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1: HISTORY AND HISTORIC RESOURCES

Municipal Governments

Charlestown Township

A 5-member Board of Supervisors governs Charlestown Township. Three staff members, a Planning Commission, Open Space Commission, Historical Commission and a Zoning Hearing Board, support the Board.

East Pikeland Township

A Board of Supervisors governs East Pikeland Township. A small paid staff and several volunteer boards and commissions support the Board. These include the Zoning Hearing Board, Board of Auditors, Planning Commission, Parks & Recreation Board, the Historical Commission, and the Beautification Committee. The Township Manager provides day-to-day operations for the Township, and oversees each of the staffed departments. The Manager reports to the Board of Supervisors.

East Vincent Township

A Board of Supervisors governs East Vincent Township. A number of commissions and boards support the Board, including the Planning Commission, Zoning Hearing Board, Parks & Recreation, Historical Commission, Board of Auditors, Municipal Authority (wastewater/sewer) and Environmental Advisory Council. The Township Manager provides oversight of the day-to-day operations of the Township and coordinates the staff. There is also a Municipal Authority that addresses the township's sewer and wastewater issues.

Phoenixville Borough

The Borough of Phoenixville has a Mayor/Council form of government, with a Manager overseeing day-to-day operations. Several boards and commissions support the borough, and these include the Historic Architectural Review Board, Planning Commission, Zoning Hearing Board, Recreation Board and Shade Tree Commission.

Schuylkill Township

Schuylkill Township is governed by a six-member Board of Supervisors, with support from several boards and commissions and paid administrative staff. Boards and commissions include the Zoning Hearing Board, Planning Commission, Historical Commission, and Environmental Advisory Council.

West Vincent Township

A Board of Supervisors governs West Vincent Township, aided by a Planning Commission and Environmental Advisory Commission. A Township Manager coordinates the various commissions and township departments. Paid staff is limited to police, road crew and administrative staff.

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Municipal Histories

The Phoenixville Region encompasses approximately 70 square miles and covers the Borough of Phoenixville, Charlestown Township, East Pikeland Township, East Vincent Township, Schuylkill Township, and West Vincent Township. Phoenixville provides an urbanized center for the surrounding rural/suburban townships. The Region borders the Schuylkill River, and several other waterways flow through the area, including French Creek, Pickering Creek, Stoney Run and Valley Creek. Several highways connect the Region to other populated and commercial areas.

Scenic areas are located throughout the region, including watersheds, rural landscapes and roads. Some of these have been identified in Charlestown Township, East Vincent Township, West Vincent Township and Phoenixville Borough. The French Creek was designated a “Scenic River” in 1982 by the Commonwealth of Pennsylvania. A similar designation has also been recommended for the Pickering Creek Valley. The French & Pickering Creeks Conservation Trust is active in the preservation of open space and historic resources within these watersheds.

Significant cultural resources in the region are related to the urban, village and rural aspects of the region’s history. These include resources as diverse as railroads, mills, farms, rural landscapes, bridges, dwellings and archaeological sites. These resources serve as connections to our past, particularly when viewed within their historical physical context, such as an urban downtown or village cluster. Focusing on the protection of significant cultural resources is related to environmental conservation, smart growth and other planning measures designed to maintain the important features of our landscape while allowing for growth and economic diversity.

The following paragraphs give a brief overview of the historical development of each community in the Phoenixville Region, as well as note those resources listed on or eligible for the National Register of Historic Places. A review of the protections in place for historic resources in each community is also provided.

Charlestown Township

The first official survey of Charlestown Township was conducted in 1738. The township reached its current form in 1849, after the separation of Schuylkill Township and the incorporation of the Borough of Phoenixville. The first landholder here, Charles Pickering, is remembered in the name of the township and the Pickering Creek and Valley.

Early explorations by Charles Pickering and John Tinker lead to a belief that precious minerals such as silver were located on Pickering's land. Long after these men had perished, the mineral industry was thriving in the area. Like neighboring townships, agriculture was the primary industry. Although some farms are still active in agriculture, the primary use is for the raising and training of horses.

The proliferation of watercourses was conducive to milling enterprises. A mill on the Pickering Creek, established in the early eighteenth century, became a nucleus for a village. By 1840, this village was known as Charlestown.

Later industries included quarrying, mining and ice manufacturing. Although now only the Devault quarry remains active, quarries also operated at Aldham, Sidley, Bacton Hill and Pickering from the nineteenth century into the twentieth century. Lead and other associated materials were the focus of mining in the latter portion of the nineteenth century. The American Ice Company harvested ice from a dammed area on the Pickering Creek east of Aldham. This operation ceased in 1942 after damage suffered from a hurricane.

The Frazer Branch of the Pennsylvania Railroad, completed in 1883, primarily served the mining communities as well as Wilmer (then Harveyville) and Frazer. Both passenger and freight service was afforded to these communities located between Phoenixville and the Main Line. This line, now the Norfolk Southern freight spur, continues to provide freight service between Phoenixville and the Great Valley industrial complex. However the train runs less often than once per day.

Urbanized areas in the township are located south of the former Valley Forge General Hospital and in the village of Devault.

Resources

As of October 2003, there were ten (10) individual resources, one (1) historic district and one (1) rural historic district that have been determined eligible for or listed on the National Register of Historic Places. The rural district, Middle Pickering Rural Historic District, also encompasses areas in neighboring East Pikeland Township. The Charlestown Village Historic District is also a local historic district, regulated by the Charlestown Township Historical Commission per Act 167 since 1988. Numerous other

Class I historic resources, and Chester County and the Charlestown Township Historical Commission have identified other locally significant resources.

National Register Listed/Eligible Properties

Pickering Dam
Chester Valley Grange No. 1496
Latta Davis Property
Hampton Residence
House & Springhouse
Martin-Little House
Spring Mill Farm
Oskar G. Stonorov House
Davis B. Williams Farm
Jacob Wisner House

National Register Listed/Eligible Districts

Charlestown Village Historic District
Middle Pickering Rural Historic District

East Pikeland Township

Pikeland Township split into East and West Pikeland townships in 1838, the result of differing needs. West Pikeland, dominated by the Pickering Valley, continued to be more rural in character than East Pikeland, which was near the Schuylkill River, other transportation corridors, and urbanized Phoenixville. Europeans had lived in the Pikelands since the late seventeenth and early eighteenth centuries. Europeans of various nationalities and religious affiliations settled here, including Germans, Scots-Irish and English, many of Quaker Lutheran belief. East Pikeland Township is the home of the nation's second oldest Lutheran congregation.

Plentiful waterways proved suitable for milling. Grist, saw and cider mills operated along waterways such as the Royal Spring, Pickering Creek and French Creek. A Continental Powder Mill was sited on French Creek during the Revolutionary War, for the purpose of supplying the Continental Army with necessary gunpowder. A gun repair operation was also located at the mill. British troops twice sabotaged this site in 1777, finally causing it to cease operations. Foraging troops from Valley Forge also occupied the township, as did a number of wounded soldiers.

Emmor Kimber purchased one of the mills along the Royal Spring and its surrounding acreage in 1817. Here, Kimber founded the French Creek Seminary for Females (nee French Creek Boarding School for Girls), which later became Kimberton Academy.

With later construction in the vicinity of the school, such as the Kimberton Inn, a small village formed around the school.

The railroads and canal in the area, constructed in the first half of the nineteenth century, provided transportation of people and goods to more distant locales. Although these were not located within East Pikeland Township, the rural society there benefited from the opportunity to ship farm goods to additional markets, as well as opening more efficient routes of travel. In 1870, the Pickering Valley Branch of the Philadelphia & Reading Railroad Company was constructed from Phoenixville through Kimberton to Byers, following the French Creek and Pickering Valley. The rail line station at Kimberton brought increased population and businesses to the village, which served the railroad and its customers. The primary function of the line was to serve local farmers, and to that end a livestock auction was established at Kimberton. The line was abandoned in 1949 due to decreasing traffic in the early twentieth century. A second rail line, a branch of the Pennsylvania Railroad, was constructed through the township in 1884, however no station was established in the vicinity. A short-lived French Creek Railroad (aka “Sow Belly line”), in operation from 1890-1891 was a spur from the Pickering Valley line to the granite quarries at St. Peters.

Trolleys were introduced in the township in the 1890s. With a line from Phoenixville to Spring City. The Bonnie Brae Amusement Park was the feature destination along the line.

East Pikeland Township retained its rural character well into the twentieth century. As in other areas, the availability of the automobile and improvements to roads lead to suburbanization. A population jump from 973 in 1940 to 7323 in 2000 illustrates the population expansion as farms were converted to residential developments, particularly in the central portion of the township. A regional school system was created in the 1950s, resulting in the closure of 1- and 2-room local schools.

Resources

According to the Pennsylvania Historical and Museum Commission, as of October 2003, there were six (6) individual resources, one historic district, and one (1) rural historic district that were listed on or determined eligible for the National Register of Historic Places. The Middle Pickering Rural Historic District crosses municipal lines into neighboring Charlestown Township. The East Pikeland Township website boasts over 150 significant sites and structures in the township, most of which have not been recognized with National Register designation.

National Register Listed/Eligible Properties

Bernard Property
Hare’s Hill Road Bridge
George Hartman House

Prizer's Mill Complex
Queen Anne House
Rapp's Covered Bridge

National Register Listed/Eligible Districts

Kimberton Village Historic District (boundaries increased, 1987)
Middle Pickering Rural Historic District

The local historical commission reviews changes to buildings in the Kimberton Village Historic District, as well as those identified on a Cultural, Historical and Architectural Resources Map included in the 2002 East Pikeland Zoning Ordinance. Duties of the historical commission also include the review of demolition permits, subdivisions and land development plans when known historic properties are involved. Historic resources identified in East Pikeland Township's *Open Space, Recreation, and Environmental Resources Plan* may also be protected using the Transfer of Development Rights program. The historical commission is in the process of applying for Certified Local Government status, making it eligible for grants and technical assistance from the State and National Park Service.

East Vincent Township

East Vincent Township was established in 1832 when it was separated from West Vincent Township. This separation occurred due to the differing interests and growth patterns of the areas, leading to differing needs of the population. Tenant farming dominates the early history of the area, as ownership disputes through much of the eighteenth century prevented further sales of the land.

Fertile land and waterways dictated the township's early agricultural use. Millers and manufacturers also valued the waterways for their power, and works were set up along French, Pigeon and other creeks and waterways. Early settlers established German Reformed and Mennonite churches in the 1730s. Taverns were established to serve residents' and travelers' more earthly needs. The Seven Stars Inn was founded in 1754, the White Hall Inn in 1762 and an unnamed tavern operated by Edward Parker along the Schuylkill River in 1768. Travelers had few routes to choose from in the township, as improved roads were scarce. The number of fords and other crossings of local waterways increased as traffic through the area warranted it.

The Schuylkill Navigation Company constructed a canal system along the Schuylkill River from 1823-1824, including lakes and dams. Within ten years, the Philadelphia & Reading Railroad Company began operation, extending its line to Philadelphia in 1839. These transportation options represented a boon to commerce and travel in the region. Water crossings continued to evolve with the construction of bridges in key areas. A covered bridge at Royers Ford, constructed in 1840, spurred local settlement.

Springville, now known as Spring City, was incorporated here in 1867, formed from land from East Vincent and East Pikeland townships.

The late 1800s brought railroads through the Township. The Pennsylvania Railroad skirted the Schuylkill River in 1884, vying for business with the Philadelphia & Reading Railroad on the opposite bank. Spring City hosted a station on the Pennsylvania Railroad line. The French Creek Railroad, a branch of the Delaware and Lancaster Railroad, ran from Kimberton in East Pikeland Township to St. Peter's Village (French Creek Falls) in East Vincent Township. The poorly constructed road, knick-named the "Sow Belly" railroad, discontinued service within one year and the rails were removed within seven years after opening for business.

Employment opportunities in the Township outside of Spring City in the early twentieth century were found at Pennhurst Center, a state sanitarium. The facility grew to include many facilities for patients and employees, such as dormitories, staff housing and wastewater treatment facilities. While the Pennhurst and Spring City areas developed in urban and suburban models, the rest of the township remained relatively rural with agriculture as the predominant industry.

As elsewhere in the vicinity, East Vincent Township participated in the regional school system in the mid-twentieth century, resulting in the closure of local schools. The development of the Township through the latter portion of the twentieth century included suburban development on former agricultural lands and mobile home and apartment complexes closer to the urbanized area of Spring City. Route 724 contains most of the commercial and industrial development. Nearby urban centers include Phoenixville, Pottstown and King of Prussia.

Resources

As of October 2003, East Vincent Township had thirteen (13) properties that are listed on or have been determined eligible for the National Register of Historic Places. No historic districts have been recognized in the Township, however the Township's 1994 comprehensive plan notes a few potential district locations. Several additional resources have been identified in the 1982 Chester County survey, and additional "historic resources of interest" are identified in the comprehensive plan.

Several prehistoric archaeological sites have been recorded in East Vincent Township, generally of the Archaic and Woodland periods. The general vicinity of these sites is included in *The Comprehensive Plan for East Vincent Township, Chester County, Pennsylvania*. Specific information regarding archaeological sites must be obtained from the Pennsylvania Historical and Museum Commission (PHMC).

National Register Listed/Eligible Properties

Camp Sankanac (also in West Vincent Township)

Egress Acres
Hall's Bridge
Kennedy Covered Bridge
Parker's Ford
Pennhurst State Hospital
River Bend Farm
Jonathon Rogers or Jacob Beaver House
Samuel Rosen Farm
Isaac Schlichter House and Barn
Frank Titanic Property
Vincent Forge Mansion
William Yaeger Farm

National Register Listed/Eligible Districts

(none)

The preservation and reuse of historic resources is also considered under the Open Space Design Option in the zoning code, including provision for a density bonus when certain conditions are met. The protection of the French Creek Scenic Corridor is a priority in East Vincent Township, and development criteria for this area are contained in the zoning code. In addition, a Historic Resource Overlay District covers those resources identified in the East Vincent Township Historic Resource Inventory. The historical commission, established in 1992, reviews demolition permit applications (with the option of demolition delay), use approvals, and proposed alterations to Class I and II historic buildings and their associated landscapes.

Phoenixville Borough

The land at Phoenixville was first settled by Europeans in the mid-eighteenth century. Grist and iron milling were primary industries in the eighteenth century, and a small community grew up around this small employment center. The confluence of the River and French Creek at Phoenixville allowed for swift transportation of people, goods and raw materials, a formula for success in early Pennsylvania. From rolling and splitting mills to blast furnaces and finishing mills, the iron industry increased its presence in Phoenixville in a short period of time. The Chester County Canal (1828) and Philadelphia and Reading Railroad (1837) improved the transportation of raw materials and finished goods for local industries.

Phoenixville Borough was incorporated in 1849. By this time, the Phoenix Iron and Steel Company was well on its way to becoming one of the largest iron and steel producers in southeastern Pennsylvania. Such contributions to the field as the Phoenix Column solidified the company in the forefront of innovations in iron and steel. The Pickering Valley Railroad and Pennsylvania Railroad ran through the vicinity in the late 19th

century, bringing a mode of transportation still more efficient than the turnpikes, waterways and canal.

The growth of local industry necessitated housing and commercial enterprises to serve workers and administrators. Particularly in the second half of the nineteenth century, the retail outlets in the town grew, becoming the commercial center for northern Chester County. The construction of worker housing also continued through this period, providing convenient and affordable living spaces to local workers. These buildings tend to be modestly sized and with minimal or no ornament or stylistic characteristics. Several high-style dwellings were also constructed during this period for wealthier industry owners and other entrepreneurs.

