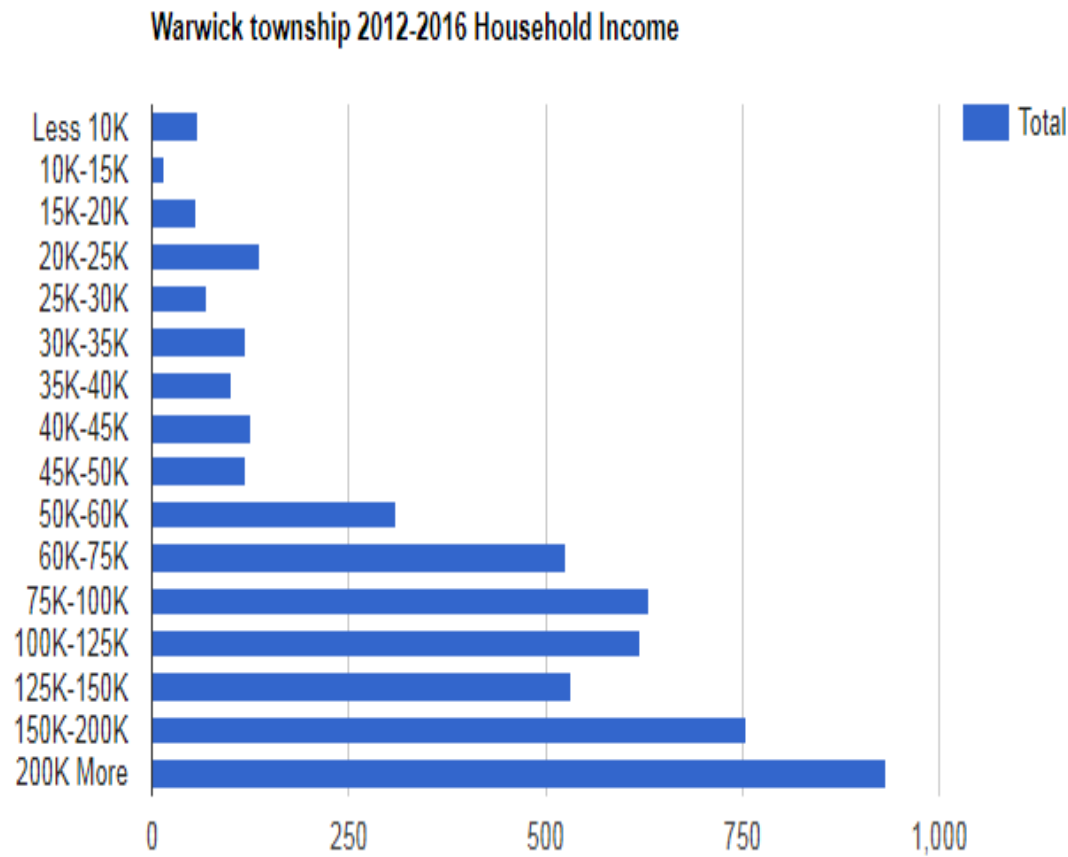
Population Characteristics

The population of Warwick was 51.3 percent female and 48.7 percent male.

The median Warwick household income was \$109,579 based on the 2012-2016 American Community Survey. In addition, median family income is \$121,224 and per capita income is \$46,841. The median income for Bucks County was \$79,559.

With respect to households, there are 5,110 in Warwick Township. Figure A-7 shows the breakdown of household income.

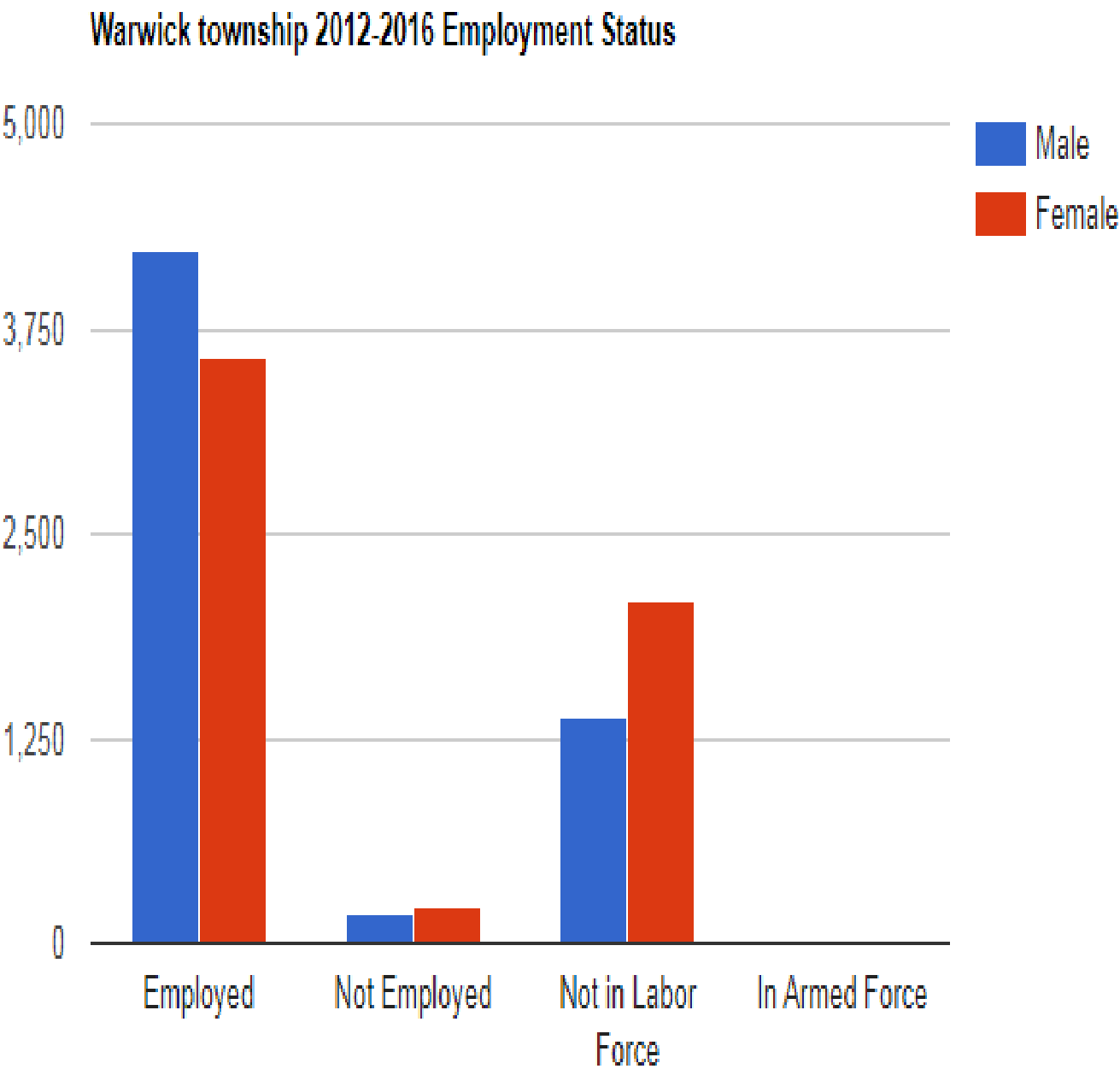
Figure A-7



Employment and Travel to Work

Figure A-8 identifies Warwick Township Employment Status.