Phoenix Iron and Steel continued to expand in the early decades of the twentieth century, which precipitated the continued residential and commercial development of the borough of Phoenixville. The growth of the industry, however, began to cause changes in the business climate for Phoenix Iron and Steel. The Lukens Iron and Steel Company in Coatesville, with the injected physical and financial support of the Bethlehem Steel Company, began to outpace Phoenix Iron and Steel.

Increasing foreign and domestic competition changed the industry dramatically after World War II, resulting in the decline and eventual closure of Phoenixville Steel Company in the 1980s. The loss of jobs and opportunities in Phoenixville as a result stifled the growth and prosperity of the community, although some jobs were created in smaller, service-based businesses. The late 20th century saw resurgence as a bedroom community, where people had jobs in nearby office parks in King of Prussia and Great Valley, and along routes 422 and 202.

Resources

As of October 2003, Phoenixville is home to nine (9) individual properties and three (3) historic districts that have been listed on or determined to be eligible for the National Register of Historic Places.

The Phoenixville Historic District contains over 960 resources important to the history of the borough. The local Historic Architectural Review Board (HARB) provides a level of protection to National Register eligible and listed sites in the borough, with the requirement of review by the Board and the issuance of a Certificate of Appropriateness for changes proposed to the exterior of these buildings. The Downtown Historic District, also regulated by the HARB, is not contiguous with the National Register listed Phoenixville Historic District.

National Register Listed/Eligible Properties

Black Rock Bridge
Black Rock Tunnel

Gay Street School
John Lobok Property
Mansion House
Phoenixville Canal Spur
General Pike Hotel
Reeves Park
Springford Knitting Mill

National Register Listed/Eligible Districts

Philadelphia & Reading Railroad, Pickering Valley Branch
Phoenixville Historic District
Phoenixville Railroad, Schuylkill Division

A known archaeological site, Scape Level, contains the ruins of worker housing from the construction of Black Rock Tunnel circa 1835. Other demolished historic resources may have archaeological value, such as the Starr Grist Mill, Cotton Factory and French Creek Works.

The 1993 *Comprehensive Recreation, Park and Open Space Plan* listed significant properties, objects and sites in the borough. Eight (8) twentieth-century resources were identified, and thirty-two (32) eighteenth and nineteenth-century resources were listed. This list was repeated in the 2001 draft update to this plan.

Neighborhood conservation districts are also in place, with three zoning classifications, to allow for the development and reuse of properties while maintaining community integrity and character. The local Main Street Community Development Corporation is also active in the preservation and reuse of existing buildings downtown, including plans to create financial assistance programs for homeowners and first-time homebuyers.

Schuylkill Township

The area that is now Schuylkill Township was first settled by Europeans in the late seventeenth and early eighteenth centuries. Largely agricultural in nature, the Township grew and was carved from Charlestown Township in 1827. Shopping and business were conducted in nearby Phoenixville, which was incorporated in 1849.

The Phoenixville-Valley Forge trolley operated from 1913 to 1924, and terminated in the Township at an amusement park on Valley Park Road. Similar amusement parks at trolley termini operated in this area, contributing to the allure of the trolley and locations like Willow Grove.

Schuylkill Township remained relatively rural until the widespread popularity of the automobile in the 1920s. The lingering rural character of the township is evidenced by

foxhunts that roamed unimpeded through the township as late as the 1960s. Municipal functions were established in the 1960s, with the adoption of a zoning ordinance and comprehensive plan, and the hiring of a police officer. Development pressures encroached from the north and east, with the construction of the Schuylkill Expressway in the 1950s and King of Prussia mall in the 1960s. Also in this period, the local system of one or two-room schoolhouses was abandoned in favor of a consolidated school system. The Valley Forge National Park buffered the township from direct encroachment from the east.

The later years of the twentieth century brought increased population to Schuylkill Township, with the approval of residential developments and individual buildings. A suburban landscape now dominates Schuylkill Township, rather than a rural one.

Resources

As of October 2003, ten (10) properties have been listed on or determined eligible for the National Register of Historic Places in Schuylkill Township. In addition, the General Frederick Von Steuben Headquarters at Valley Forge State Park has been designated a National Historic Landmark.

National Register Listed/Eligible Individual Properties

Isaac Anderson Farm
Samuel Buzzard Farm
Moses Coates, Jr. Farm
McAvoy Brick Company Property
Moore Hall
Mule Bridge
Matthias Pennypacker Farm
Schuylkill Elementary School
Valley Forge Army Hospital
General Frederick Von Steuben Headquarters (NHL)
White Horse Farm

National Register Listed/Eligible Districts

(none)

A local Historic Site Overlay District has been incorporated into the zoning code for the protection and reuse of historic properties. The Overlay includes those resources listed on the National Register of Historic Places, lots abutting the Valley Forge National Historic Park, and those resources listed as “Significant Historic Sites in Schuylkill Township” in Table 3 and Map 5 of the *Schuylkill Township Open Space, Recreation and Environmental Resource Plan*, adopted December 2, 1992, and its amendments. The Schuylkill Township Historical Commission reviews subdivisions, development of sites,

relocations, demolition, changes of use, signage, exterior alterations, and the clear cutting of landscapes involving these properties. The zoning code takes an additional step in requiring archaeological assessments for those sites that the Pennsylvania Historical and Museum Commission has identified as containing known archaeological sites or the potential for archaeologically significant sites.

West Vincent Township

West Vincent Township was established in 1832, encompassing nearly 18 square miles, when Vincent Township divided into East and West Vincent townships. Waterways proved important in the early history of West Vincent Township, with industry and transportation focused on these routes. A powder mill was constructed in Birchrunville during the Revolutionary War, and increased settlement in the area followed.

Despite this concentration of citizens, the Township remained primarily rural throughout its history. Farming was the occupation of many citizens, while other support services such as shoemakers, doctors, blacksmiths and innkeepers were also present in the area. Dairy farming was the main agricultural pursuit, and farms distributed their goods to local shops and homes. The increasing popularity of “super markets” after the mid-twentieth century lead to decreased local deliveries and grocer sales. Refrigerated transportation also increased competition from more distant farms, making dairy farming less desirable. Labor shortages due to more attractive industrial jobs with benefits, as well as increased land taxes, also made dairy farming a more difficult endeavor. Many dairy farms eventually turned to crop farming, and others ceased to operate altogether.

Increasing development pressures mounted in West Vincent after World War II. Changes in transportation, with the increased use of automobiles and the improvement of the road system, made the township much more accessible to potential new residents. The third quarter of the twentieth century brought political and a municipal awareness to locals, and movements were made to adopt a zoning ordinance, name all Township roads, improve solid waste disposal and promote the consolidation of local schools, among other initiatives. By the 1960s, West Vincent Township’s Plan characterized the township as “predominantly rural non-farm.” Most commercial and industrial uses were focused at Ludwig’s Corner; Township offices were at Birchrunville. Much of the landscape continues to be large-lot residential, with a sense of open space, while some subdivisions are present.

Resources

As of October 2003, there were eleven (11) individual resources and two (2) historic districts that are listed on or have been determined eligible for the National Register of Historic Places in West Vincent Township. In a 1979-1982 survey of Chester County, 231 potential historic resources were inventoried in West Vincent Township. Full evaluations of National Register eligibility have not been made for these potential

resources. A previous survey of the French and Pickering Creek watershed areas, sponsored by the Dietrich Foundation and the French & Pickering Creek Conservation Trust, identified 72 potential historic resources. It is not currently known whether these 72 were incorporated in the 231 sites identified in the 1979-1982 survey.

Areas of high and medium probability for prehistoric archaeological sites are available in the *West Vincent Township Open Space & Recreational Plan*. Specific site information must be obtained from the Pennsylvania Historical and Museum Commission (PHMC). No archaeological sites are currently listed on or have been determined eligible for the National Register.

National Register Listed/Eligible Individual Properties

[unknown name] – at Kimberton Road, Old Route 113
Birchrunville General Store
Camp Sankanac (also in East Vincent Township)
Deery Family Homestead
Nicholas East House
French Creek Farm
Hall's Bridge
George & Phoebe Hipple House
John Mackey Residence
Robert Rooke House
Strickland-Roberts Homestead

National Register Listed/Eligible Districts

Birchrunville Historic District
West Vincent Highlands Historic District

The zoning code for West Vincent Township employs base zoning designations specific to village environments such as Kimberton and Birchrunville in order to maintain the village boundaries and surrounding landscape. Provisions in the code encourage the continuance of the traditional village setting in the township. The preservation of the French Creek Scenic River Corridor is also a priority, with standards for items such as ridgeline setbacks, land clearance, access and timber harvesting.

The local Historic Preservation Overlay District applies to those resources included in the zoning ordinance on the Historic Resources Map and listed in Appendix E. These resources include National Register listed and eligible sites, as well as those that have been identified by the Township. In general, protections are afforded to those resources classified as Class I, II and III. The historical commission reviews applications for demolition, exterior alteration, conversions and other property alterations, including changes to vegetation or other significant landscape features. Archaeological resources

and cemeteries are also afforded protection under the code, with the potential for requirement of archaeological studies and the prohibition of the destruction of cemeteries.

A Transfer of Development Rights Overlay District is also in place, and one of the purposes of the District is the maintenance of historic land use patterns and community character.

Cultural Resources Issues

In general, communities in Chester County are keenly aware of their wealth of historic resources and the importance of protecting them. This is certainly the case in the Phoenixville region. Several measures have been adopted to aid in the preservation of historic resources, including local historical commissions with regulatory controls, transfer of development rights (TDR), and conservation easements such as those offered by the French & Pickering Creeks Conservation Trust. Agricultural preservation efforts are also linked to historic preservation. As municipalities continue to update planning documents in accordance with the latest Municipalities Planning Code, communities continue to increase their awareness of historic preservation and the available preservation-related tools. Working together, these programs can have a profound impact on the preservation of historic resources and their context in the landscape.

While many positive steps have been taken to preserve historic resources, there are additional issues that could enhance existing efforts.

- Comprehensive identification of potential historic resources
- Coordination of various protection measures currently in place
- Funding

These issues relate to the basic tenets of historic preservation: identify, protect, and preserve. A comprehensive identification and evaluation effort would identify significant resources from all periods of local and regional history worth preserving. The coordination and potential expansion of existing programs within the region would aid in the protection of significant resources. Preservation of those resources requires funding – for repairs, maintenance, restoration and reuse. The identification and/or establishment of funding pools for various types of investigations and “bricks and mortar” projects greatly increases the chances for the survival of the Phoenixville Region’s historic resources.

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Recommendations

- Thorough updated identification and evaluation of potential cultural resources

The identification of significant sites is the first step in protecting them. Although numerous sites in the region have been identified over the years through regulatory and planning surveys, no updated comprehensive surveys of potentially significant historic sites has been conducted in the Phoenixville region. Any comprehensive survey should identify buildings at least fifty years of age or older in order to capture potentially significant sites that are related to the region's recent past. Further, the evaluation of these sites for National, State and local significance and integrity will help municipalities to prioritize and focus their efforts and resources on those properties that adequately convey their significance.

Chester County is taking a step in the comprehensive identification of resources. A partnership between the Parks & Recreation department and the geographic information systems (GIS) staff has been developed to accurately identify and map sites and structures that are fifty years or older in the county. Local commissions will field verify locations of resources using updated parcel mapping as a base map. Project participants will also note any alterations or demolition of known historic resources. This data will then be mapped by the GIS staff.

- Public education and outreach

Public outreach programs are helpful in educating the public about many aspects of historic preservation, including the function and procedures of a local historical commission, how to research historic buildings, and maintenance techniques for historic buildings and materials. Not only do these efforts increase public awareness, but they also give people tools to learn about and take care of their buildings, as well as building enthusiasm for the significant buildings and landscapes in the community.

- Funding and other incentives for historic preservation

Funding or other incentives for preservation, restoration and rehabilitation are always an issue. Identification of funding pools to assist property owners in the continued maintenance, preservation or restoration of their historic buildings should be a priority in order to support continued investment in the region's historic properties. One example is the Main Street Community Development Corporation in Phoenixville. This group is utilizing partnerships, grants and the Elm Street program to develop funding programs for homeowners and first-time homebuyers.

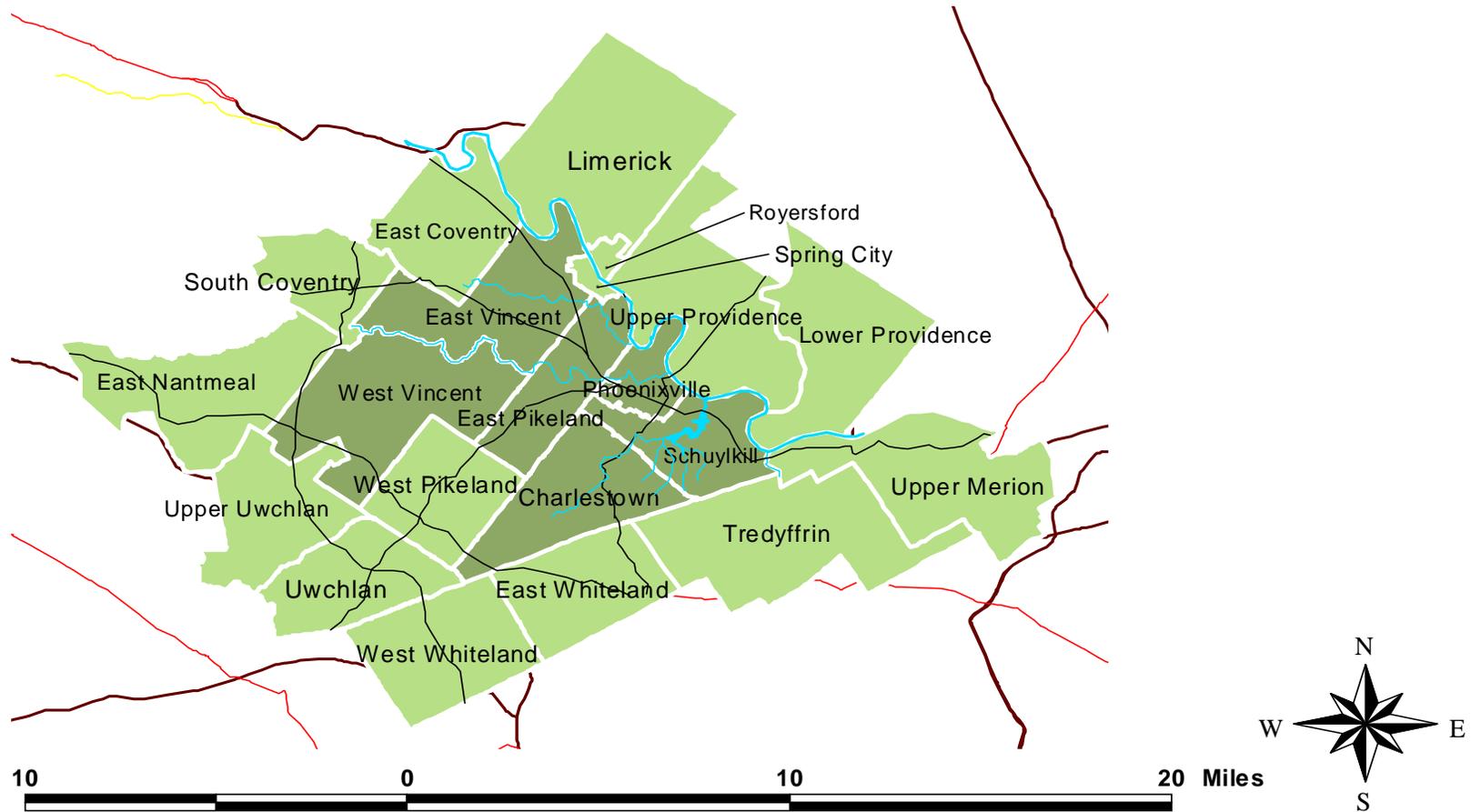
2: POPULATION TRENDS

Over the past twenty years, the population in the Phoenixville area region has been increasing as well as changing demographically. The following section will document these changes using census data from 1980, 1990 and 2000. In addition to studying the Phoenixville area region and the individual municipalities, the ten census tracts within the study area will also be analyzed. Phoenixville Borough is made up of four census tracts (3006, 3007, 3008, and 3009), East Vincent Township is made up of two census tracts (3012.01 and 3012.02), and the four other townships are composed of one census tract each (see **Map 2**).¹ Between 1980 and 2000, the municipality and census tract boundaries in the study area have not significantly changed.

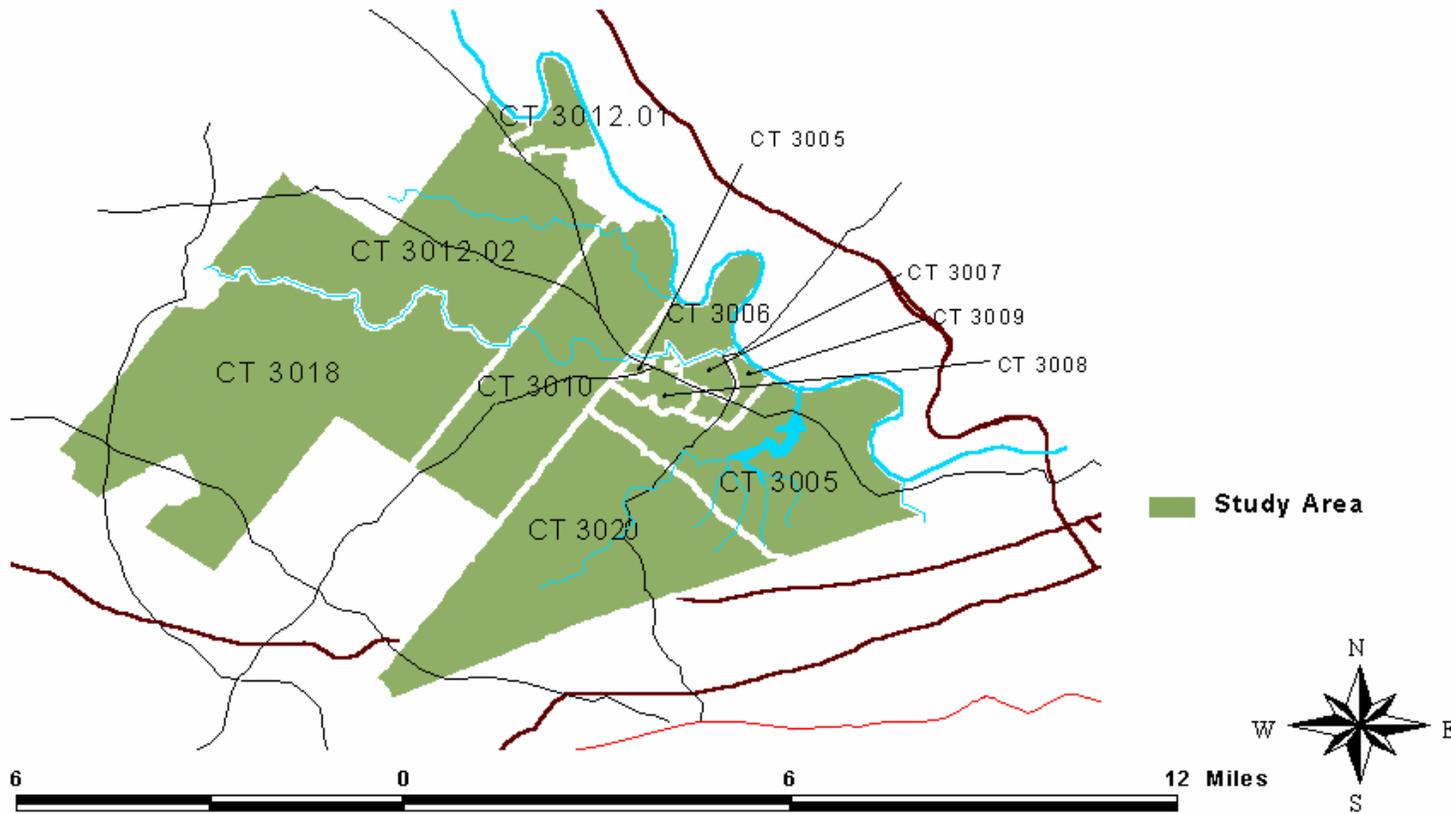
The municipalities surrounding the study area will also be analyzed in order to compare past and future demographic trends. These municipalities form a perimeter around the study area. They include Spring City, East Coventry, South Coventry, East Nantmeal, Upper Uwchlan, West Pikeland, Uwchlan, West Whiteland, East Whiteland, and Tredyffrin in Chester County, and Upper Merion, Lower Providence, Upper Providence, Royersford, and Limerick in Montgomery County (see **Map 1**).

¹ The other municipalities with corresponding census tracts are Charlestown (3020), East Pikeland (3010), Schuylkill (3005), and West Vincent (3018).

Map 1: Study Area and Surrounding Municipalities



Map 2: Census Tracts in the Study Area



Population

The population in the six-municipality study area has grown significantly over the past 20 years (see **Table 1**). The area's population modestly increased from 34,069 to 35,616 in 1980 to 1990. This 4.5% percentage increase was significantly lower than the population growth in the surrounding municipalities, Chester County, and the Philadelphia area (14.4%, 18.9%, and 25.1%, respectively). Within the study area, East Pikeland Township's population grew by over 32% between 1980 and 1990. Completed in 1985, the Pottstown Expressway, which links Pottstown and King of Prussia to Philadelphia, may have contributed to this population surge since East Pikeland is located near the Expressway. Conversely, the population decreased substantially in East Vincent, particularly census tract 3012.01, due to the closure of the former Pennhurst Institution Center and hence loss of staff and residents at the institution.

Between 1990 and 2000, the study area's population grew by over 15% from 35,616 to 41,013. While the study area's growth rate between 1990 and 2000 is lower than the surrounding area's rate of 20.9%, the area's growth rate is higher than Philadelphia area's rate, Pennsylvania's rate, and the national average during this time period. Particularly, Charlestown Township and East and West Vincent Townships have seen substantial population increases between 1990 and 2000 (47.1%, 32.0%, and 39.5%, respectively). While the population in Charlestown Township increased by over 47%, this increase can be mostly attributed to the development of the residential neighborhood, Charlestown Hunt Townhomes. Additionally, Charlestown's population includes the student population of the Valley Forge Christian College. Conversely, Phoenixville's population has dropped in size in recent years (-1.8% between 1990 and 2000). Within Phoenixville, only census tract 3006 has realized a population increase between 1980 and 1990 and 1990 and 2000 (29.5% and 8.8%, respectively). The fluctuations in population size in census tract 3012.01 in East Vincent Township can be attributed to the earlier closure of the Pennhurst Institution Center located in the tract and the influx of residents into the area between 1990 and 2000.

The population projections in **Table 1** are preliminary findings based on demographic analysis by the Chester County Planning Commission (CCPC). These projections are based on the assumption that prior land regulation policies and infrastructure investment patterns will continue. Alternative land use and investment policies may result in different forecasts of housing demand for the individual municipalities in the study area. As will be noted in the New Housing Development Projections section of this document, the housing unit projections derived from the CCPC population projections are not consistent with current housing unit trends between 2000 and 2003. Thus, these population projections and the corresponding housing projections may be obsolete. In the New Housing Development Projections section, two housing development scenarios will be presented that are consistent with present housing trends and take into consideration current market characteristics and relevant development issues in the study area.

The CCPC population projections estimate that the six-municipality study area's population will grow 29.4% in the next thirty years, somewhat lower than Chester County's projection of 31.9% between 2000 and 2030. Similarly, the projected 18.4% growth for the six municipalities in the 2000-2020 period² is exceeded by the expected 24.0% growth rate in the surrounding area. Within the study area, the base case projections show Charlestown and West Vincent growing by a considerable amount between 2000 and 2030 (55.8% and 57.7%, respectively). While the projections for Phoenixville estimate positive growth during this time period, its growth rate is considerably smaller than the other municipalities in the area.

² Since CCPC only provides population projections for municipalities within Chester County, the surrounding municipalities' population projections for municipalities in Montgomery County were obtained using the Delaware Valley Regional Planning Commission (DVRPC) forecasts. DVRPC forecasts do not provide projections for 2030.

Table 1: Population Size and Projections for Select Areas, 1980-2030

| Location/Census Tracts | 1980 | 1990 | 2000 | % Change 1980-1990 | % Change 1990-2000 | 2010 | 2020 | 2030 | % Change 2000 - 2020 | % Change 2000 - 2030 |
|-----------------------------|---------------|---------------|---------------|-----------------------|-----------------------|---------------|---------------|---------------|-------------------------|-------------------------|
| Phoenixville | 14,165 | 15,066 | 14,788 | 6.4% | -1.8% | 15,410 | 15,680 | 16,080 | 6.0% | 8.7% |
| CT 3006 | 2,481 | 3,214 | 3,497 | 29.5% | 8.8% | | | | | |
| CT 3007 | 5,081 | 4,764 | 4,604 | -6.2% | -3.4% | | | | | |
| CT 3008 | 3,911 | 4,570 | 4,208 | 16.8% | -7.9% | | | | | |
| CT3009 | 2,692 | 2,518 | 2,479 | -6.5% | -1.5% | | | | | |
| Charlestown | 2,770 | 2,754 | 4,051 | -0.6% | 47.1% | 4,670 | 5,450 | 6,310 | 34.5% | 55.8% |
| East Vincent | 4,739 | 4,161 | 5,493 | -12.2% | 32.0% | 6,090 | 6,660 | 7,660 | 21.2% | 39.5% |
| CT 3012.01 | 1,045 | 90 | 295 | -91.4% | 227.8% | | | | | |
| CT 3012.02 | 3,694 | 4,071 | 5,198 | 10.2% | 27.7% | | | | | |
| East Pikeland | 4,410 | 5,825 | 6,551 | 32.1% | 12.5% | 7,220 | 7,730 | 8,350 | 18.0% | 27.5% |
| Schuylkill | 5,993 | 5,538 | 6,960 | -7.6% | 25.7% | 7,690 | 8,680 | 9,670 | 24.7% | 38.9% |
| West Vincent | 1,992 | 2,272 | 3,170 | 14.1% | 39.5% | 3,890 | 4,350 | 5,000 | 37.2% | 57.7% |
| Total Study Area | 34,069 | 35,616 | 41,013 | 4.5% | 15.2% | 44,970 | 48,550 | 53,070 | 18.4% | 29.4% |
| Surrounding Municipalities* | 127,200 | 145,464 | 175,855 | 14.4% | 20.9% | 197,570 | 218,130 | | 24.0% | |
| Chester County | 316,660 | 376,396 | 433,501 | 18.9% | 15.2% | 483,500 | 528,000 | 571,800 | 21.8% | 31.9% |
| Philadelphia Area** | 4,716,818 | 5,899,345 | 6,188,463 | 25.1% | 4.9% | | | | | |
| Pennsylvania | 11,863,895 | 11,881,643 | 12,281,054 | 0.1% | 3.4% | | | | | |
| United States | 226,545,805 | 248,709,873 | 281,421,906 | 9.8% | 13.2% | | | | | |

*Surrounding municipalities include Spring City, East Coventry, South Coventry, East Nantmeal, Upper Uwchlan, West Pikeland, Uwchlan, West Whiteland, East Whiteland, and Tredyffrin in Chester County and Upper Merion, Lower Providence, Upper Providence, Royersford, and Limerick in Montgomery County.

**The Philadelphia area is the Philadelphia Consolidated Metropolitan Statistical Area (CMSA) which is defined by federal agencies; the Philadelphia CMSA boundaries have changed between 1980 and 1990 and 1990 and 2000.

Sources: US Census, Delaware Valley Regional Planning Commission (DVRPC), and Chester County Planning Commission (CCPC); population forecasts for Montgomery Counties included in the surrounding municipalities were taken from DVRPC projections; population forecasts for Chester Counties included in the surrounding municipalities were taken from CCPC projections.

From **Table 2**, the study area’s population density of 1.0 persons per acre is higher than Chester County, Pennsylvania, and the US. However, as compared to the surrounding municipalities’ population density of 1.5 persons per acre, the density in the study area is significantly lower. Within the study area, Phoenixville has the largest population density of 6.4 persons per acre reflecting the built-out nature of the downtown and residential community. West Vincent has the smallest population density of 0.3 persons per acre indicative of the Township’s emphasis on rural preservation.

Table 2: Population Density for Select Areas, 2000

| | Population Density (persons per acre of land area) |
|----------------------------|---|
| Phoenixville | 6.4 |
| Charlestown | 0.5 |
| East Vincent | 0.6 |
| East Pikeland | 1.2 |
| Schuylkill | 1.3 |
| West Vincent | 0.3 |
| Total Study Area | 1.0 |
| Surrounding Municipalities | 1.5 |
| Chester County | 0.9 |
| Philadelphia Area | n/a |
| Pennsylvania | 0.4 |
| United States | 0.1 |

Source: US Census

Consistent with national, State, and Chester County trends, the average household size in most of the study area’s municipalities has steadily declined between 1980 and 1990 and has essentially leveled off between 1990 and 2000 (see **Table 3**). This downward trend may be due to couples having fewer children, single-parent households, or senior citizens living alone. While the average size of a household has decreased, the population in most municipalities in the study area is increasing or is projected to increase in the future. These two opposing trends may result in an increase in demand for housing units. More specifically, with fewer persons per household, the housing demand may be in the form of smaller units, such as town homes or other higher-density units.

In 2000, West Vincent had the largest average household size at 2.84, while Phoenixville, particularly census tract 3008, had the smallest average household size at 2.10. In 2000, census tract 3012.01 in East Vincent Township had no households with all residents living in group quarters.

Table 3: Average Household Size for Select Areas, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 |
|----------------------------|-------------|-------------|-------------|
| Phoenixville | 2.59 | 2.37 | 2.27 |
| CT 3006 | 2.87 | 2.54 | 2.45 |
| CT 3007 | 2.52 | 2.36 | 2.22 |
| CT 3008 | 2.46 | 2.27 | 2.10 |
| CT 3009 | 2.69 | 2.37 | 2.35 |
| Charlestown | 3.00 | 2.77 | 2.73 |
| East Vincent | 2.90 | 2.71 | 2.75 |
| CT 3012.01 | 2.75 | 2.00 | N/A |
| CT 3012.02 | 2.90 | 2.71 | 2.75 |
| East Pikeland | 3.12 | 2.94 | 2.58 |
| Schuylkill | 3.05 | 2.75 | 2.62 |
| West Vincent | 2.90 | 2.82 | 2.84 |
| Total Study Area | 2.83 | 2.54 | 2.59 |
| Surrounding Municipalities | 2.83 | 2.55 | 2.53 |
| Philadelphia Area | 2.58 | 2.66 | 2.81 |
| Chester County | 2.90 | 2.73 | 2.65 |
| Pennsylvania | 2.74 | 2.57 | 2.48 |
| United States | 2.75 | 2.63 | 2.59 |

Source: US Census

As seen in **Table 3** above, in Phoenixville, the average household size is smaller than the Chester County, Pennsylvania, and US averages. When looking at the number of family and non-family households within Phoenixville as compared to other areas (**Table 4** below), Phoenixville has significantly more non-family households than the other municipalities in the study area (43% of Phoenixville households are non-family households). Since non-family households include one-person households, this may partially explain Phoenixville's small average household size.