Figure A-8



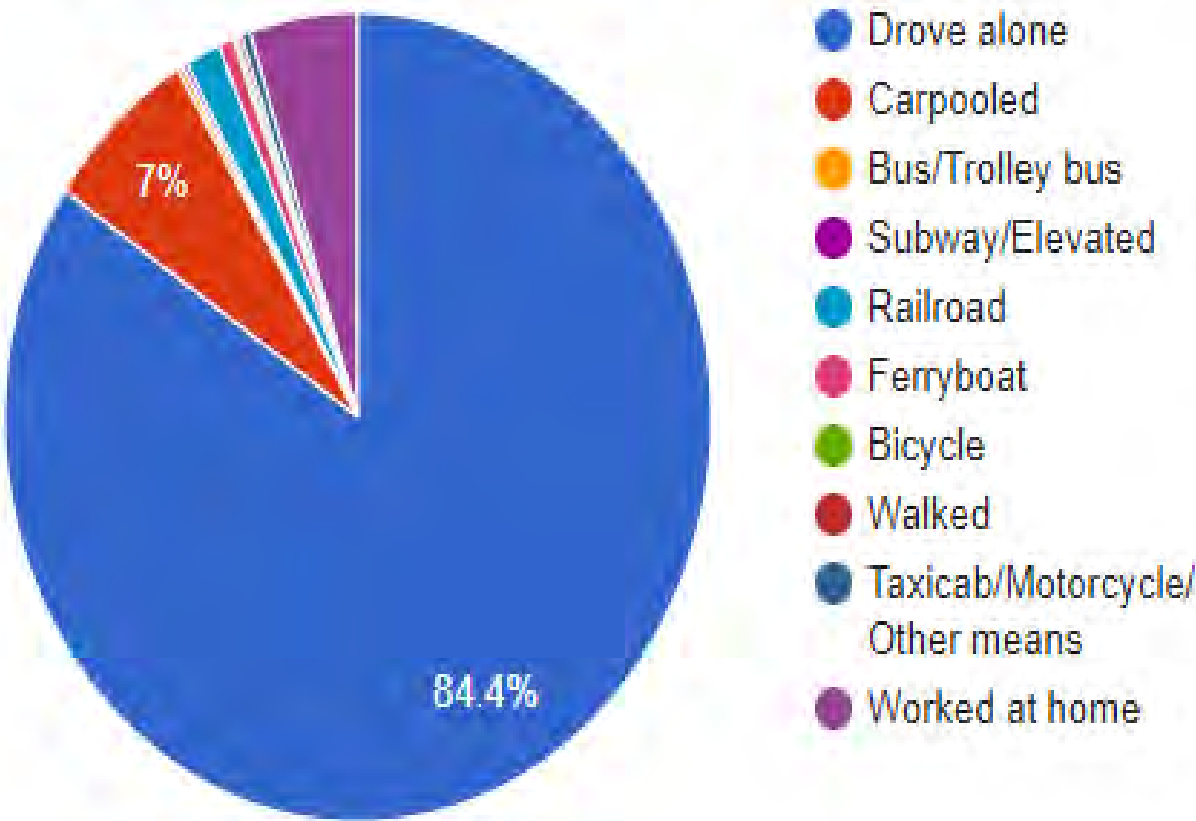
Source: US Census  
DVRPC

Employment and Travel to Work

Figure A-9 shows Commuting to Work data. Of Warwick Township residents, 6,397 drive to work while 374 work from home. In addition, 122 utilize rail service and 16 take the subway.

Figure A-9

Warwick township 2012-2016 Commuting to Work

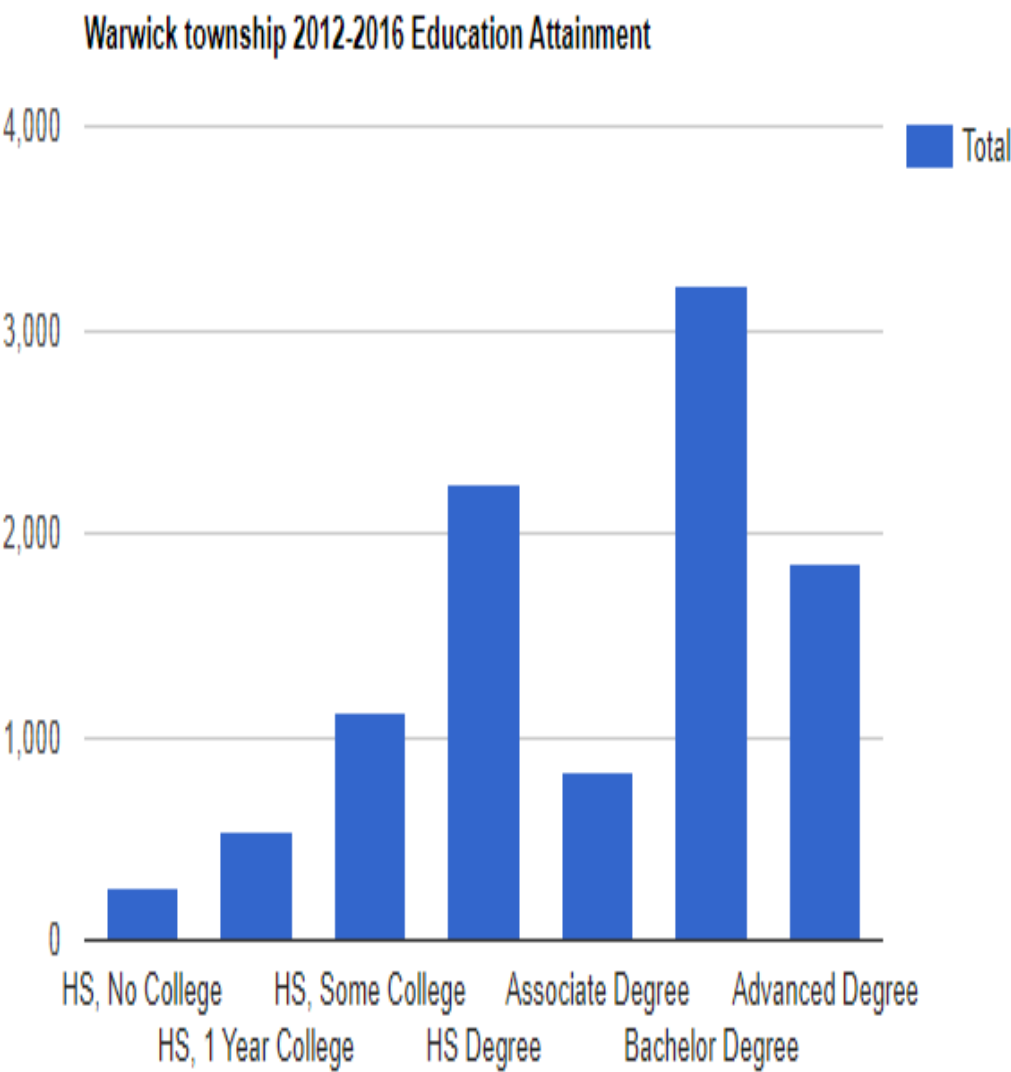


Source: US Census  
DVRPC

Educational Attainment

Figure A-10 shows Educational Attainment of Warwick Township residents.

Figure A-10



Source: US Census  
DVRPC

## Housing

Due to a number of factors including availability of land and public sewer capacity, low interest rates, declining household size, a quality school district and an expansion of the Philadelphia metropolitan area, Warwick's housing stock grew significantly between 1980 and 2000. In this period, the number of housing units increased by nearly 413 percent, going from 790 to 4,050 with the bulk of the increase occurring from 1990 to 2000. The number of additional units grew most significantly between 1980 and 1990 and between 1990 and 2000 with 1,149 and 2,111 units respectively. Based on the 2010 Census, Warwick Township now has 5,214 total housing units.

Table A-11 shows Warwick Township housing data.