Table 4: Percent of Family and Non-Family Households in Select Areas, 2000

| Location | % Family Households | % Non-family Households* |
|--------------|---------------------|--------------------------|
| Phoenixville | 57% | 43% |
| Charlestown | 75% | 25% |
| East Vincent | 78% | 22% |

| | | |
|----------------------------|-----|-----|
| East Pikeland | 72% | 28% |
| Schuylkill | 78% | 22% |
| West Vincent | 81% | 19% |
| Total Study Area | 68% | 32% |
| Surrounding Municipalities | 70% | 30% |
| Chester County | 72% | 28% |
| Philadelphia Area | 67% | 33% |
| Pennsylvania | 67% | 33% |
| United States | 68% | 32% |

*Non-family households include one-person households and two or more person households where the persons are not related.

Source: US Census

Demographic Characteristics

Gender

As seen in **Table 5**, the study area has a relatively equal number of females and males (51% female in 1980, 1990, and 2000). This percentage is consistent with Chester County, State, and national trends. The institutionalized population in census tract 3012.01 in East Vincent Township is predominately male.

Table 5: Percent Female for Select Areas, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 |
|----------------------------|------------|------------|------------|
| Phoenixville | 52% | 52% | 52% |
| CT 3006 | 52% | 52% | 51% |
| CT 3007 | 53% | 52% | 52% |
| CT 3008 | 51% | 51% | 52% |
| CT 3009 | 53% | 53% | 51% |
| Charlestown | 50% | 52% | 51% |
| East Vincent | 49% | 51% | 49% |
| CT 3012.01 | 36% | 4% | 10% |
| CT 3012.02 | 52% | 52% | 51% |
| East Pikeland | 50% | 50% | 52% |
| Schuylkill | 50% | 51% | 50% |
| West Vincent | 51% | 49% | 49% |
| Total Study Area | 51% | 51% | 51% |
| Surrounding Municipalities | 50% | 51% | 51% |
| Chester County | 49% | 51% | 51% |
| Philadelphia Area | 46% | 52% | 52% |
| Pennsylvania | n/a | 52% | 52% |
| United States | 51% | 51% | 51% |

Source: US Census

Race

Similar to Chester County and the surrounding municipalities, the population in the study area is predominately Caucasian (92% in 2000) (see **Table 6**). Between 1980 and 2000, however, the minority population has begun to increase within the study area. Following the County and national trends, Asian Americans and other races have increased while the African-American population has slightly decreased in the study area. In the surrounding municipalities, both the African-American and Asian American populations have decreased between 1990 and 2000. Within the study area, Phoenixville's population

is the most racially diverse. Particularly, the minority population in census tract 3006 comprises almost 20% of the total population.

Table 6: Racial Composition for Select Areas, 1980, 1990, and 2000

| Location/Census Tract | Percent Caucasian | | | Percent African American | | | Percent Asian American | | | Percent Other** | | |
|----------------------------|-------------------|------------|------------|--------------------------|-----------|-----------|------------------------|-----------|-----------|-----------------|-----------|-----------|
| | 1980 | 1990 | 2000 | 1980 | 1990 | 2000 | 1980* | 1990 | 2000 | 1980 | 1990 | 2000 |
| Phoenixville | 92% | 92% | 87% | 6% | 6% | 8% | | 1% | 2% | 2% | 0% | 3% |
| CT 3006 | | 83% | 81% | | 16% | 14% | | 1% | 2% | | 0% | 3% |
| CT 3007 | | 93% | 86% | | 6% | 8% | | 1% | 2% | | 1% | 4% |
| CT 3008 | | 94% | 89% | | 4% | 5% | | 1% | 4% | | 0% | 2% |
| CT 3009 | | 97% | 94% | | 1% | 2% | | 2% | 2% | | 0% | 2% |
| Charlestown | 98% | 98% | 95% | 0% | 1% | 2% | | 1% | 2% | 2% | 0% | 1% |
| East Vincent | 94% | 94% | 93% | 5% | 5% | 5% | | 1% | 1% | 1% | 1% | 2% |
| CT 3012.01 | | 93% | 91% | | 7% | 8% | | 0% | 0% | | 0% | 1% |
| CT 3012.02 | | 94% | 93% | | 5% | 5% | | 1% | 1% | | 1% | 2% |
| East Pikeland | 99% | 98% | 96% | 1% | 1% | 1% | | 1% | 2% | 0% | 0% | 1% |
| Schuylkill | 98% | 98% | 95% | 1% | 1% | 2% | | 1% | 2% | 1% | 0% | 1% |
| West Vincent | 99% | 99% | 98% | 0% | 0% | 1% | | 1% | 1% | 1% | 0% | 1% |
| Total Study Area | 95% | 94% | 92% | 3% | 5% | 4% | | 1% | 2% | 1% | 0% | 2% |
| Surrounding Municipalities | 96% | 95% | 98% | 3% | 3% | 1% | | 2% | 0% | 1% | 0% | 1% |
| Chester County | 91% | 92% | 89% | 7% | 6% | 6% | | 1% | 2% | 2% | 1% | 3% |
| Philadelphia Area | 79% | 79% | 73% | 19% | 19% | 20% | | 2% | 3% | 3% | 2% | 5% |
| Pennsylvania | 90% | 90% | 85% | 9% | 9% | 10% | | 1% | 2% | 1% | 1% | 3% |
| United States | 83% | 84% | 75% | 12% | 13% | 12% | | 3% | 4% | 5% | 5% | 9% |

*For the year 1980, Asian Americans are included in the 'other' category.

**The other category includes American Indian, Alaskan Native, Native Hawaiian, Other Pacific Islander, some other race, and two or more races.

Source: US Census

Age

Following Chester County and Philadelphia area trends, the percent of the population under 18 has fluctuated in the study area between 1980 and 2000 (**Table 7**). The percent of the population under 18 in the study area was 26% in 1980, 22% in 1990, and 24% in 2000. Charlestown and West Vincent have had significant growth in the under 18 population (in 2000, 26% and 28% of the population was under 18 in these municipalities, respectively) reflecting the increase in family households in these communities. In the surrounding municipalities, the percent of the population under 18 has slightly decreased between 1980 and 2000.

Similar to the surrounding municipalities, Chester County, and the State, the percent of the population 65 and over in the study area has steadily increased between 1980 and 2000 (**Table 7**). As compared to the surrounding municipalities, the percent of the population 65 and over in the study area is slightly lower (18% and 16%, respectively). However, the study area's percentage of persons 65 and over is higher than the Chester County, the Philadelphia Area, and the national percentages in 2000 (12%, 13%, and 12%, respectively). Within the study area, census tract 3012.01 in East Vincent Township has seen a substantial increase in the percentage of persons 65 and over. In Phoenixville, census tract 3009 in 2000 continues to have almost one-fourth of its population 65 years and over, higher than other townships in the study area. The increase in the elderly population will create a demand for services, facilities, and other needs for this population in these municipalities.

Not unlike the surrounding municipalities, Chester County, the Philadelphia Area, the State, and the US overall, the median age in the study area has gradually increased between 1980 and 2000 (**Table 7**). The 2000 median age in the study area, however, is higher than the median ages in these other areas. Particularly, the median age in the study area in 2000 was 38.2 while the national median age was 35.3. Within the study area, census tract 3008 in Phoenixville has the lowest median age in 2000 (33.9), while census tract 3009 in Phoenixville has the highest median age (40.6).

Table 7: Percent of Population Under 18 and Over 65 and Median Age in Select Areas, 1980, 1990, and 2000

| Location/Census Tract | Population Under 18 | | | Population 65 and Over | | | Median Age in 1980 | Median Age in 1990 | Median Age in 2000 |
|----------------------------|---------------------|------------|------------|------------------------|------------|------------|--------------------|--------------------|--------------------|
| | 1980 | 1990 | 2000 | 1980 | 1990 | 2000 | | | |
| Phoenixville | 25% | 20% | 23% | 14% | 14% | 14% | 31.4 | 33.0 | 35.8 |
| CT 3006 | | 22% | 26% | | 14% | 12% | 33.1 | | 35.4 |
| CT 3007 | | 21% | 23% | | 14% | 12% | 30.8 | | 35.6 |
| CT 3008 | | 20% | 20% | | 9% | 12% | 28.4 | | 33.9 |
| CT 3009 | | 18% | 21% | | 23% | 22% | 39.1 | | 40.6 |
| Charlestown | 24% | 16% | 26% | 7% | 10% | 10% | 29.5 | 35.9 | 36.8 |
| East Vincent | 24% | 25% | 29% | 9% | 12% | 15% | 33.2 | 34.9 | 38.1 |
| CT 3012.01 | | 0% | 0% | | 21% | 75% | 38.0 | | 73.9 |
| CT 3012.02 | | 26% | 30% | | 11% | 11% | 31.1 | | 36.2 |
| East Pikeland | 29% | 26% | 26% | 7% | 8% | 12% | 33.1 | 34.3 | 39.3 |
| Schuylkill | 30% | 23% | 23% | 8% | 12% | 12% | 32.4 | 38.4 | 39.3 |
| West Vincent | 28% | 22% | 28% | 9% | 9% | 10% | 33.9 | 38.1 | 39.7 |
| Total Study Area | 26% | 22% | 25% | 10% | 12% | 13% | 32.3 | 35.8 | 38.2 |
| Surrounding Municipalities | 25% | 24% | 23% | 7% | 16% | 18% | 31.7 | 34.6 | 37.4 |
| Chester County | 29% | 25% | 26% | 9% | 11% | 12% | 30.5 | 33.8 | 36.9 |
| Philadelphia Area | 27% | 24% | 25% | 12% | 13% | 13% | 31.2 | 33.6 | 36.4 |
| Pennsylvania | 26% | 24% | 24% | 13% | 15% | 16% | 32.1 | 35.0 | 38.0 |
| United States | 28% | 26% | 26% | 11% | 13% | 12% | 30.0 | 32.9 | 35.3 |

Source: US Census

3: HOUSING TRENDS

The number of housing units in each municipality in the study area has increased since 1980 (**Table 8**). As a whole, the six-municipality study area has seen a 16.3% increase in number of housing units between 1980 and 1990 and a 17.8% increase between 1990 and 2000. East Pikeland and West Vincent townships, in particular, have had significant housing unit growth in both the 1980s and 1990s. As compared to the housing growth rate in the surrounding municipalities and Chester County, the growth rate between 1980 and 1990 and 1990 and 2000 in the study area is lower. However, the study area's housing growth during these two time periods has continued to increase, while the growth in the surrounding municipalities and the County has begun to slow somewhat.

As seen in **Table 8**, the housing unit density in the study area is significantly less than the surrounding area. In 2000, the number of units per acre of land area in the study area was 0.40, as compared to the surrounding municipalities' density of 0.59 units per acre. Within the study area, Phoenixville has the largest housing density of 2.96 units per acre, while West Vincent has the smallest density of 0.10 units per acre.

Table 8: Total Number of Housing Units and Housing Density, 1980, 1990, and 2000

| Location/Census Tract | Total Number of Units | | | | | Housing Density |
|----------------------------|-----------------------|---------------|---------------|--------------|--------------|---------------------------------------|
| | 1980 | 1990 | 2000 | % Change | % Change | 2000 (homes per acre of land area) |
| | | | | 1980 - 1990 | 1990 - 2000 | |
| Phoenixville | 5,718 | 6,623 | 6,793 | 15.8% | 2.6% | 2.96 |
| CT 3006 | | 1,364 | 1,500 | | 10.0% | 1.43 |
| CT 3007 | | 2,142 | 2,202 | | 2.8% | 6.83 |
| CT 3008 | | 2,081 | 2,064 | | -0.8% | 4.22 |
| CT3009 | | 1,036 | 1,027 | | -0.9% | 2.36 |
| Charlestown | 806 | 876 | 1,397 | 8.7% | 59.5% | 0.17 |
| East Vincent | 1,360 | 1,550 | 1,960 | 14.0% | 26.5% | 0.23 |
| CT 3012.01 | | 0 | 0 | | N/A | N/A |
| CT 3012.02 | | 1,550 | 1,960 | | 26.5% | 0.25 |
| East Pikeland | 1,465 | 2,014 | 2,604 | 37.5% | 29.3% | 0.46 |
| Schuylkill | 2,024 | 2,115 | 2,652 | 4.5% | 25.4% | 0.48 |
| West Vincent | 686 | 846 | 1,121 | 23.3% | 32.5% | 0.10 |
| Total Study Area | 12,059 | 14,024 | 16,527 | 16.3% | 17.8% | 0.40 |
| Surrounding Municipalities | 44,960 | 57,079 | 69,586 | 27.0% | 21.9% | 0.59 |
| Chester County | 110,183 | 139,597 | 163,773 | 26.7% | 17.3% | 0.34 |
| Philadelphia Area | 1,395,291 | 2,307,675 | 2,539,825 | 65.4% | 10.1% | N/A |
| Pennsylvania | 4,596,431 | 4,938,140 | 5,249,750 | 7.4% | 6.3% | 0.18 |
| United States | 88,410,627 | 102,263,678 | 115,904,641 | 15.7% | 13.3% | 0.05 |

Source: US Census

There has been an acceleration in the pace of new housing development in the study area during the past four years. Compared with 2,471 units added in the 1990's, 1,748 new units came online in the 2000-2003 period (**Table 9**). The pace of development, however, peaked in 2001 and has begun to decline in 2002 and 2003. In 2003, 269 new homes were built in the study area, down from 327 in 2002 and 661 in 2001. Within the study area, a significant amount of residential units have been built in East Vincent and Schuylkill Townships (400 and 568, respectively) between 2000 and 2003.

Table 9: Actual Number of New Residential Units, 2000 - 2003

| | 2000 | 2001 | 2002 | 2003 | Total 2000 - 2003 |
|-------------------------|------------|------------|------------|------------|-------------------|
| Charlestown | 67 | 119 | 30 | 25 | 241 |
| East Pikeland | 62 | 86 | 52 | 20 | 220 |
| East Vincent | 109 | 136 | 79 | 76 | 400 |
| Phoenixville | 65 | 21 | 30 | 47 | 163 |
| Schuylkill | 147 | 267 | 102 | 52 | 568 |
| West Vincent | 41 | 32 | 34 | 49 | 156 |
| Total Study Area | 491 | 661 | 327 | 269 | 1,748 |

Source: Chester County Planning Commission

The vacancy rate in the study area has remained relatively constant between 1980 and 2000, reflecting that new housing supply has found adequate demand. The 2000 vacancy rate of 4.2% is indicative of a healthy housing market (**Table 10**). This rate, however, is somewhat higher than the vacancy rates in the surrounding municipalities which declined from 4.8% in 1990 to 3.5% in 2000 and in Chester County as a whole where vacancy declined from 4.5% to 3.6%. Within the study area, vacancy rates are low to moderate (2.7% to 4.4%) in all areas except portions of Phoenixville where higher vacancy prevails. Of some concern is the 7.1% vacancy rate in census tract 3007, reflecting more than 150 vacant units.

Table 10: Vacancy Rate for Select Areas, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 |
|----------------------------|-------------|-------------|-------------|
| Phoenixville | 5.3% | 5.3% | 4.9% |
| CT 3006 | | 7.6% | 5.2% |
| CT 3007 | | 6.4% | 7.1% |
| CT 3008 | | 3.8% | 3.4% |
| CT3009 | | 3.2% | 0.0% |
| Charlestown | 2.4% | 3.7% | 4.1% |
| East Vincent | 5.5% | 3.0% | 3.7% |
| CT 3012.01 | | 0% | 0% |
| CT 3012.02 | | 3.0% | 3.7% |
| East Pikeland | 3.5% | 1.7% | 2.8% |
| Schuylkill | 3.0% | 5.0% | 4.4% |
| West Vincent | 5.5% | 6.6% | 3.9% |
| Total Study Area | 4.5% | 4.5% | 4.2% |
| Surrounding Municipalities | 4.5% | 4.8% | 3.5% |
| Chester County | 4.9% | 4.5% | 3.6% |
| Philadelphia Area | 7.1% | 6.7% | 8.6% |
| Pennsylvania | 8.2% | 9.0% | 9.0% |
| United States | | 10.1% | 9.0% |

Source: US Census

Housing Development Forecasts

Forecasts Based on CCPC Population Projections

Based on the population forecasts from the Chester County Planning Commission (CCPC), the total number of housing units and occupied housing units is estimated for 2010, 2020, and 2030 for each of the study area's municipalities. These housing projections are the preliminary findings based on demographic analysis by CCPC population forecasts and may change depending on future land use and investment policies in each of the individual municipalities in the study area. The housing unit projections are calculated by dividing the population projections from CCPC by the average household size. These housing projections assume a constant average household size based on the 2000 census. For total housing units, including vacant units, the projections assume a 4% vacancy rate. This rate is based on the vacancy rate trends in the study area between 1980 and 2000.

The number of occupied housing units in the study area is projected to increase from 15,810 in 2000 to 20,485 in 2030 (**Table 11**). In each of the study area's municipalities, the number of occupied housing units is estimated to steadily grow between 2000 and 2030. In particular, in Charlestown, East Vincent, and Schuylkill, the number of occupied housing units is projected to increase by around 1,000 units by 2030.

Table 11: Projected Number of Occupied Housing Units, 2000 - 2030

| | 2000 Actual | 2010* | 2020* | 2030* |
|-------------------------|---------------|---------------|---------------|---------------|
| Charlestown | 1,340 | 1,711 | 1,996 | 2,311 |
| East Pikeland | 2,530 | 2,798 | 2,996 | 3,236 |
| East Vincent | 1,888 | 2,215 | 2,422 | 2,785 |
| Phoenixville | 6,439 | 6,759 | 6,877 | 7,053 |
| Schuylkill | 2,536 | 2,935 | 3,313 | 3,691 |
| West Vincent | 1,077 | 1,370 | 1,532 | 1,761 |
| Total Study Area | 15,810 | 17,358 | 18,740 | 20,485 |

*Assumes constant household size from 2000 Census

Sources: US Census and Chester County Planning Commission (CCPC)

Assuming a 4% vacancy rate, the number of total housing units in the study area in 2030 is projected to be 21,339, up from 16,527 in 2000 (**Table 12**). The number of units in every municipality in the study area is also projected to increase steadily between 2000 and 2030. Overall, the study area is projected to add 1,555 units between 2000 and 2010, 1,439 units between 2010 and 2020, and 1,817 units between 2020 and 2030 (**Table 13**).

Table 12: Projected Number of Total Housing Units, 2000 - 2030

| | 2000 Actual | 2010* | 2020* | 2030* |
|-------------------------|---------------|---------------|---------------|---------------|
| Charlestown | 1,397 | 1,782 | 2,080 | 2,408 |
| East Pikeland | 2,604 | 2,915 | 3,121 | 3,371 |
| East Vincent | 1,960 | 2,307 | 2,523 | 2,902 |
| Phoenixville | 6,793 | 7,134 | 7,259 | 7,444 |
| Schuylkill | 2,652 | 3,057 | 3,451 | 3,845 |
| West Vincent | 1,121 | 1,427 | 1,596 | 1,834 |
| Total Study Area | 16,527 | 18,082 | 19,521 | 21,339 |

*Assumes constant household size from 2000 census; assumes a constant 4% vacancy rate.

Sources: US Census and Chester County Planning Commission (CCPC)

Table 13: Projected Change in Total Number of Housing Units, 2000 - 2030

| | 2000 - 2010* | 2010 - 2020* | 2020 - 2030* |
|-------------------------|--------------|--------------|--------------|
| Charlestown | 385 | 298 | 328 |
| East Pikeland | 311 | 206 | 250 |
| East Vincent | 347 | 216 | 379 |
| Phoenixville | 341 | 125 | 185 |
| Schuylkill | 405 | 394 | 394 |
| West Vincent | 306 | 169 | 238 |
| Total Study Area | 1,555 | 1,439 | 1,817 |

*Assumes constant household size from 2000 census; assumes a constant 4% vacancy rate.

Sources: US Census and Chester County Planning Commission (CCPC)

Table 14 illustrates the discrepancy in the actual number of homes built in the early 2000's and the housing unit projections based on the population forecasts generated by the CCPC. In the overall study area, the actual number of new homes built between 2000 and 2003 was 1,748 homes, *greater than* the projected number of units to be built between 2000 and 2010 of 1,555 homes based on the CCPC population forecasts. It should be noted that the CCPC projections do not include any housing units built between January of 2000 and March of 2000 since the Census is implemented in April of 2000. However, this time inconsistency does not alter the final conclusion that the housing unit projections based on the CCPC population projections are obsolete.

Table 14: Comparison of Housing Unit Projections to Actual Units Built

| | Generated from CCPC Population Projections* 2000 - 2010 | Actual Housing Units Built 2000 - 2003 |
|-------------------------|---|--|
| | Number of Units | |
| Charlestown | 385 | 241 |
| East Pikeland | 311 | 220 |
| East Vincent | 347 | 400 |
| Phoenixville | 341 | 163 |
| Schuylkill | 405 | 568 |
| West Vincent | 306 | 156 |
| Total Study Area | 1,555 | 1,748 |

*Assumes constant household size from 2000 Census; assumes a constant 4% vacancy rate

Sources: US Census and Chester County Planning Commission (CCPC)

Alternative Housing Unit and Population Forecasts

CCPC does not plan any population forecast revisions in the near future. Therefore, to account for the impact of a faster than expected rate of housing development, Urban Partners has developed two alternative housing and population scenarios for the years 2010, 2020, and 2030. These scenarios take into consideration housing development trends over the last twenty-four years as well as current market characteristics and the previous CCPC projections.

Scenario One

In the first scenario on **Table 15**, the 2010 projection was formulated by assuming that average housing development trends between 1980 and 2000 will continue between 2000 and 2009. Between 1980 and 2000, the number of housing units increased by approximately one-sixth each decade. The 2010 housing unit projection was formulated by adding approximately one-sixth of the number of housing units in 2000, or 2,740 units, to 16,527 units (the number of units in 2000). The 2020 and 2030 housing unit projections were calculated by using CCPC's earlier growth forecasts for these decades. As noted above, assuming 2.59 persons per household and a 4% vacancy rate, we calculated an increase of 1,439 housing units for 2010-20 and 1,817 units for 2020-30. After determining the number of units for the 2010, 2020, and 2030 projections, we then used the average number of persons per household (2.59) to calculate the population projection for each forecasted year. Thus, scenario one is somewhat of a conservative projection since it assumes that the accelerated housing unit growth between 2000 and 2010 will not continue after 2010, and instead uses the prior CCPC growth projections.

Table 15: Scenario One—Revised Population and Housing Forecasts

| | Population Forecast | Number of Housing Units Added in Decade | Total Number of Housing Units |
|------|---------------------|---|-------------------------------|
| 2000 | 41,013* | 2,471* | 16,527* |
| 2010 | 47,910 | 2,740 | 19,267 |
| 2020 | 51,480 | 1,439 | 20,706 |
| 2030 | 56,000 | 1,817 | 22,523 |

*Actual figures from US Census, not projections.

Sources: US Census, Chester County Planning Commission, Urban Partners

Scenario Two

Between 1980 and 2003, an average of 258 housing units were added every year. The housing unit projections in scenario two were formulated by assuming this trend will continue between 2004 and 2030 (**Table 16**). We calculated the 2010 projection by using the number of units that were actually created between 2000 and 2003 and assuming that 258 units would be added annually between 2004 and 2009. The 2020 and 2030 housing projections were calculated by assuming that 258 units would be added each year. After determining the number of units, we then used the average number of persons per household to calculate the population projection for each forecasted year.

Table 16: Scenario Two—Revised Population and Housing Forecasts

| | Population Forecast | Number of Housing Units Added in Decade | Total Number of Housing Units |
|------|---------------------|---|-------------------------------|
| 2000 | 41,013* | 2,471* | 16,527* |
| 2010 | 49,290 | 3,296 | 19,823 |
| 2020 | 55,700 | 2,580 | 22,403 |
| 2030 | 62,120 | 2,580 | 24,903 |

*Actual figures from US Census, not projections.

Sources: US Census, Chester County Planning Commission, Urban Partners

At this point, there is no reason to believe that housing unit growth and corresponding population growth will not continue at the same pace as the last twenty-four years. While scenario two projects the larger housing unit growth, it may be a better representation of the future since this forecast assumes that growth trends between 1980 and 2003 will continue (**Table 17**). However, housing unit growth in the last four years has accelerated as compared to the previous last two decades. Therefore, even scenario two projections may be somewhat conservative if this recent housing growth continues over the next two

and half decades. Since we cannot provide strong evidence that this current accelerated growth will continue in the long run, we will favor the projections formulated in scenario two as they are less conservative than scenario one and the CCPC projections, but are still a modest forecast when considering the housing unit growth over the last four years.

Table 17: Comparison of Housing Unit Projections, 2010, 2020, and 2030

| | 2010 | 2020 | 2030 |
|--------------|--------|--------|--------|
| CCPC | 18,082 | 19,521 | 21,339 |
| Scenario One | 19,267 | 20,706 | 22,523 |
| Scenario Two | 19,823 | 22,403 | 24,903 |

Source: Chester County Planning Commission, US Census, Urban Partners

Owner-Occupied Housing Units

As seen in **Table 18**, the majority of the housing stock in the study area is owner-occupied (74.8%). Similar to the neighboring municipalities, Chester County, and Pennsylvania, the percent of owner-occupied housing has steadily increased in the study area since 1980. All municipalities, other than Phoenixville, show very high and, in most cases, growing proportions of homeownership. Homeownership rates in these municipalities range from 79% to 92%. On the other hand, homeownership rates in Phoenixville are comparatively low (56.0%) and have declined steadily since 1980's 60.2% homeownership rate.

Table 18: Percent of Owner-Occupied Units, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 |
|-----------------------------|--------------|--------------|--------------|
| Phoenixville | 60.2% | 57.5% | 56.0% |
| CT 3006 | | 67.8% | 68.6% |
| CT 3007 | | 53.6% | 49.6% |
| CT 3008 | | 45.9% | 44.7% |
| CT3009 | | 75.4% | 76.9% |
| Charlestown | 78.9% | 88.2% | 92.2% |
| East Vincent | 71.6% | 74.4% | 79.1% |
| CT 3012.01 | | 0% | 0% |
| CT 3012.02 | | 74.4% | 79.1% |
| East Pikeland | 88.1% | 91.1% | 87.8% |
| Schuylkill | 84.8% | 89.0% | 90.3% |
| West Vincent | 78.9% | 83.1% | 89.6% |
| Total Study Area | 71.4% | 72.5% | 74.8% |
| Surrounding Municipalities* | 72.7% | 74.0% | 76.3% |
| Chester County | 70.7% | 74.6% | 76.3% |
| Philadelphia Area** | 66.7% | 69.4% | 69.9% |
| Pennsylvania | 69.9% | 70.6% | 71.3% |
| United States | 64.4% | 64.2% | 66.2% |

Source: US Census

Not unlike the surrounding municipalities and Chester County, single-family homes are the dominant form of owner-occupied housing stock in the study area (96%). Approximately 74% of single-family homes are detached, while 22% of single-family homes are attached in the area (**Table 19**). Additionally, mobile homes represent 2% of owner-occupied housing. The owner-occupied housing stock in West Vincent is overwhelmingly single-family detached homes (99%). Conversely, only 51% of the

owner-occupied housing stock in Phoenixville is single-family detached homes. Within Phoenixville, however, the type of housing unit greatly varies. Single-family detached homes represent 95% of the owner-occupied housing stock in census tract 3009, while this same type of home represents only 17% in tract 3007.

Table 19: Type of Housing Unit as a Percent of Owner-Occupied Housing Stock, 2000

| | 1 Unit Detached | 1 Unit Attached | 2 to 9 Units | 10 to 50 Units | 50 or More Units | Mobile Homes |
|----------------------------|--------------------|--------------------|-----------------|-------------------|------------------------|-----------------|
| Phoenixville | 51% | 45% | 3% | 1% | 0% | 0% |
| CT 3006 | 47% | 47% | 2% | 3% | 0% | 0% |
| CT 3007 | 17% | 77% | 7% | 0% | 0% | 0% |
| CT 3008 | 58% | 41% | 1% | 1% | 0% | 0% |
| CT 3009 | 95% | 5% | 0% | 0% | 0% | 0% |
| Charlestown | 78% | 18% | 2% | 0% | 0% | 1% |
| East Vincent | 89% | 5% | 1% | 0% | 0% | 6% |
| CT 3012.01 | N/A | N/A | N/A | N/A | N/A | N/A |
| CT 3012.02 | 89% | 5% | 1% | 0% | 0% | 6% |
| East Pikeland | 76% | 23% | 1% | 0% | 0% | 0% |
| Schuylkill | 87% | 6% | 0% | 0% | 0% | 7% |
| West Vincent | 99% | 0% | 1% | 0% | 0% | 0% |
| Total Study Area | 74% | 22% | 1% | 0% | 0% | 2% |
| Surrounding Municipalities | 75% | 19% | 1% | 2% | 1% | 1% |
| Chester County | 77% | 17% | 1% | 1% | 0% | 3% |
| Philadelphia Area | 62% | 31% | 3% | 1% | 1% | 2% |
| Pennsylvania | 73% | 19% | 2% | 0% | 0% | 5% |
| United States | 81% | 5% | 3% | 1% | 1% | 8% |

Source: US Census

The majority of owner-occupied homes in the study area were built prior to 1980 (**Table 20**). In fact, the median year built for owner-occupied homes in the area is 1972. This is similar to the overall US average where the median year built for owner-occupied homes is 1971. The owner-occupied homes in the surrounding area and in Chester County are somewhat newer than the study area. The median year built for owner-occupied homes in the surrounding area and Chester County is 1977 and 1976, respectively. Within the study area, there are significant differences in the age of housing units among municipalities. Charlestown and West Vincent Townships are facing significant growth pressures with 42% and 33% (respectively) of owner-occupied homes being built between 1990 and early 2000. Conversely, Phoenixville faces issues of aging housing stock with 70% of owner-occupied housing stock being built prior to 1960. While older

homes are not necessarily substandard units, these homes may have higher maintenance costs than newer units.