**Table A-11. Warwick Housing Data, 2012-2016**

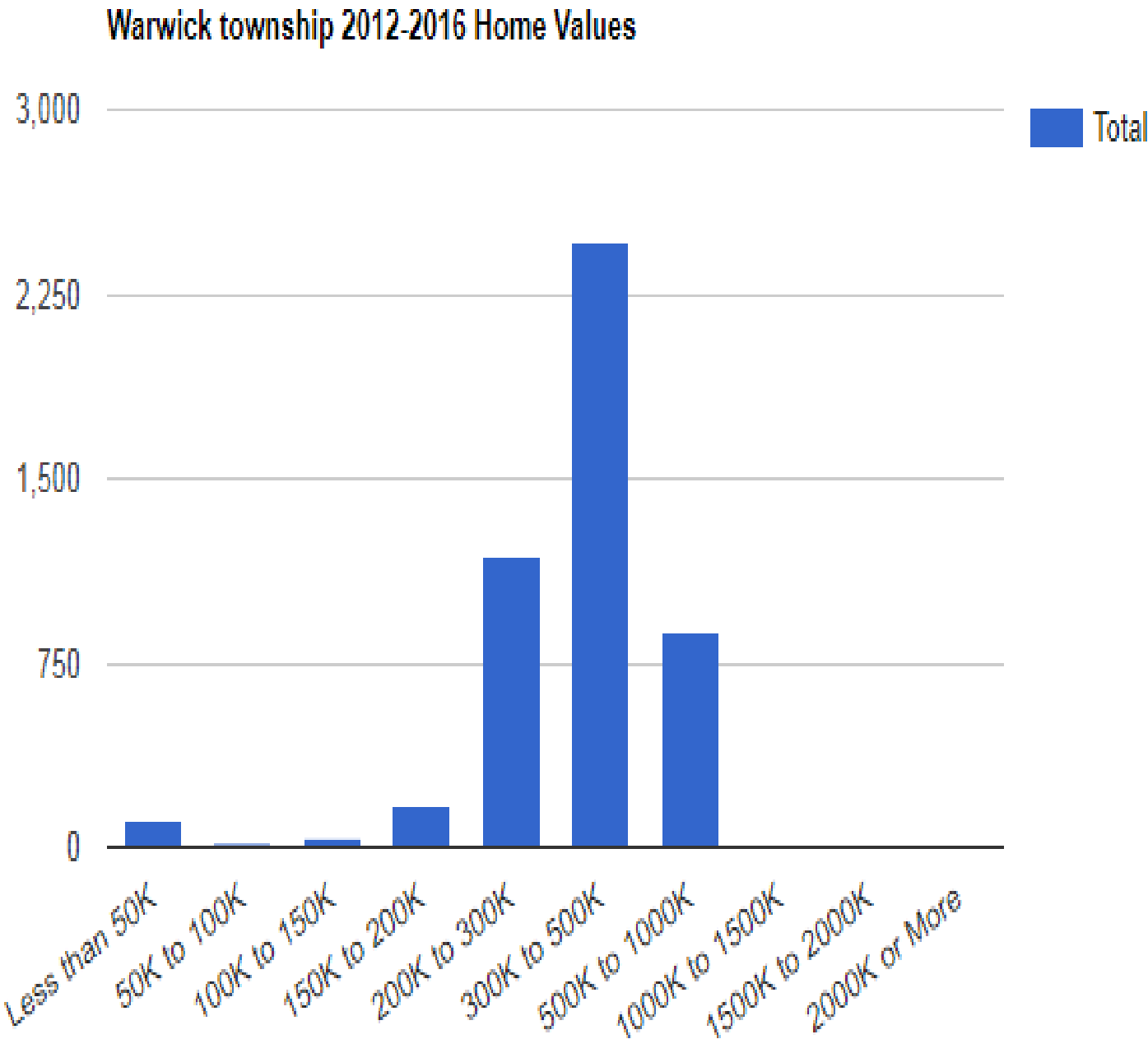
<b><u>Characteristics</u></b>	<b><u>Number</u></b>
Total Housing Units	5,198
Owner-Occupied	4,865
Renter-Occupied	245
Vacant Housing Units	88
Median Home Value	\$376,600
Average Home Value	\$357,946
Owner Cost 30%+	1,020
Non mortgage owner 30%+	234
Median rent	1,819
Gross Rent 30%+	113
Gross rent of \$750+	229

Source: US Census  
DVRPC

Housing

Table A-12 shows Warwick Township Home Values.

Figure A-12



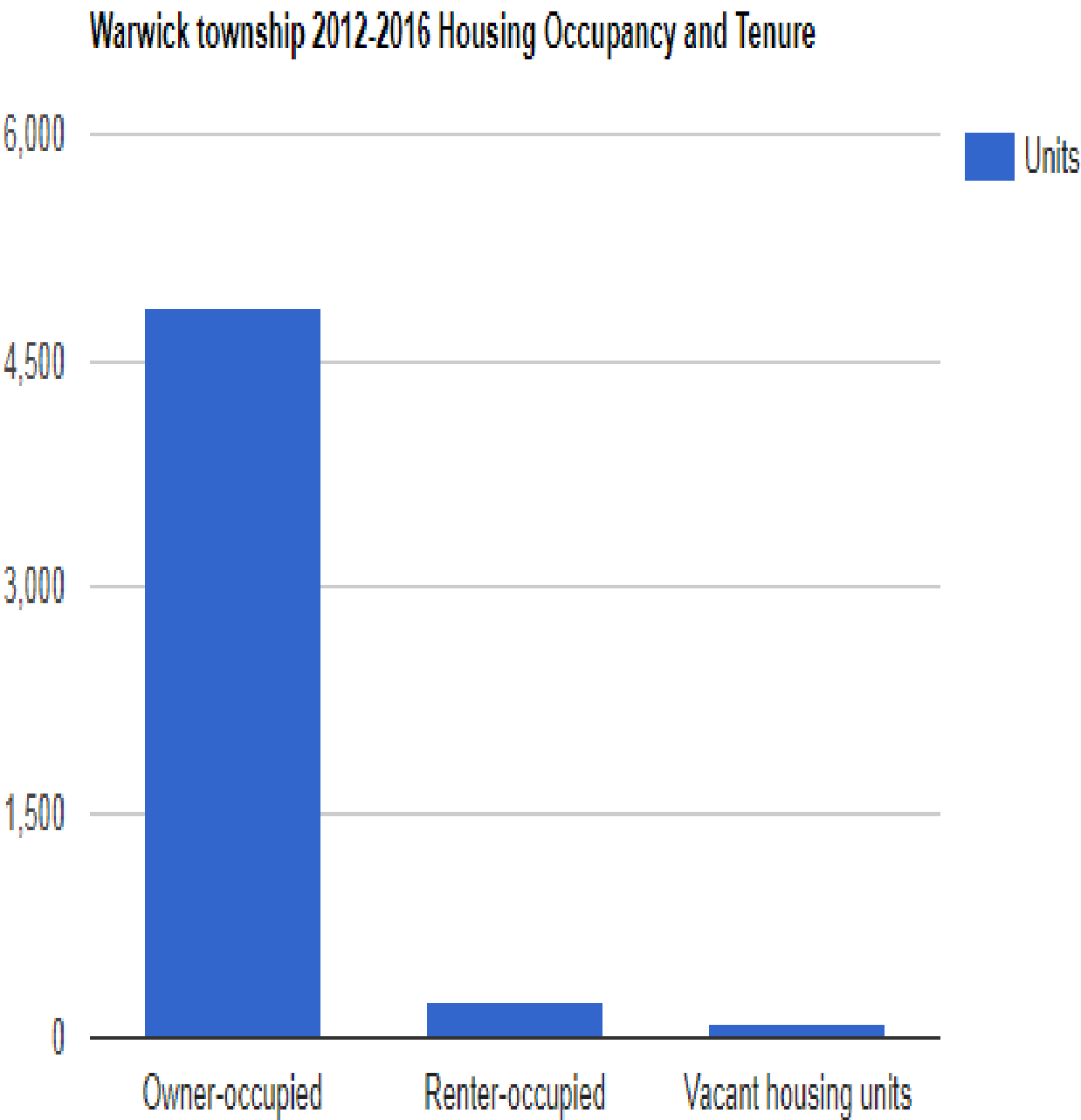
Source: US Census  
DVRPC



Housing

Table A-13 shows Warwick Township 2012-2016 Housing Occupancy and Tenure.

Figure A-13

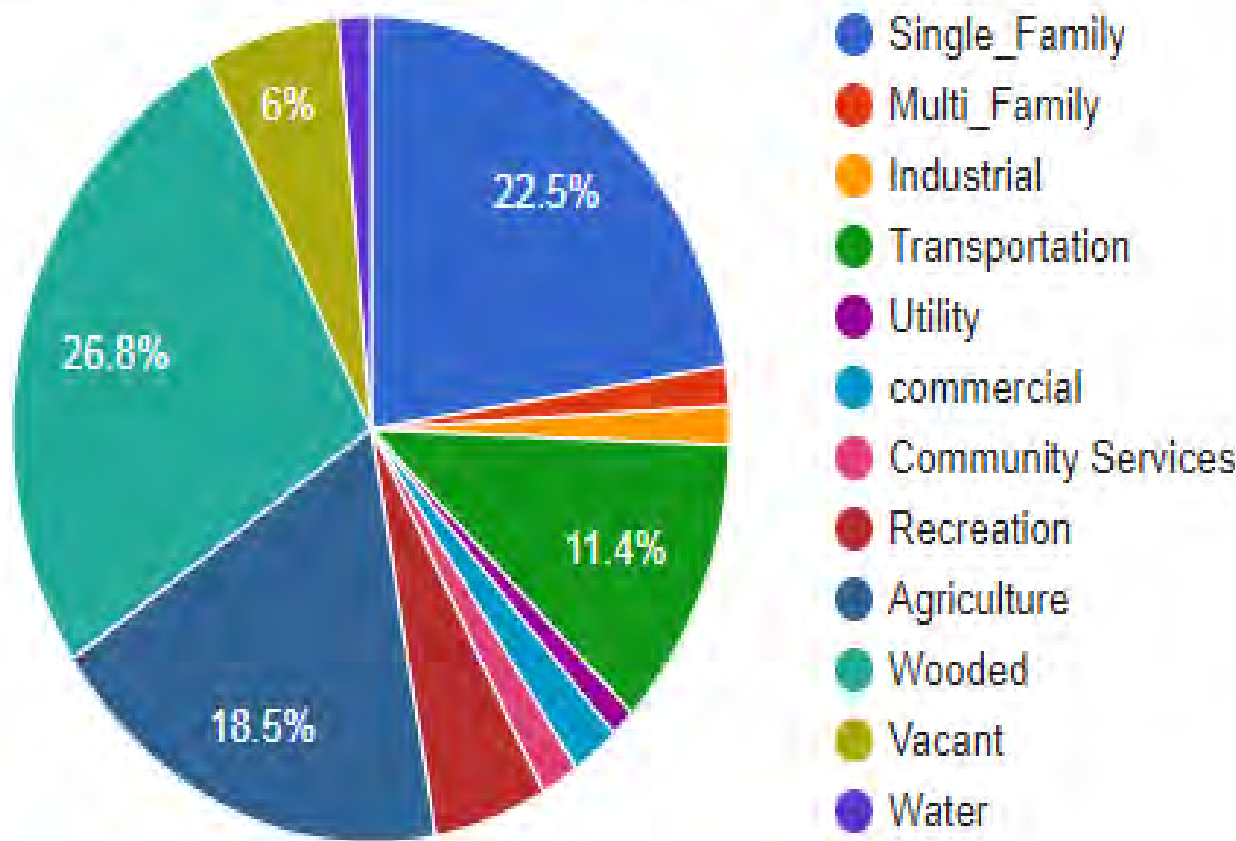


Land Use

Figure A-14 shows Warwick Township 2010 Land Use by Acres.

Figure A-14

Warwick Township 2010 Land Use by Acres



## Land Use

Table A-15 shows Warwick Township 2010 Land Use by Acres.

**Table A-15. Warwick Township 2010 Land Use by Acres**

<b><u>Land Use</u></b>	<b><u>Acreage</u></b>
Single-Family	1603
Multi-Family	110.30
Industrial	108.40
Transportation	814.20
Utility	79
Commercial	152.60
Community Services	122.40
Military	0
Recreation	360.80
Agriculture	1,315.60
Mining	0
Wooded	1,908.90
Vacant	430.20
Water	105.80
<b>Total Acreage</b>	<b>7,111.30</b>

Source: DVRPC

**Estimated Population and Housing Growth**

Warwick Township's 2017 population was estimated to be 14,597 residents. Proposed development has been much slower in recent years, primarily due to less land available for development.

**Future Population and Housing**

Warwick Township's population and housing stock will grow in the future, although this growth is limited by the amount of land available for development. Future growth is based on the factors: vision of township officials and residents, past development patterns, and policies on community facilities and land preservation. Growth in Warwick will be impacted in the future by potential zoning changes.

Given the estimated 2017 population of 14,597 residents and an estimated 2030 population of 15,531, it is not anticipated that the Township will experience significant growth throughout the next decade.

The adequacy of current zoning to accommodate future population growth to the year 2030 is based on the following calculation:

• 2017 Population (Estimated)	14,597
• 2030 Estimated Population (DVRPC)	15,531
• Additional Population	934
• Household Size	2.82
• Housing Units Needed	331
• Units Planned Since 2007	<u>291</u>
• Additional Units Needed	40

## Future Population and Housing

Additional units can be accommodated if needed within the existing residential areas of the Township. Projections prepared by the Delaware Valley Regional Planning Commission should be evaluated in conjunction with 2010 Census data when complete. As a result, the Township can evaluate the needs for changes in land use planning and zoning in conjunction with this Comprehensive Plan and future updates.

Source: Bucks County Planning Commission. (2007) *Warwick Township: Comprehensive Plan Update 2007*, Doylestown, PA.  
U.S. Census Bureau  
DVRPC

# **APPENDIX B**

## **Community Survey**

Address: \_\_\_\_\_ ☐ Property Owner ☐ Business Owner/Tenant

(Please clearly circle one answer for each question below unless instructed otherwise.)

**A survey requesting feedback from stakeholders within the Township was made available through the Township website, social media, newsletter, and individual mailings. The following reflects response rates to each question.**

1. Please tell us who you are:

a. Warwick Township property owner (resident)	248	80%
b. Warwick Township property owner (non-resident)	13	4%
c. Warwick Township non-owner (renter)	7	2%
d. Warwick Township business owner	38	12%
e. Other	1	0.3%

2. Place the following services and/or programs in order from most important to least important (1 = most important and 6 = least important).

- a. Open Space Preservation \_\_\_\_\_
- b. Maintenance of Township Roads \_\_\_\_\_
- c. Recreational Opportunities/Facilities \_\_\_\_\_
- d. Walkways/Trails \_\_\_\_\_
- e. Historic Preservation \_\_\_\_\_
- f. Police, Fire and EMS Services \_\_\_\_\_

<b>SERVICE AND PROGRAMS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
OPEN SPACE PRESERVATION	65	44	68	45	33	33
MAINTENANCE OF TOWNSHIP ROADS	85	126	43	21	11	6
RECREATIONAL OPPORTUNITIES/FACILITIES	17	16	54	60	60	87
WALKWAYS/TRAILS	7	16	56	81	75	54
HISTORIC PRESERVATION	7	18	30	51	84	99
POLICE, FIRE AND EMS SERVICE	140	78	33	28	8	6
	45%	41%	22%	26%	27%	32%

**Summary:** The totals above identify the tabulation of respondents identifying their most important services and/or programs. For example, 140 respondents ranked Police, Fire, and EMS Services as “#1—Most Important” followed by 78 respondents ranking it #2, etc. In addition, the tabulation further shows that 45% of respondents view Police, Fire, and EMS Services as the top priority.

3. Why do you choose to live in Warwick?

a. School System	118	38%
b. Retirement/55+ Community Living	26	8%
c. Reasonably priced homes	34	11%
d. Intensity/type of development	19	6%
e. Park system and open space	28	9%
f. Other (please specify): _____	57	18%

4. The Township has a website, resident e-mail list, quarterly newsletter, social media (Twitter & Facebook) and a cable channel.