Table 20: Percent of Owner-Occupied Units by Year Built and Median Year, 2000

| | Percent 1999 to March 2000 | Percent 1990 to 1998 | Percent 1980 to 1989 | Percent 1960 to 1979 | Percent 1940 to 1959 | Percent 1939 or earlier | Median Year |
|----------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------------|-----------------|
| Phoenixville | 2% | 7% | 9% | 12% | 27% | 43% | 1948 |
| CT 3006 | 5% | 22% | 15% | 5% | 13% | 40% | 1957 |
| CT 3007 | 0% | 1% | 1% | 1% | 7% | 89% | 1939 or earlier |
| CT 3008 | 2% | 5% | 13% | 26% | 38% | 15% | 1959 |
| CT 3009 | 0% | 0% | 7% | 18% | 57% | 18% | 1953 |
| Charlestown | 11% | 31% | 10% | 28% | 11% | 9% | 1981 |
| East Vincent | 7% | 21% | 13% | 26% | 17% | 17% | 1970 |
| CT 3012.01 | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| CT 3012.02 | 7% | 21% | 13% | 26% | 17% | 17% | 1970 |
| East Pikeland | 3% | 18% | 30% | 25% | 17% | 6% | 1980 |
| Schuylkill | 11% | 17% | 10% | 36% | 16% | 10% | 1971 |
| West Vincent | 6% | 27% | 16% | 22% | 12% | 18% | 1979 |
| Total Study Area | 6% | 17% | 14% | 23% | 19% | 21% | 1972 |
| Surrounding Municipalities | 3% | 21% | 17% | 31% | 19% | 9% | 1977 |
| Chester County | 3% | 19% | 21% | 29% | 15% | 13% | 1976 |
| Philadelphia Area | 1% | 11% | 12% | 25% | 28% | 22% | 1960 |
| Pennsylvania | 1% | 11% | 11% | 24% | 25% | 29% | 1958 |
| United States | 2% | 17% | 16% | 31% | 20% | 14% | 1971 |

Source: US Census

Over the last decade, 2,428 housing units were either newly built or converted into homeowner units in the study area (**Table 21**). Among these homes, the largest net growth in homes occurred in the 4-bedroom market—1,385 homes were either built or converted into 4-bedroom homes between 1990 and 2000. Similar to Chester County patterns over the last ten years, the study area’s owner-occupied housing market has also realized significant growth in the 3-bedroom market. Between 1990 and 2000, 573 3-bedroom housing units were either built or converted in the study area. Phoenixville has lost 139 owner-occupied housing units in the 2-bedroom market over the last decade. This loss may be due to either 2-bedroom units being converted into other bedroom-type units or, more likely, 2-bedroom owner-occupied units changed into renter-occupied units.

Table 21: Growth in New or Converted Owner-Occupied Units between 1990 and 2000 by Number of Bedrooms

| | Total* | Efficiency | 1 Bedroom | 2 Bedrooms | 3 Bedrooms | 4 Bedrooms | 5 or More Bedrooms |
|-------------------------|--------------|------------|-----------|------------|------------|--------------|--------------------|
| Charlestown | 522 | 0 | -4 | 55 | 229 | 238 | -45 |
| East Pikeland | 449 | 0 | 0 | 49 | 194 | 206 | -31 |
| East Vincent | 402 | 0 | -10 | -14 | 124 | 278 | -6 |
| Phoenixville | 177 | 0 | 36 | -139 | 101 | 40 | -10 |
| Schuylkill | 547 | 7 | -7 | 79 | -41 | 428 | 33 |
| West Vincent | 331 | 0 | -5 | 54 | -34 | 195 | 82 |
| Total Study Area | 2,428 | 7 | 10 | 84 | 573 | 1,385 | 23 |
| Chester County | 21,151 | 64 | 458 | 1,903 | 7,077 | 10,154 | 1,495 |

*Totals exclude any loss in units.

Source: US Census

Table 22 shows the owner-occupied units by number of bedrooms as a percentage of total owner-occupied units that were newly built or converted over the last decade. Similar to Chester County, the majority, or 57%, of owner-occupied homes in the study area that were built or converted between 1990 and 2000 were 4-bedroom units. Of the newly built or converted owner-occupied homes in West Vincent, 25% were 5 or more bedroom homes between 1990 and 2000. Conversely in Phoenixville, 20% of these units were one-bedroom homes.

Table 22: Owner-Occupied Units by Number of Bedrooms as a Percentage of Total Built or Converted Owner Units between 1990 and 2000

| | 1 Bedroom | 2 Bedrooms | 3 Bedrooms | 4 Bedrooms | 5 or More Bedrooms |
|-------------------------|-----------|------------|------------|------------|--------------------|
| Charlestown | 0% | 11% | 44% | 46% | 0% |
| East Pikeland | 0% | 11% | 43% | 46% | 0% |
| East Vincent | 0% | 0% | 31% | 69% | 0% |
| Phoenixville | 20% | 0% | 57% | 23% | 0% |
| Schuylkill | 0% | 14% | 0% | 78% | 6% |
| West Vincent | 0% | 16% | 0% | 59% | 25% |
| Total Study Area | 1% | 10% | 27% | 57% | 5% |
| Chester County | 2% | 9% | 33% | 48% | 7% |

Notes: Any loss of units has been excluded in the total to show only the bedroom market as a percent of total units that were added to the area. Owner-occupied efficiency units have been left out of this analysis due to the negligible amount of this type of unit in the study area.

Source: US Census

In the study area, just under half of homeowners moved into their current housing units in the past decade (**Table 23**). The surrounding municipalities, Chester County, and the US were slightly more mobile with somewhat more than half of homeowners moving into units during this time period. Phoenixville is somewhat more stable with 59% of homeowners occupying their units for more than a decade.

Table 23: Year Homeowners Occupied Current House, 2000

| Location/Census Tracts | 1999 to March 2000 | 1990 to 1998 | 1970 to 1989 | 1969 and earlier |
|----------------------------|-----------------------|-----------------|-----------------|---------------------|
| Phoenixville | 8% | 33% | 32% | 27% |
| CT 3006 | 13% | 38% | 29% | 20% |
| CT 3007 | 5% | 32% | 31% | 32% |
| CT 3008 | 8% | 32% | 32% | 28% |
| CT 3009 | 7% | 27% | 36% | 30% |
| Charlestown | 17% | 40% | 27% | 15% |
| East Vincent | 9% | 37% | 35% | 19% |
| CT 3012.01 | 0% | 0% | 0% | 0% |
| CT 3012.02 | 9% | 37% | 35% | 19% |
| East Pikeland | 11% | 37% | 36% | 15% |
| Schuylkill | 18% | 40% | 29% | 13% |
| West Vincent | 12% | 40% | 36% | 13% |
| Total Study Area | 12% | 37% | 32% | 19% |
| Surrounding Municipalities | 11% | 44% | 32% | 14% |
| Chester County | 10% | 43% | 35% | 12% |
| Philadelphia Area | 8% | 37% | 35% | 19% |
| Pennsylvania | 7% | 35% | 36% | 22% |
| United States | 10% | 43% | 33% | 14% |

Source: US Census

Housing Sales

Between April of 2003 and March of 2004, there were 845 residential sales in the study area. The median sales price of residential sales in the study area during the 2003-04 market was \$237,000. This reflects a 37% increase in median sales price since the 1993-94 market after adjusting for a 25% inflation rate (**Table 24**). Comparatively, the surrounding municipalities in Chester and Montgomery County have had a greater number of residential sales during 2003-04 (2,063 and 1,908); however, the real percentage change in median price between 1993-94 and 2003-04 was substantially lower in the surrounding market than the study area (21% and 19%, respectively). While the median sales price in the surrounding municipalities in Chester County was higher than the study area during 2003-04, the median sales price in the municipalities in Montgomery County was lower than the study area during this same period.

Within the study area, Schuylkill and West Vincent had the highest median residential sales prices in 2003-04 (\$395,000 and \$400,000) and the greatest percentage change between the two time periods (60% and 56%). Phoenixville had the lowest median sales price in 2003-04 at \$140,000, but these prices did reflect an 11% increase in value since 1993-94 after adjusting for inflation. Charlestown's percentage change in price after adjusting for inflation increased only modestly by 7%. However, the number of smaller unit homes has increased in the Township due to the construction of the new townhouse development, Charlestown Hunt.

Table 24: Number and Median Sales Price of Residential Sales for Select Dates in 2003 dollars

| Location | April 1993 - March 1994 | | April 2003 - March 2004 | | % Change in Adjusted Price 1993/4 - 2003/4 |
|--|-------------------------|------------------------|-------------------------|--------------------|--|
| | Median Sales Price | Adjusted for Inflation | Number | Median Sales Price | |
| Phoenixville | \$101,000 | \$126,200 | 294 | \$140,000 | 11% |
| Charlestown | \$220,000 | \$274,891 | 74 | \$295,000 | 7% |
| East Vincent | \$158,000 | \$197,422 | 119 | \$279,000 | 41% |
| East Pikeland | \$151,000 | \$188,675 | 148 | \$217,000 | 15% |
| Schuylkill | \$198,000 | \$247,402 | 151 | \$395,000 | 60% |
| West Vincent | \$205,000 | \$256,148 | 59 | \$400,000 | 56% |
| Total Study Area | \$138,500 | \$173,056 | 845 | \$237,000 | 37% |
| Surrounding Municipalities in Chester Co. | \$178,500 | \$223,036 | 2,063 | \$270,000 | 21% |
| Surrounding Municipalities in Montgomery Co. | \$149,500 | \$186,801 | 1,908 | \$222,500 | 19% |

Notes: Surrounding municipalities in Chester County include Spring City, East Coventry, South Coventry, East Nantmeal, Upper Uwchlan, West Pikeland, Uwchlan, West Whiteland, East Whiteland, and Tredyffrin and municipalities in Montgomery County include Upper Merion, Lower Providence, Upper Providence, Royersford, and Limerick in Montgomery County.

Source: Win2Data, Urban Partners

Renter-Occupied Housing Units

Renter-occupied housing units represent 25.2% of the housing market in the study area, down from 27.5% in 1990 and 28.6% in 1980 (**Table 25**). This decreasing trend in rental units has also occurred in the surrounding area, Chester County, the Philadelphia area, and Pennsylvania between 1980 and 2000. Within the study area, only Phoenixville has had an increase in the percent of renter-occupied units over the last twenty years. Inside Phoenixville, the percent of renter-occupied units has increased in census tracts 3007 and 3008 in the 1990s, while the percent of these units has decreased in census tracts 3006 and 3009 during this same time period. Other than Phoenixville, East Pikeland Township is the only municipality in which the percent of renter-occupied units has increased from 8.9% in 1990 to 12.2% in 2000. However, renter-occupied housing units still represent a smaller percentage of the occupied housing stock in East Pikeland Township as compared to the total study area.

Table 25: Percent of Renter-Occupied Units, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 |
|----------------------------|--------------|--------------|--------------|
| Phoenixville | 39.8% | 42.5% | 44.0% |
| CT 3006 | | 32.2% | 31.4% |
| CT 3007 | | 46.4% | 50.4% |
| CT 3008 | | 54.1% | 55.3% |
| CT 3009 | | 24.6% | 23.1% |
| Charlestown | 21.1% | 11.8% | 7.8% |
| East Vincent | 28.4% | 25.6% | 20.9% |
| CT 3012.01 | | 0% | 0% |
| CT 3012.02 | | 25.6% | 20.9% |
| East Pikeland | 11.9% | 8.9% | 12.2% |
| Schuylkill | 15.2% | 11.0% | 9.7% |
| West Vincent | 21.1% | 16.8% | 10.4% |
| Total Study Area | 28.6% | 27.5% | 25.2% |
| Surrounding Municipalities | 27.3% | 26.0% | 23.7% |
| Chester County | 29.3% | 25.4% | 23.7% |
| Philadelphia Area | 33.3% | 30.6% | 30.1% |
| Pennsylvania | 30.1% | 29.3% | 28.7% |
| United States | 35.6% | 35.8% | 33.8% |

Source: US Census

In 2000, 70.9% of all the rental units in the study area were located in Phoenixville (or 2,841 units) (**Table 26**). While only 2.6% and 2.8% of all rental units in the study area

were located in Charlestown and West Vincent, respectively, 9.9% of all rentals units, or 395 units, were located in East Vincent.

Table 26: Number and Percent of Rental Units in Select Areas, 2000

| | Number of Rental Units | % of Study Area Total |
|-------------------------|---------------------------|--------------------------|
| Phoenixville | 2,841 | 70.9% |
| Charlestown | 104 | 2.6% |
| East Vincent | 395 | 9.9% |
| East Pikeland | 309 | 7.7% |
| Schuylkill | 245 | 6.1% |
| West Vincent | 112 | 2.8% |
| Total Study Area | 4,006 | 100.0% |

Source: US Census

Similar to Chester County, the majority of the rental market in the study area is in low-density (2 to 9 units) and medium-density (10 to 50 units) buildings (**Table 27**). This pattern is similar to the surrounding area, Chester County, and the Philadelphia area, although the rental market in the surrounding area also includes a significant amount of high-density properties (50 or more units). Municipalities with a low percentage of renter-occupied units, such as Charlestown and West Vincent, have rental markets composed almost exclusively of single-family detached units. The rental market in other municipalities encompasses a variety of unit types.

Table 27: Type of Housing Unit as a Percentage of Rental Housing Stock, 2000

| | 1 Unit Detached | 1 Unit Attached | 2 to 9 Units | 10 to 50 Units | 50 or More Units | Mobile Homes |
|----------------------------|--------------------|--------------------|-----------------|-------------------|---------------------|-----------------|
| Phoenixville | 6% | 20% | 39% | 27% | 7% | 0% |
| CT 3006 | 17% | 20% | 45% | 8% | 11% | 0% |
| CT 3007 | 3% | 17% | 61% | 12% | 6% | 0% |
| CT 3008 | 4% | 25% | 13% | 50% | 7% | 0% |
| CT 3009 | 14% | 12% | 47% | 23% | 3% | 0% |
| Charlestown | 89% | 11% | 0% | 0% | 0% | 0% |
| East Vincent | 25% | 15% | 9% | 26% | 24% | 0% |
| CT 3012.01 | N/A | N/A | N/A | N/A | N/A | N/A |
| CT 3012.02 | 25% | 15% | 9% | 26% | 24% | 0% |
| East Pikeland | 36% | 10% | 18% | 3% | 20% | 13% |
| Schuylkill | 25% | 11% | 26% | 21% | 3% | 13% |
| West Vincent | 77% | 0% | 23% | 0% | 0% | 0% |
| Total Study Area | 16% | 18% | 32% | 24% | 9% | 2% |
| Surrounding Municipalities | 14% | 13% | 26% | 30% | 17% | 1% |
| Chester County | 17% | 15% | 32% | 26% | 8% | 3% |
| Philadelphia Area | 11% | 20% | 35% | 19% | 15% | 1% |
| Pennsylvania | 18% | 16% | 38% | 14% | 11% | 3% |
| United States | 24% | 6% | 33% | 19% | 13% | 4% |

Source: US Census

In the study area, almost 30% of renter-occupied housing is in units that were built prior to 1940 (**Table 28**). The majority of renter-occupied units (or 73%) were built before 1980. In the surrounding area, Chester County, the Philadelphia area, and Pennsylvania, at least three-fourths of the renter-occupied units were built prior to 1980. In the study area, the oldest median year built for renter-occupied units is in Charlestown with the median year built at 1939 or earlier. The youngest median year built for renter-occupied units is in East Pikeland with the year built at 1988.

Table 28: Percent of Renter-Occupied Units by Year Built and Median Year Built, 2000

| Location/Census Tract | Percent 1999 to March 2000 | Percent 1990 to 1998 | Percent 1980 to 1989 | Percent 1960 to 1979 | Percent 1940 to 1959 | Percent 1939 or earlier | Median Year |
|----------------------------|-------------------------------|----------------------------|-------------------------|----------------------------|-------------------------|-------------------------------|-----------------|
| Phoenixville | 0% | 5% | 19% | 36% | 9% | 30% | 1968 |
| CT 3006 | 0% | 21% | 28% | 15% | 7% | 29% | 1979 |
| CT 3007 | 0% | 0% | 6% | 22% | 10% | 63% | 1939 or earlier |
| CT 3008 | 0% | 4% | 32% | 52% | 9% | 3% | 1976 |
| CT 3009 | 0% | 7% | 4% | 57% | 15% | 18% | 1965 |
| Charlestown | 6% | 6% | 5% | 5% | 5% | 75% | 1939 or earlier |
| East Vincent | 0% | 0% | 41% | 34% | 6% | 20% | 1976 |
| CT 3012.01 | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| CT 3012.02 | 0% | 0% | 41% | 34% | 6% | 20% | 1976 |
| East Pikeland | 3% | 44% | 15% | 18% | 4% | 16% | 1988 |
| Schuylkill | 0% | 11% | 0% | 48% | 23% | 18% | 1968 |
| West Vincent | 0% | 0% | 5% | 17% | 30% | 47% | 1942 |
| Total Study Area | 0% | 8% | 19% | 34% | 10% | 29% | 1968 |
| Surrounding Municipalities | 3% | 13% | 16% | 44% | 12% | 12% | 1968 |
| Chester County | 1% | 9% | 14% | 36% | 15% | 24% | 1967 |
| Philadelphia Area | 1% | 6% | 10% | 35% | 25% | 24% | 1961 |
| Pennsylvania | 1% | 6% | 9% | 29% | 23% | 32% | 1955 |
| United States | 1% | 11% | 16% | 36% | 20% | 16% | 1969 |

Source: US Census

Over the past ten years, there were 559 newly constructed or converted renter-occupied housing units added to the study area (**Table 29**). Among these homes, the largest net growth in renter-occupied units was in one-bedroom units (246 units), while the largest net loss was in two-bedroom units (84 units were either demolished or more probably converted). Chester County also experienced the same growth trends, but added 688 two-bedroom units to the rental market during this time period. The majority of rental unit growth occurred in Phoenixville and East Pikeland where 226 and 132 units (respectively) were constructed or converted into renter-occupied units. While most of the new rental units in Phoenixville were one-bedroom units, the new rental units in East Pikeland were in a variety of bedroom types.

Table 29: Growth in New or Converted Renter-Occupied Units between 1990 and 2000 by Number of Bedrooms

| | Total* | Efficiency | 1 Bedroom | 2 Bedrooms | 3 Bedrooms | 4 or More Bedrooms |
|-------------------------|--------------|------------|--------------|------------|------------|--------------------|
| Charlestown | 29 | -3 | 4 | -11 | 11 | 14 |
| East Pikeland | 132 | 13 | 44 | 46 | 11 | 18 |
| East Vincent | 44 | 23 | -32 | 1 | 18 | 2 |
| Phoenixville | 226 | 19 | 174 | -56 | 33 | -29 |
| Schuylkill | 98 | 9 | 40 | -29 | 49 | -41 |
| West Vincent | 30 | 0 | 16 | -35 | 2 | 12 |
| Total Study Area | 559 | 61 | 246 | -84 | 124 | -24 |
| Chester County | 3,497 | 516 | 1,890 | 688 | 274 | 129 |

*Total excludes any loss in units.

Source: US Census

Table 30 shows the renter-occupied units by the number of bedrooms as a percentage of total newly built or converted renter-occupied units over the last decade. Following County trends, half of the renter-occupied units in the study area that were newly built or converted between 1990 and 2000 were one-bedroom units. In Phoenixville where there is a large rental market, over three-fourths of the growth in renter-occupied units occurred in the one-bedroom market.

Table 30: Renter-Occupied Units by Number of Bedrooms as a Percentage of Total Built or Converted Renter Units between 1990 and 2000

| | Efficiency | 1 Bedroom | 2 Bedrooms | 3 Bedrooms | 4 or More Bedrooms |
|-------------------------|------------|------------|------------|------------|--------------------|
| Charlestown | 0% | 14% | 0% | 38% | 48% |
| East Pikeland | 10% | 33% | 35% | 8% | 14% |
| East Vincent | 52% | 0% | 2% | 41% | 5% |
| Phoenixville | 8% | 77% | 0% | 15% | 0% |
| Schuylkill | 9% | 41% | 0% | 50% | 0% |
| West Vincent | 0% | 0% | 0% | 0% | 0% |
| Total Study Area | 11% | 50% | 8% | 22% | 8% |
| Chester County | 15% | 54% | 20% | 8% | 4% |

Note: Any loss of units has been excluded in the total to show only the bedroom market as a percent of total units that were added to the area.

Source: US Census

With the exception of East Vincent, the median gross rent in each of the study area's municipalities has substantially increased, after adjusting for inflation (**Table 31**). Most notably, West Vincent Township's median gross rent has increased by almost 75% between 1980 and 2000 (from \$629 to \$1,079). Conversely, East Vincent Township's median gross rent has declined by almost 45% from \$543 in 1980 to \$300 in 2000, after adjusting for inflation. In Phoenixville, where the population is less affluent than the other municipalities and thus may need more affordable housing, the rent has increased by 27.2% between 1980 and 2000. As compared to Chester County and the Philadelphia area, the median gross rent in 2000 in Charlestown, East Pikeland, and West Vincent was higher. The median gross rent in Phoenixville in 2000 was slightly lower than the County's median and relatively comparable to the metro area.

Table 31: Median Gross Rent in 2000 dollars, 1980, 1990, and 2000

| Location/Census Tract | 1980 | 1990 | 2000 | % Change 1980 - 2000 |
|----------------------------|-------|-------|---------|-------------------------|
| Phoenixville | \$528 | \$710 | \$672 | 27.2% |
| Charlestown | \$591 | \$663 | \$867 | 46.7% |
| East Vincent | \$543 | \$325 | \$300 | -44.7% |
| East Pikeland | \$589 | \$812 | \$816 | 38.5% |
| Schuylkill | \$467 | \$697 | \$585 | 25.4% |
| West Vincent | \$629 | \$992 | \$1,097 | 74.4% |
| Total Study Area | - | - | - | - |
| Surrounding Municipalities | - | - | - | - |

| | | | | |
|-------------------|-------|-------|-------|-------|
| Chester County | n/a | \$755 | \$754 | - |
| Philadelphia Area | \$530 | \$673 | \$651 | 22.8% |

Source: US Census; Urban Partners

Housing Affordability

With increasing residential development in the study area, the supply of affordable housing may not be sufficient to meet the demand of middle-income residents. The National Association of Realtors (NAR) has developed an affordability index to illustrate the relationship of income to owner housing costs. The NAR has defined affordable housing as housing with total ownership costs less than or equal to 28% of the owner’s household income. The index for county residents in **Table 32** is calculated by comparing 28% of Chester County’s median monthly household income to the individual municipalities’ median ownership costs of the owners with mortgages. If the value is 100 or greater, the housing stock in the municipality is considered affordable to Chester County residents. If the value is less than 100, the housing stock in the municipality is considered unaffordable to County residents.

From **Table 32**, the housing stock in Charlestown, Schuylkill, and West Vincent Townships are considered unaffordable to Chester County residents based on the affordability index. This is not surprising since the median residential sales prices in 2003-04 in these townships were considerably higher than the median sales price of homes in other municipalities in the study area and surrounding municipalities in Chester and Montgomery Counties (see **Table 24** above). The median sales price in Schuylkill and West Vincent Townships in 2003-04 was close to \$400,000. Conversely, Phoenixville, East Vincent, and East Pikeland municipalities are considered affordable to the countywide residents. Homes in Phoenixville, in particular, are affordable to Chester County residents due to the Borough’s high index rating. From the residential sales data in **Table 24** above, the median sales price in Phoenixville was considerably lower than the countywide median (\$140,000 versus \$237,000, respectively).

Table 32: Affordability Index for Select Municipalities, 1999

| | Affordability Index* |
|---------------|----------------------|
| | County Residents |
| Phoenixville | 138.25 |
| Charlestown | 85.45 |
| East Vincent | 99.90 |
| East Pikeland | 112.52 |
| Schuylkill | 86.42 |
| West Vincent | 68.75 |

*The affordability Index was developed by the National Association of Realtors. Affordable housing is defined as housing with total costs less than or equal to 28% of the median household

income for the municipality. An index of 100 or higher is considered affordable; an index below 100 is considered unaffordable.

Source: US Census

While the above affordability index indicates whether homes are affordable to Chester County residents, homes in the study area may not be affordable to residents that live in each of the respective municipalities. **Table 33** below shows the number and percent of municipal homeowners that spend 30% or more of their household income on homeowner costs (i.e., mortgages). Households that spend 30% or more of their income on housing costs are considered having an affordability problem. In **Table 33**, Phoenixville has the greatest number of homeowners that spend 30% or more of their income on housing costs (698). However, West Vincent has the largest percent of its homeowners that spend 30% or more of their income on housing costs (26.0%). Schuylkill has the smallest percentage of its homeowners that spend 30% or more on housing costs (18.3%).

Table 33: Number and Percent of Owner Households that Spend 30% or more of Household Income on Homeowner Costs

| | Number of Households | Percent of Owner Households |
|-------------------------|----------------------|-----------------------------|
| Phoenixville | 698 | 20.3% |
| Charlestown | 266 | 23.6% |
| East Vincent | 310 | 24.3% |
| East Pikeland | 395 | 19.1% |
| Schuylkill | 371 | 18.3% |
| West Vincent | 201 | 26.0% |
| Total Study Area | 2,241 | 20.9% |

Source: US Census

The number and percent of renter households that spend 30% or more of their household income on gross rent is shown in **Table 34**. Again, renting households that spend 30% or more of their income on gross rent are considered having an affordability problem. Phoenixville has the greatest number of renter households that spend 30% or more of their income on rent (718). In East Pikeland, almost half of all renters spend 30% or more of their income on rent (46.6%), while only 22.7% of all renters in West Vincent spend 30% or more. When comparing owners to renters, with the exception of West Vincent, a larger percentage of renter households have an affordability problem than owner households (when having an affordability problem is defined as spending 30% or more on housing costs).

Table 34: Number and Percent of Renter Households that Spend 30% or more of Household Income on Gross Rent

| | Number of Households | Percent of Renter Households |
|-------------------------|----------------------|------------------------------|
| Phoenixville | 718 | 25.6% |
| Charlestown | 32 | 34.8% |
| East Vincent | 147 | 39.7% |
| East Pikeland | 138 | 46.6% |
| Schuylkill | 98 | 42.6% |
| West Vincent | 20 | 22.7% |
| Total Study Area | 1,153 | 29.7% |

Source: US Census

From **Tables 33 and 34** above, affordable housing for both owner and renter households in some municipalities in the study area may be in short supply. Particularly, more renter households appear to have a housing affordability problem than owner households in the study area. Lack of affordable housing, both owner- and renter-occupied, may create problems for the study area’s municipalities. Existing local businesses and potential businesses looking to locate to the study area may have trouble finding low cost labor since this labor is priced out of the residential market. In particular, Phoenixville that has existing retail and hopes to attract more retail and businesses may not have low cost labor since a large percentage of existing residents have affordability problems and may be forced to leave the Borough. This shortage in labor may result in businesses locating elsewhere and further job loss in the area.

Proposed Housing Developments

A number of housing developments, including single-family residences, townhomes, and mixed-use development centers, have been proposed for the study area. The following is a sample of proposed and approved housing developments.

- Northridge Village at High Street is a proposed 170-townhouse development in Phoenixville. The townhomes will range in size from 22- to 24-foot wide and may be priced between \$220,000 and \$240,000.
- The Townhomes at French Creek is a 152-townhome development that is currently under construction in Phoenixville. Of the 152 units, 86 are under agreement, while the remaining 66 are priced under \$200,000.
- Coldstream Crossing is a proposed 55 years of age and older community planned in East Pikeland Township at the corner of Coldsteam Parkway and Route 113. The development will consist of 110 single-family detached homes, duplexes, and townhomes.
- The Quarters at French Creek is a proposed 272-rental unit development located in Phoenixville. Of the 272 units, 81 units will be one-bedroom and 191 units will be two-bedroom. The apartments will range in size around 1,000 square feet and will lease for \$1,200 to \$1,300 per month.

4: ECONOMIC CHARACTERISTICS

Income Levels

After adjusting for inflation, the study area has realized large increases in income between 1980 and 2000. Similar to Chester County trends, the median family income in the study area grew from \$61,949 in 1980 to \$78,560 in 2000 (after adjusting for 155% inflation) implying that higher-income households have moved into the area during this time period (**Table 35**). Additionally, the per capita income for the area grew even more dramatically with a 67% increase (after adjusting for inflation) between 1980 and 2000 (from \$19,197 in 1980 to \$32,099 in 2000) (**Table 36**). This substantial growth in the per capita income may be due to the decrease in size of families and households in each of the study area's municipalities. The median household income in the study area was \$81,848 as compared to the surrounding area's income of \$77,112 (**Table 37**).

Table 35: Median Family Income in 2003 dollars, 1980, 1990, and 2000

| | 1980 | 1990 | 2000 | % Change 1980 - 2000 |
|------------------------------------|-----------------|-----------------|-----------------|-------------------------|
| Phoenixville | \$47,782 | \$53,994 | \$55,880 | 16.9% |
| Charlestown | \$72,267 | \$102,798 | \$104,649 | 44.8% |
| East Vincent | \$47,032 | \$58,999 | \$80,126 | 70.4% |
| East Pikeland | \$61,906 | \$76,012 | \$88,654 | 43.2% |
| Schuylkill | \$68,214 | \$77,981 | \$99,629 | 46.1% |
| West Vincent | \$74,491 | \$77,814 | \$109,066 | 46.4% |
| Total Study Area* | \$61,949 | \$74,600 | \$78,560 | 26.8% |
| Surrounding Municipalities* | \$63,468 | \$76,564 | \$82,446 | 29.9% |
| Chester County | \$61,801 | \$71,983 | \$78,974 | 27.8% |

*The median family income for the total study area and surrounding municipalities was derived by taking the average of the medians for the townships in those respective areas.

Note: The surrounding municipalities for the year 1980 do not include East Nantmeal, South Coventry, Upper Uwchlan, and West Pikeland.

Source: US Census

Table 36: Per Capita Income in 2003 dollars, 1980, 1990, and 2000

| | 1980 | 1990 | 2000 | % Change 1980 - 2000 |
|----------------------------|-----------------|-----------------|-----------------|-------------------------|
| Phoenixville | \$16,831 | \$20,825 | \$23,524 | 39.8% |
| Charlestown | \$23,850 | \$43,660 | \$42,999 | 80.3% |
| East Vincent | \$13,172 | \$20,411 | \$28,543 | 116.7% |
| East Pikeland | \$19,919 | \$25,998 | \$32,624 | 63.8% |
| Schuylkill | \$23,833 | \$33,238 | \$44,540 | 86.9% |
| West Vincent | \$28,333 | \$32,974 | \$44,664 | 57.6% |
| Total Study Area | \$19,197 | \$26,093 | \$32,099 | 67.2% |
| Surrounding Municipalities | \$23,253 | \$31,696 | \$34,828 | 49.8% |
| Chester County | \$21,330 | \$28,340 | \$32,473 | 52.2% |

Note: The surrounding municipalities for the year 1980 do not include East Nantmeal, South Coventry, Upper Uwchlan, and West Pikeland.