Do you feel Township communication with residents is adequate?

a. Yes	256	83%
b. No, <i>how can we better communicate?</i> _____	16	5%
c. No Response	33	11%

5. During development, do you feel that the Township should continue to protect natural resources including woodlands, steep slopes and other environmentally sensitive areas?

a. Yes	288	94%
b. No	2	0.6%
c. No Response	15	5%

6. Do you feel that installation of sidewalks should always be required for all new developments?

a. Yes	197	64%
b. No	59	19%
c. Only if a connection to existing sidewalk/trail is available.	48	16%

7. How important is it to you that farmland is preserved in the Township?

a. Very Important	176	57%
b. Important	73	24%
c. Somewhat Important	50	16%
d. Not Very Important	5	2%
e. Not Important	2	0.6%

8. Place the following types of connections between developments in order from most important to least important (1 = most important and 3 = least important).

- a. Pedestrian \_\_\_\_\_
- b. Bicycle \_\_\_\_\_
- c. Vehicular \_\_\_\_\_

<b><u>TYPES OF CONNECTIONS</u></b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>
PEDESTRIAN	136	119	28
BICYCLE	26	113	162
VEHICULAR	143	55	101
	46%	39%	53%

**Summary:** The totals above identify the tabulation of respondents identifying their most important types of connections. For example, 143 respondents ranked Vehicular Connections as “#1—Most Important” followed by 55 respondents ranking it #2, etc. In addition, the tabulation further shows that 46% of respondents view Vehicular Connections as the top priority.



9. Do you believe the Township offers enough age-restricted housing?

a. Yes	175	57%
b. No	24	8%
c. No Response	105	34%

10. What is your impression of big box retailers (large retail establishment, usually part of a chain store)?

a. The Township should support big box development.	56	18%
b. The Township should restrict big box development.	192	62%
c. No Preference	53	17%

Fold, Tape to Secure and Add Postage to Return by Mail

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STAMP  
HERE

Warwick Township  
1733 Township Greene  
Jamison, PA 18929



# EXISTING LAND USE

## Figure 1

### LEGEND

- AGRICULTURAL
- COMMERCIAL
- GOVERNMENT AND INSTITUTIONAL
- INDUSTRIAL
- MULTIFAMILY
- PARKS, RECREATION, AND OPEN SPACE
- RESIDENTIAL
- RESIDENTIAL PROPOSED
- RURAL RESIDENTIAL
- TRANSPORTATION AND UTILITIES
- VACANT

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019

0 750 1,500 3,000 4,500 6,000 Feet

Created: 7/19/2019

Revised: 8/13/2019



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# ADJACENT LAND USE AND ZONING

## Figure 2

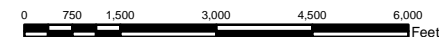
### LEGEND

- RESIDENTIAL - UNDER 1 UNIT/ACRE
- RESIDENTIAL - 1 - 2 UNITS/ACRES
- RESIDENTIAL - 2 - 4 UNITS/ACRES
- RESIDENTIAL - OVER 4 UNITS/ACRES
- INDUSTRIAL
- COMMERCIAL
- PARKS

### ZONING CLASSIFICATIONS

- AG-1 Agricultural District
- A-R Agricultural Residential
- C-1 Commercial District
- CM Conservation Mangement
- CR-1 Country Residential 1 - Low Density
- C-R Country Residential
- E-P Environmental Protection
- G Government Use District
- I-1 Planned Industrial/Office
- I-C Industrial- Commercial District
- I-P Institutional/Public
- PBR Planned Business & Residential
- QA Quarry
- R-1A Residential District
- R-1 Residential District
- R-2 Residential District
- R-3 Residential District
- R-4 Residential District
- VR-1 Village Residential 1 - Low Density

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019



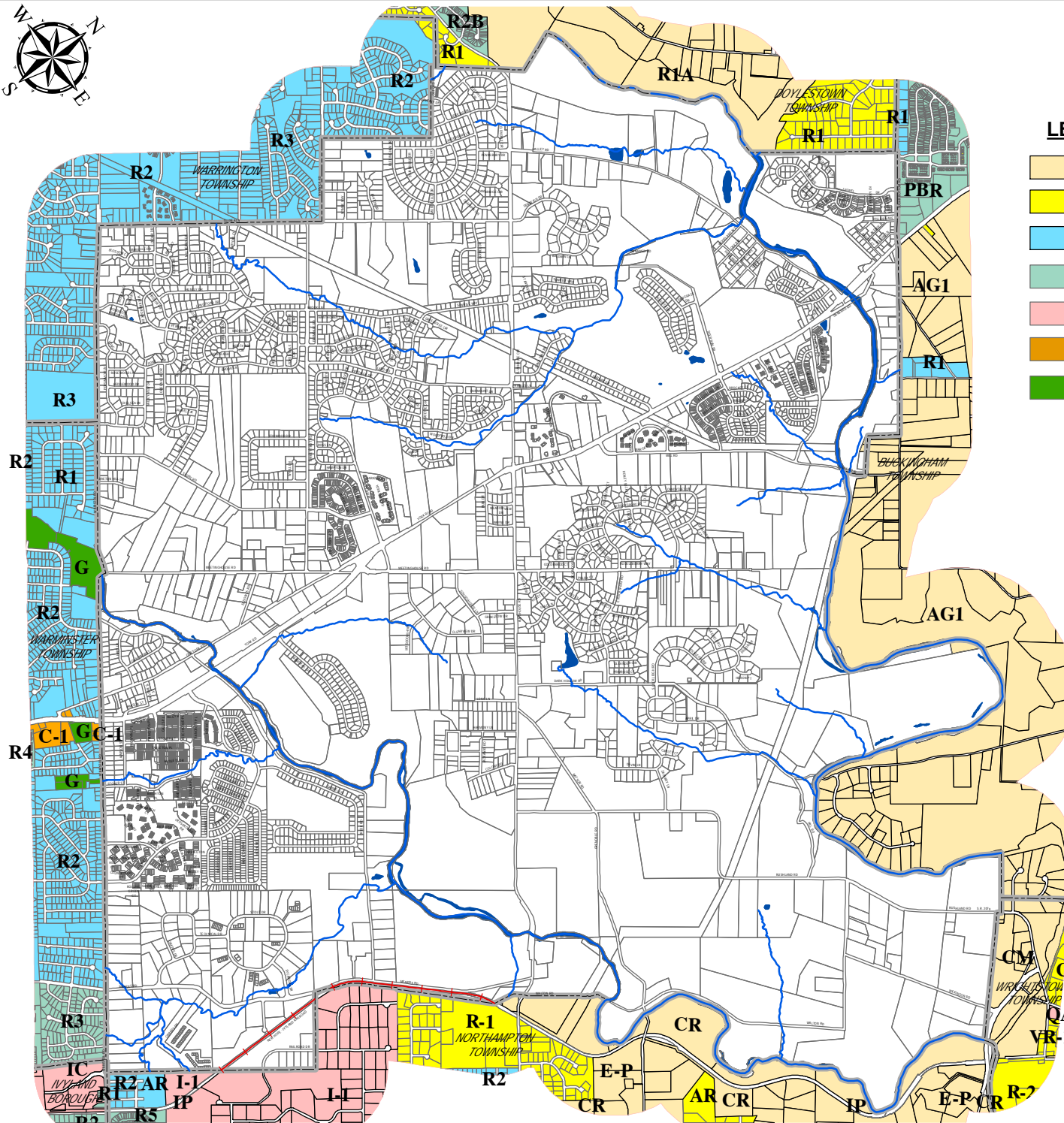
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# FUTURE LAND USE

## Figure 3

### DEVELOPMENT AREAS

- VILLAGE CENTER AREAS
- PLANNED INDUSTRIAL AREAS
- FIRST TIER MIXED USE AREAS
- SUBURBAN RESIDENTIAL AREAS
- MULTIFAMILY RESIDENTIAL AREAS

### NATURAL RESOURCE AREA

- AGRICULTURAL AREAS

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019

0 750 1,500 3,000 4,500 6,000 Feet

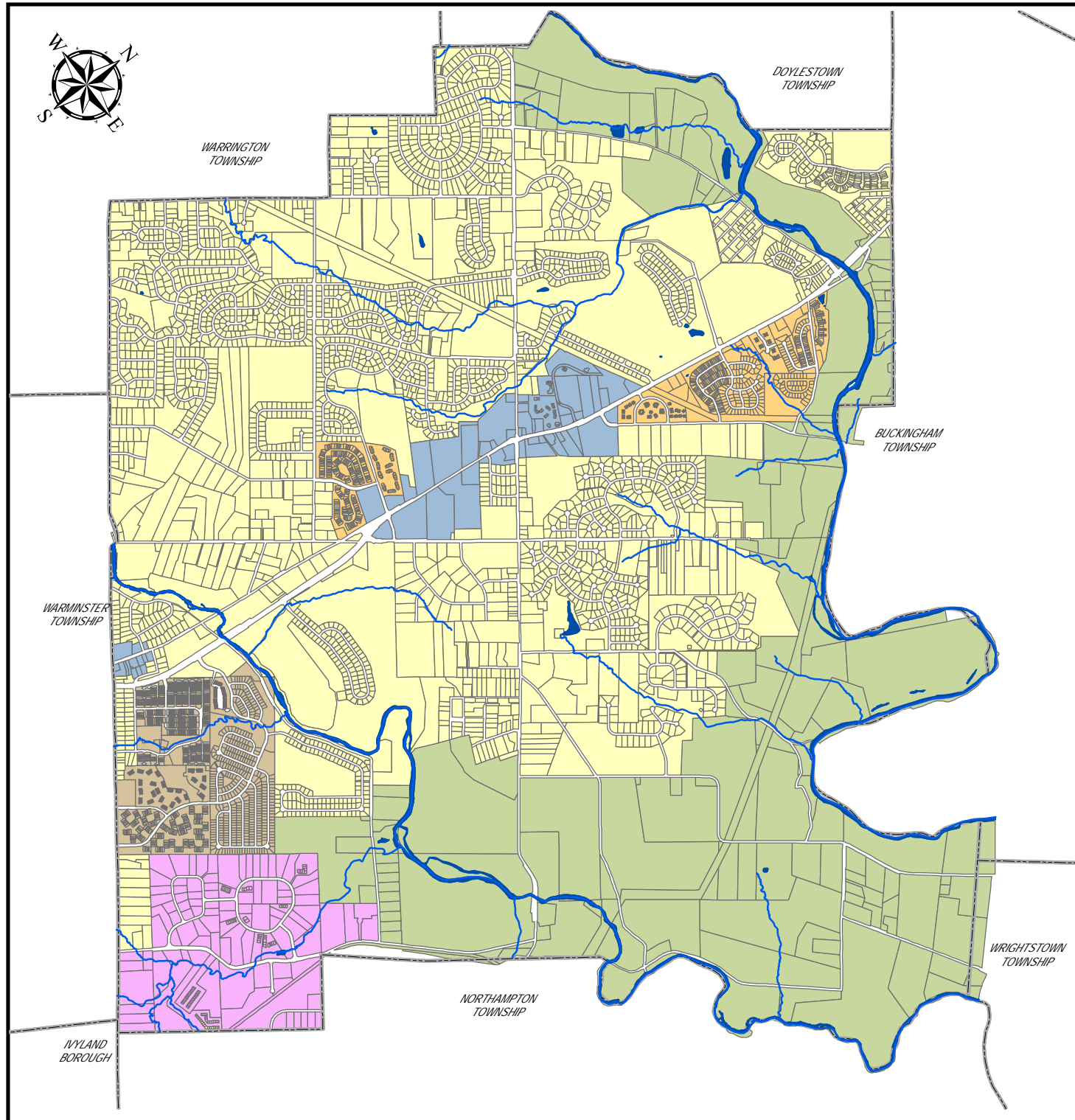
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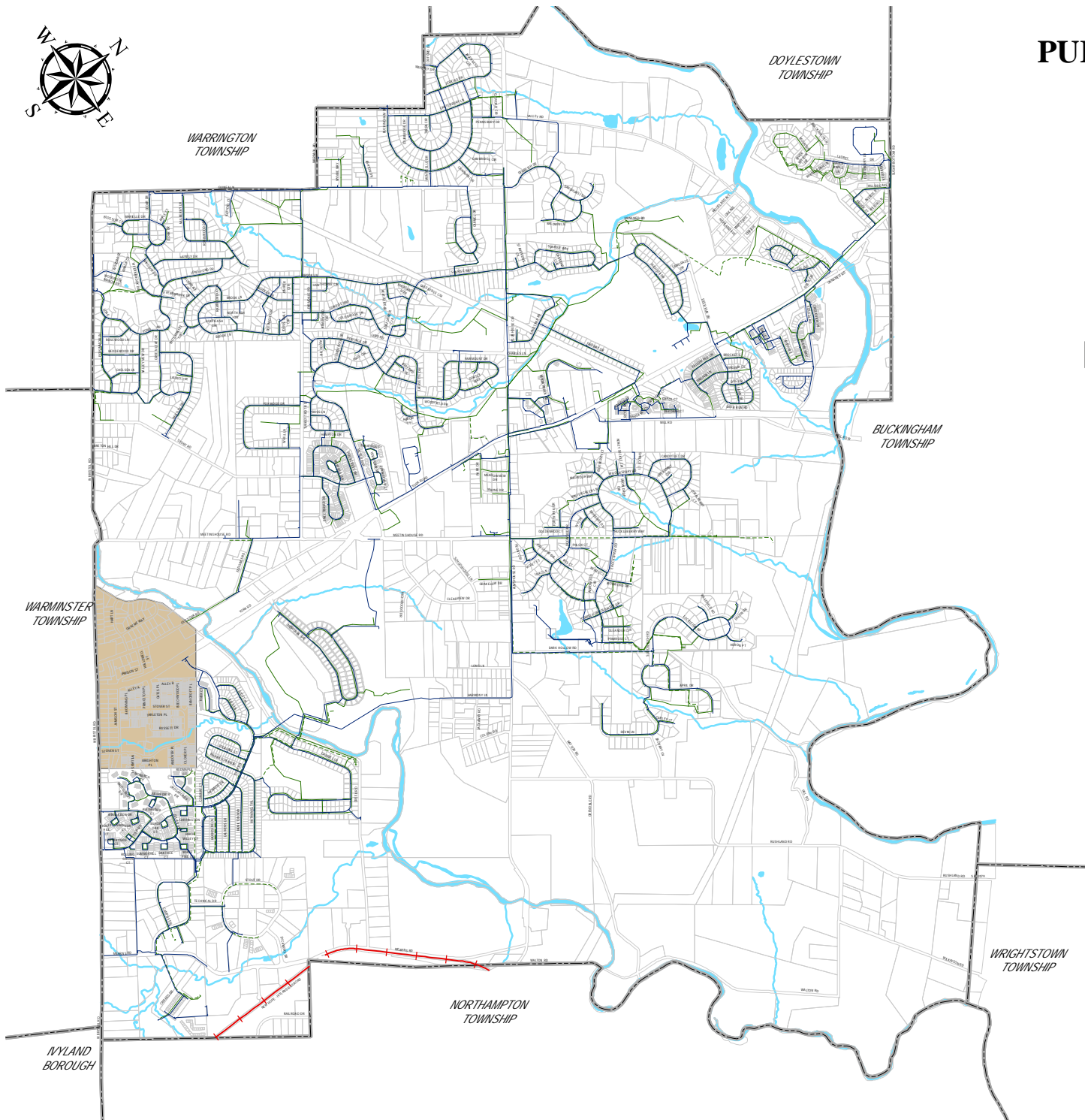


# PUBLIC WATER AND SEWER

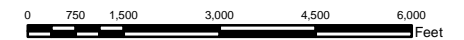
## Figure 4

### LEGEND

- WATER MAINS
- SANITARY SEWER GRAVITY MAINS
- ... SANITARY SEWER FORCE MAINS
- WARMINSTER MUNICIPAL AUTHORITY SERVICE AREA



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# OPEN SPACE MAP

Figure 5

## OPEN SPACE KEY

- BUCKS COUNTY
- CONSERVATION EASEMENT ON PREVIOUS OPEN SPACE PLAN BUT NO DOCUMENTATION AT TOWNSHIP
- CONSERVATION EASEMENT TO WARWICK TOWNSHIP
- CONSERVATION EASEMENT TO WARWICK TOWNSHIP AND HERITAGE CONSERVANCY
- CONSERVATION EASEMENT TO WARWICK TOWNSHIP AND BUCKS COUNTY
- CONSERVATION EASEMENT TO WARWICK TWP., BUCKS CO., AND HERITAGE CONSERVANCY
- DELAWARE VALLEY COLLEGE SCIENCE AND AGRICULTURE
- HERITAGE CONSERVANCY
- HOMEOWNERS ASSOCIATION OPEN SPACE
- WARWICK TOWNSHIP WATER AND SEWER
- WARWICK TOWNSHIP
- WARMINSTER TOWNSHIP MUNICIPAL AUTHORITY
- CONSERVATION EASEMENT TO BUCKS COUNTY AND COMMONWEALTH OF PA
- CONSERVATION EASEMENT TO HERITAGE CONSERVANCY

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019

0 750 1,500 3,000 4,500 6,000 Feet

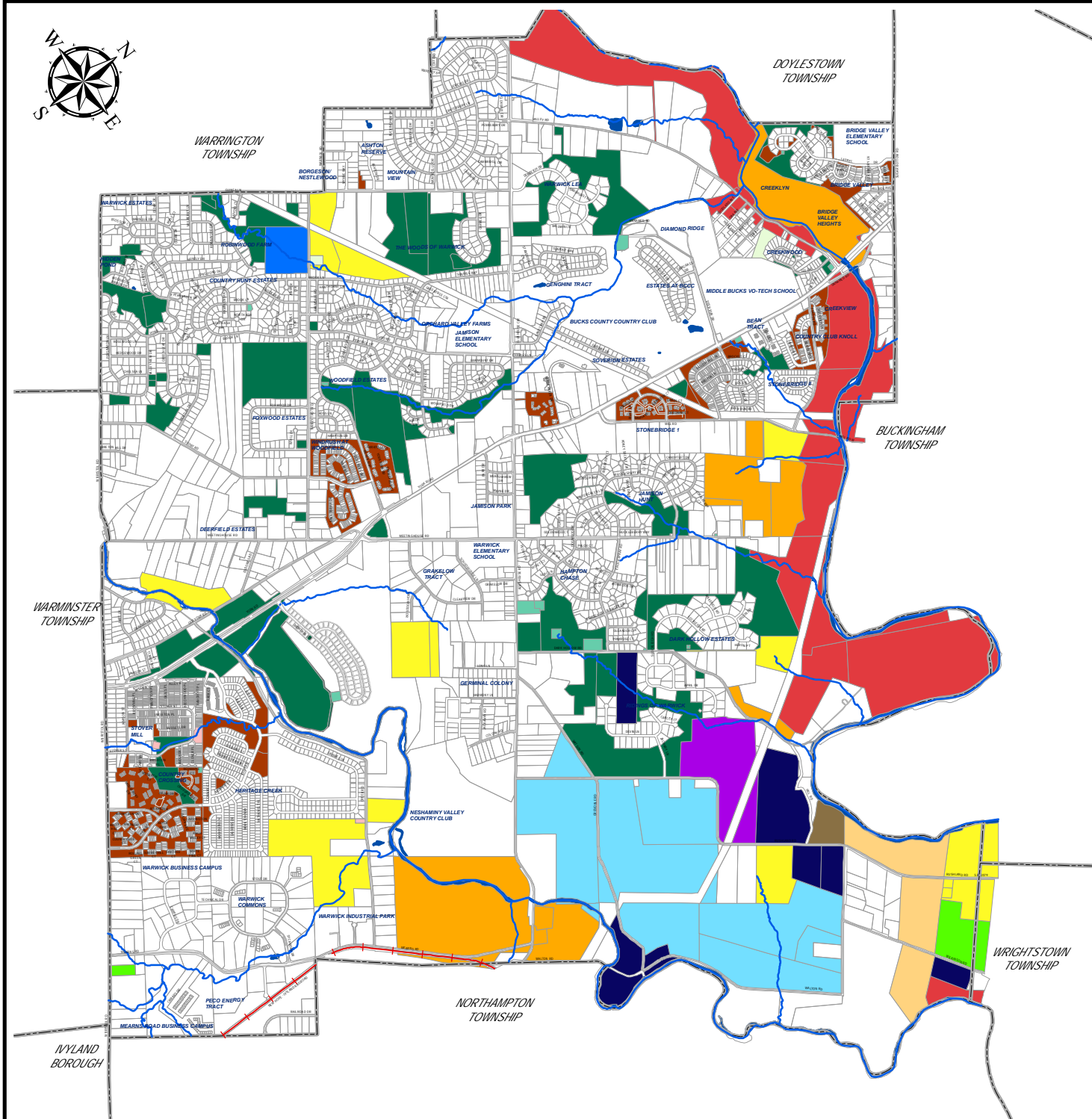
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# COMMUNITY FACILITIES

Figure 6



MUNICIPAL BUILDING



POLICE STATION



FIRE COMPANY / AMBULANCE

- 1 WARWICK FIRE COMPANY
- 2 HARTSVILLE FIRE COMPANY
- 3 WARWICK TOWNSHIP EMS



PUBLIC WORKS



WATER AND SEWER AUTHORITY



POST OFFICE



SCHOOL

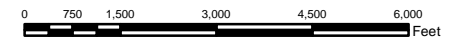
- 1. MIDDLE BUCKS COUNTY VOCATIONAL TECHNICAL
- 2. JAMISON ELEMENTARY
- 3. WARWICK ELEMENTARY
- 4. BRIDGE VALLEY ELEMENTARY



PARKS

- 1 GUINEA LANE TOWNSHIP PARK
- 2 WARWICK TOWNSHIP COMMUNITY PARK
- 3 HIDDEN POND TOWNSHIP PARK
- 4 HAMPTON CHASE TOWNSHIP PARK
- 5 JAMISON HUNT TOWNSHIP PARK
- 6 MOLAND HOUSE TOWNSHIP PARK
- 7 WARWICK TOWNSHIP MEMORIAL PARK
- 8 DARK HOLLOW COUNTY PARK

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019



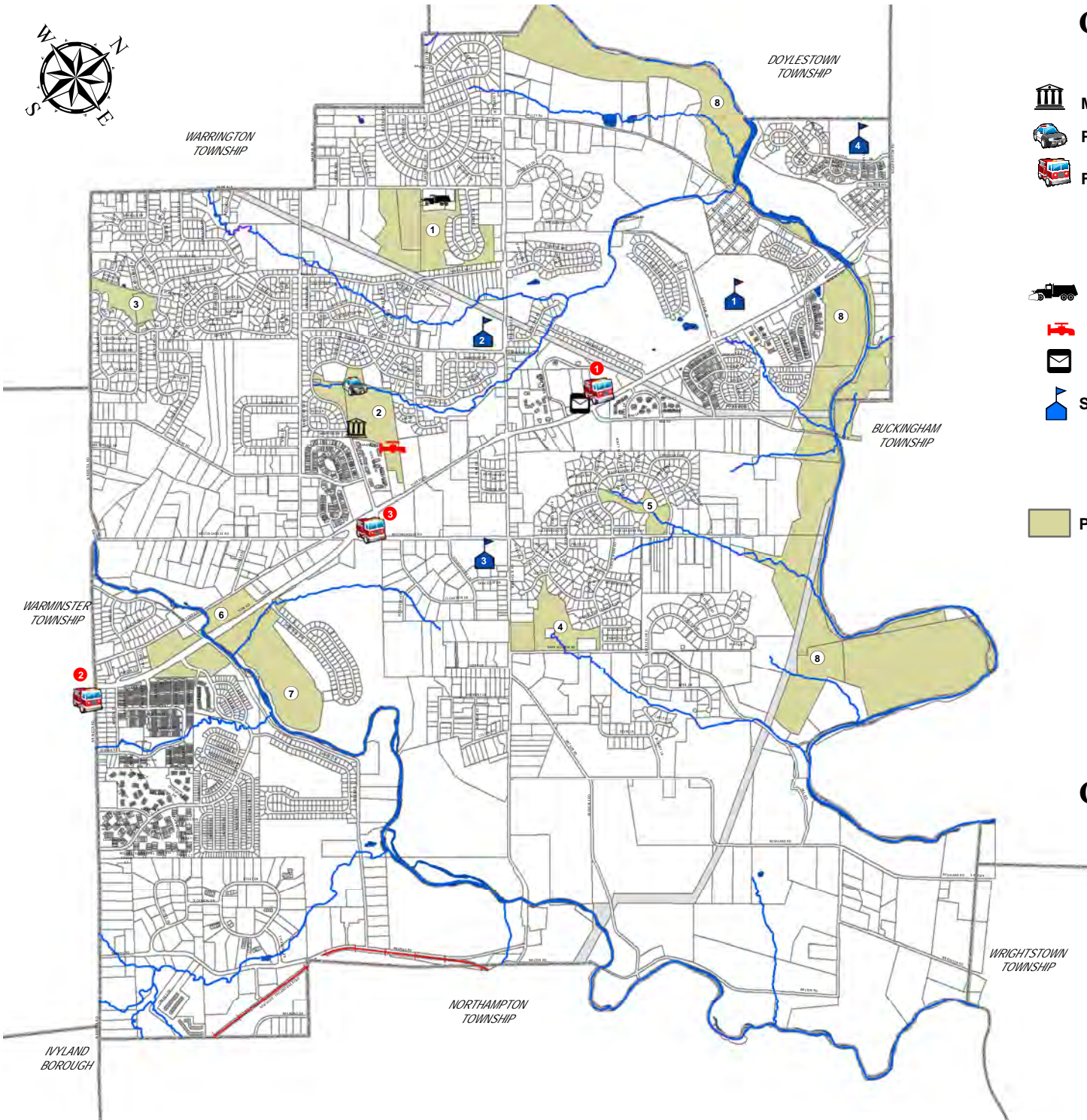
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









# SIDEWALKS, PATHS, AND TRAIL MAP

## Figure 7

### PLACES OF INTEREST

-  SCHOOL
-  MOLAND HOUSE
-  SHOPPING CENTER
-  MUNICIPAL BUILDING
-  POST OFFICE
-  PARK
-  TRANSMISSION LINE

### LEGEND

-  CONCRETE SIDEWALK
-  BITUMINOUS SIDEWALK / TRAIL
-  STONE TRAIL
-  BIKE LANE
-  STREAMS

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019



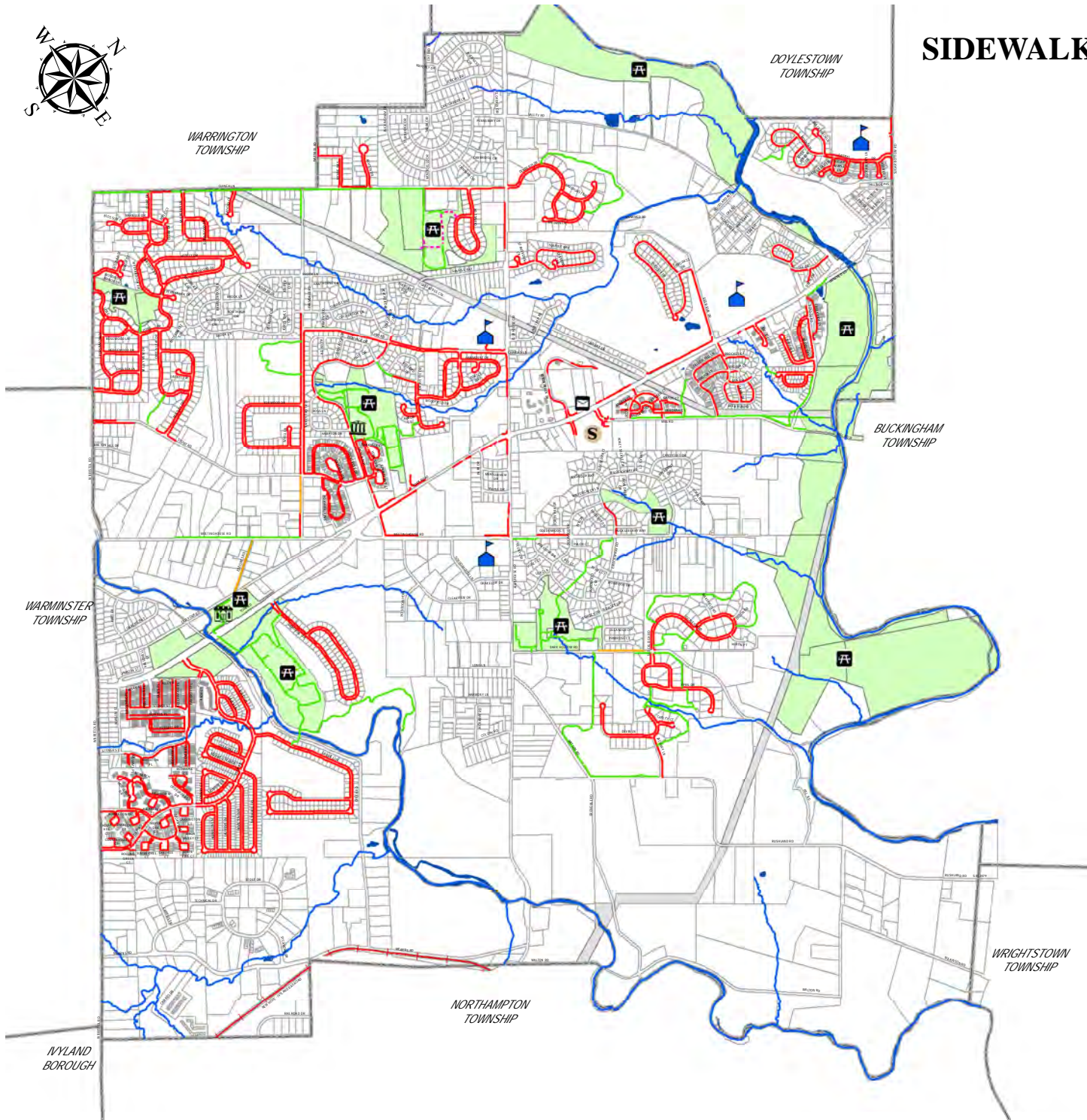
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# HYDROGEOLOGIC RESOURCES

Figure 8

## LEGEND

- WATERSHED BOUNDARY
- ▨ WETLANDS
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019

0 750 1,500 3,000 4,500 6,000 Feet

Created: 7/19/2019

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NESHAMINY CREEK  
TRIBUTARY No. 3

NESHAMINY CREEK

LITTLE NESHAMINY CREEK

WARRINGTON  
TOWNSHIP

DOYLESTOWN  
TOWNSHIP

BUCKINGHAM  
TOWNSHIP

WARMINSTER  
TOWNSHIP

WRIGHTSTOWN  
TOWNSHIP

NORTHAMPTON  
TOWNSHIP

MYLAND  
BOROUGH



# PRIME AGRICULTURAL SOILS

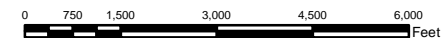
Figure 9

## LEGEND

-  PRIME FARMLAND
-  FARMLAND OF STATE-WIDE IMPORTANCE

NOTE: DATA FROM BUCKS COUNTY SOIL SURVEY 2002

## WARWICK TOWNSHIP COMPREHENSIVE PLAN UPDATE 2019



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Revised: 8/13/2019



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