Source: US Census

Table 37: Median Household Income in 2003 dollars, 1980, 1990, 2000

| | 1980 | 1990 | 2000 | % Change 1980 - 2000 |
|-----------------------------|-----------------|-----------------|-----------------|-------------------------|
| Phoenixville | \$43,010 | \$46,866 | \$46,678 | 8.5% |
| Charlestown | \$70,735 | \$94,045 | \$98,643 | 39.5% |
| East Vincent | \$46,533 | \$53,379 | \$70,128 | 50.7% |
| East Pikeland | \$62,958 | \$73,694 | \$80,012 | 27.1% |
| Schuylkill | \$66,859 | \$74,883 | \$94,556 | 41.4% |
| West Vincent | \$70,477 | \$77,039 | \$101,071 | 43.4% |
| Total Study Area* | \$60,095 | \$69,984 | \$81,848 | 36.2% |
| Surrounding Municipalities* | \$60,684 | \$72,013 | \$77,112 | 27.1% |
| Chester County | \$60,684 | \$67,165 | \$71,714 | 18.2% |

*The median household income for the total study area and surrounding municipalities was derived by taking the average of the medians for the townships in those respective areas.

Note: The surrounding municipalities for the year 1980 do not include East Nantmeal, South Coventry, Upper Uwchlan, and West Pikeland.

Source: US Census

Within the study area, Charlestown, Schuylkill, and West Vincent Townships have the highest per capita, median family, and median household incomes. This suggests that these communities attract higher-income families, households, and even individuals than the other municipalities in the study area. Conversely, Phoenixville has significantly lower per capita, median family, and median household incomes than the other municipalities in the study area. These low income numbers could have an effect on

local businesses in Phoenixville since the population may not have substantial disposable income to support businesses that are in or relocate to downtown Phoenixville. Instead, the downtown must rely mainly on the income of residents outside Phoenixville. In addition to negatively impacting local business, the low income in Phoenixville has an effect on tax revenues. Low income tax revenues puts pressure on the local government to receive funding through other sources or cut services all together.

Education

High home prices and high incomes suggest that the population in the study area is highly educated. From **Table 38**, the study area overall has a larger percent of its population who are 25 and older with at least a Bachelor's Degree than the populations in the Philadelphia area, Pennsylvania, and the US. The education level of the population in the study area is relatively similar to the population in Chester County. As compared to the surrounding area, however, a smaller percentage of the population in the study area has at least a Bachelor's Degree. Within the study area, over 50% of residents in Charlestown, Schuylkill, and West Vincent Townships have at least a Bachelor's Degree. This is not surprising since these same townships have the highest incomes and home values in the study area. Phoenixville has the smallest percent of its population with at least a Bachelor's Degree (19%); however, this percentage is still larger than the State and national percentages (14% and 16%, respectively).

Table 38: Educational Attainment of Persons Age 25 and Over, 2000

| | Less than High School | High school | Some College or Associate | Bachelor 's Degree | Graduate or Professional Degree |
|-------------------------------|-----------------------------|----------------|---------------------------------|--------------------------|---------------------------------------|
| Phoenixville | 17% | 36% | 21% | 19% | 7% |
| Charlestown | 5% | 12% | 23% | 39% | 22% |
| East Vincent | 17% | 32% | 22% | 20% | 9% |
| East Pikeland | 9% | 27% | 22% | 26% | 16% |
| Schuylkill | 6% | 21% | 21% | 31% | 21% |
| West Vincent | 6% | 21% | 18% | 33% | 21% |
| Total Study Area | 12% | 28% | 21% | 25% | 14% |
| Surrounding Municipalities | 8% | 22% | 22% | 31% | 18% |
| Chester County | 11% | 26% | 21% | 27% | 16% |
| Philadelphia Area | 18% | 32% | 23% | 17% | 10% |
| Pennsylvania | 18% | 38% | 21% | 14% | 8% |
| United States | 20% | 29% | 27% | 16% | 9% |

Source: US Census

Unemployment

Following surrounding area trends, the unemployment rate in the study area has fluctuated somewhat, but has remained relatively low between 1980 and 2000 (**Table 39**). In 2000, the study area's unemployment rate of 3.5% was comparable to Chester County's rate of 3.6%. Phoenixville, particularly census tracts 3006 and 3007, experienced higher rates of unemployment in 1980 than the other townships in the study area. This may be due to the closing of steel manufacturers in Phoenixville and the surrounding region in the late 1970s. In 2000, West Vincent had the lowest number of unemployed persons (3 people) and lowest unemployment rate (0.2%). While having a low unemployment rate is desirable for localities, having virtually no unemployment may be a deterrent to potential employers or businesses.

Table 39: Number of Unemployed Persons and Unemployment Rate, 1980, 1990, and 2000

| | Number of Unemployed Persons | | | Unemployment Rate | | |
|----------------------------|------------------------------|------------|------------|-------------------|-------------|-------------|
| | 1980 | 1990 | 2000 | 1980 | 1990 | 2000 |
| Phoenixville | 403 | 317 | 328 | 5.7% | 3.8% | 4.0% |
| CT 3006 | 97 | 76 | 67 | 8.5% | 4.4% | 3.8% |
| CT 3007 | 161 | 127 | 126 | 6.3% | 4.8% | 5.1% |
| CT 3008 | 97 | 72 | 73 | 4.5% | 2.6% | 2.7% |
| CT3009 | 48 | 42 | 62 | 4.0% | 3.4% | 4.8% |
| Charlestown | 50 | 53 | 102 | 3.5% | 3.5% | 4.8% |
| East Vincent | 99 | 98 | 92 | 5.6% | 4.8% | 3.5% |
| CT 3012.01 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% |
| CT 3012.02 | 99 | 98 | 92 | 5.6% | 4.8% | 3.5% |
| East Pikeland | 43 | 105 | 74 | 1.8% | 3.2% | 2.1% |
| Schuylkill | 79 | 34 | 165 | 2.6% | 1.2% | 4.4% |
| West Vincent | 48 | 21 | 3 | 5.0% | 1.8% | 0.2% |
| Total Study Area | 722 | 628 | 764 | 4.4% | 5.2% | 3.5% |
| Surrounding Municipalities | 1,970 | 2,188 | 2,698 | 3.1% | 4.1% | 2.8% |
| Chester County | 7,116 | 6,041 | 8,214 | 4.6% | 3.0% | 3.6% |

Source: US Census

Industry and Occupation

Industry

Industry is defined as the type of business conducted by the worker's employing organization. In the study area, surrounding municipalities, and Chester County, the category, Manufacturing, had the biggest decrease between 1980 and 1990 was in Manufacturing (**Table 40**). In the study area alone, manufacturing declined from 34% in 1980 to 21% in 1990. This decline is similar to national trends during this time period. In the study area, the largest increase in type of industry between 1980 and 1990 was in Finance, Insurance, and Real Estate (FIRE) from 5% to 9% and in Retail Trade from 11% in 1980 to 15% in 1990. In the study area, no other industry significantly grew or declined during this time period.

Table 40: Industry of Employed Persons, 1980 and 1990

| | Study Area | | | Surrounding Municipalities | | | Chester County | | |
|------------------|------------|------|--------|----------------------------|------|--------|----------------|------|--------|
| | 1980 | 1990 | Change | 1980 | 1990 | Change | 1980 | 1990 | Change |
| Agriculture | 1% | 2% | 1% | 1% | 1% | 0% | 4% | 4% | 0% |
| Mining | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Construction | 5% | 7% | 2% | 5% | 6% | 1% | 0% | 6% | 6% |
| Manufacturing | 34% | 21% | -13% | 30% | 21% | -9% | 29% | 20% | -9% |
| Transportation | 4% | 3% | -1% | 5% | 3% | -2% | 5% | 3% | -2% |
| Public Utilities | 1% | 3% | 2% | 1% | 3% | 2% | 6% | 3% | -3% |
| Wholesale Trade | 5% | 6% | 1% | 6% | 6% | 0% | 5% | 6% | 1% |
| Retail Trade | 11% | 15% | 4% | 15% | 14% | -1% | 13% | 15% | 2% |
| FIRE | 5% | 9% | 4% | 7% | 10% | 3% | 6% | 9% | 3% |
| Services | 9% | 9% | 0% | 8% | 10% | 2% | 8% | 9% | 1% |
| Professional | 21% | 24% | 3% | 20% | 25% | 5% | 22% | 25% | 3% |
| Public Admin. | 3% | 2% | -1% | 3% | 2% | -1% | 2% | 2% | 0% |

Notes: For the 1980 data, the total Study Area does not include West Vincent due to lack of consistent data; the surrounding municipalities do not include East Nantmeal, South Coventry, Upper Uwchlan, East Whiteland and West Pikeland.

Source: US Census

While the Census reports information on industry in 2000, the industry categories changed in the 2000 Census so the 2000 figures are not directly comparable to the 1980 and 1990 Census figures. In the study area in 2000, the industry with the largest percent of employed persons was the Education, Health, and Social Services industry (19%), similar to the surrounding municipalities and Chester County (18% and 20%, respectively) (**Table 41**). Manufacturing and Executive and Professional industries were the next largest type of industry in the study area (both 15%). Within the study area, Charlestown, Schuylkill, and West Vincent Townships have a large percentage of

residents in high paying occupations—almost 50% of workers in these townships are employed in either FIRE, Executive and Professional, or Education, Health, and Social Services. East Vincent and East Pikeland Townships have the largest percentage of residents employed in the manufacturing industry (both 18%).

Table 41: Industry of Employed Persons, 2000

| | Agriculture | Construction | Manufacturing | Wholesale Trade | Retail Trade | Transportation | Information | FIRE | Executive/Professional | Edu., Health, Social Services | Arts, entertainment, food | Other services | Public administration |
|-------------------|-------------|--------------|---------------|-----------------|--------------|----------------|-------------|------|------------------------|-------------------------------|---------------------------|----------------|-----------------------|
| Phoenixville | 1% | 4% | 15% | 4% | 13% | 4% | 4% | 12% | 13% | 17% | 7% | 5% | 2% |
| Charlestown | 0% | 5% | 10% | 7% | 12% | 2% | 3% | 12% | 16% | 24% | 5% | 2% | 2% |
| East Vincent | 1% | 10% | 18% | 4% | 9% | 5% | 3% | 9% | 13% | 19% | 2% | 5% | 2% |
| East Pikeland | 0% | 7% | 18% | 3% | 12% | 4% | 4% | 10% | 13% | 19% | 4% | 4% | 3% |
| Schuylkill | 1% | 3% | 12% | 6% | 11% | 2% | 5% | 9% | 17% | 20% | 6% | 5% | 2% |
| West Vincent | 2% | 8% | 14% | 6% | 11% | 2% | 4% | 12% | 21% | 14% | 3% | 3% | 1% |
| Total Study Area | 1% | 6% | 15% | 5% | 12% | 3% | 4% | 11% | 15% | 19% | 5% | 4% | 2% |
| Total Surrounding | 0% | 5% | 15% | 5% | 11% | 3% | 4% | 12% | 16% | 18% | 5% | 4% | 2% |
| Chester County | 2% | 6% | 15% | 4% | 11% | 4% | 3% | 10% | 14% | 20% | 5% | 4% | 2% |

Source: US Census

Occupation

Occupation is the type of work a person does to earn a living, regardless of the industry in which the job is placed. Between 1980 and 1990, the study area followed national patterns and trends. The study area lost approximately 12% of its manufacturing-type jobs (i.e., Craftsmen, Operators, Fabricators, and Laborers) (**Table 42**). The percent of jobs in Services and Farming occupations stayed relatively constant during this time period, while there was an increase in Executive and Professional jobs as well as Technical, Sales, and Administration Support jobs in the study area. The County and surrounding municipalities realized similar occupation trends between 1980 and 1990. However, these areas lost a smaller percentage of manufacturing-type jobs as compared to the study area.

Table 42: Occupation of Employed Persons in Select Areas, 1980 and 1990

| | Study Area | | | Surrounding Municipalities | | | Chester County | | |
|---|------------|------|--------|----------------------------|------|--------|----------------|------|--------|
| | 1980 | 1990 | Change | 1980 | 1990 | Change | 1980 | 1990 | Change |
| Executive/ Professionals | 22% | 30% | 8% | 32% | 39% | 7% | 29% | 35% | 6% |
| Technicians, Sales, Admin. Support | 30% | 35% | 5% | 34% | 36% | 2% | 29% | 33% | 4% |
| Services | 12% | 11% | -1% | 10% | 8% | -2% | 11% | 10% | -1% |
| Farming | 2% | 2% | 0% | 1% | 1% | 0% | 3% | 3% | 0% |
| Craftsmen Operators, Fabricators, and Laborers | 12% | 10% | -2% | 10% | 8% | -2% | 12% | 9% | -3% |
| | 22% | 12% | -10% | 13% | 8% | -5% | 16% | 11% | -5% |

Source: US Census

While the Census reports information on occupation in 2000, the occupational categories changed in the 2000 Census so the 2000 figures are not directly comparable to the 1980 and 1990 Census figures. Similar to the trends between 1980 and 1990, the study area continued to lose manufacturing-type jobs (i.e., Construction, Maintenance, Production, and Materials) between 1990 and 2000. In addition, farming occupations also decreased during this time period. Executive and professional occupations have continued to grow in the study area (46% in 2000, up from 30% in 1990). Again, these occupational trends in the study area are similar to the patterns in Chester County and the surrounding municipalities. In the surrounding municipalities, however, a larger percentage of workers have occupations in executive or professional jobs in 2000 as compared to the study area and Chester County (**Table 43**).

Within the study area, Phoenixville and East Vincent have the largest percentage of residents in manufacturing-type occupations (18% and 19%, respectively). Charlestown, Schuylkill, and West Vincent have the largest percentage of residents in executive and professional occupations (60%, 54%, and 54%, respectively).

Table 43: Occupation of Employed Persons, 2000

| | Management/ Professional | Service | Sales and Office | Farming and Forestry | Construction and Maintenance | Production and Materials |
|-------------------------------|-----------------------------|---------|---------------------|-------------------------|------------------------------------|-----------------------------|
| Phoenixville | 37% | 15% | 30% | 0% | 7% | 11% |
| Charlestown | 60% | 8% | 24% | 0% | 4% | 4% |
| East Vincent | 41% | 9% | 31% | 0% | 11% | 8% |
| East Pikeland | 49% | 9% | 27% | 0% | 6% | 9% |
| Schuylkill | 54% | 9% | 25% | 1% | 6% | 6% |
| West Vincent | 54% | 6% | 26% | 0% | 7% | 6% |
| Total Study Area | 46% | 11% | 28% | 0% | 7% | 8% |
| Surrounding Municipalities | 51% | 8% | 28% | 0% | 6% | 7% |
| Chester County | 45% | 11% | 26% | 1% | 7% | 10% |

Source: US Census

The decrease in manufacturing-type jobs in the study area between 1980 and 2000 has significant effects on the population. Manufacturing jobs usually require only basic education, but offer on-the-job, specialized training pertinent to the job and high paying salaries. Thus, with the loss of these jobs, study area residents may not be able to find other high paying jobs with minimal education requirements. Residents who lose manufacturing jobs may be forced to take a pay cut or seek further education.

Employment in the Regional Area

With the exception of Phoenixville, the municipalities in the study area are primarily ‘bedroom communities’, meaning that the majority of residents work outside of the community and the businesses within mainly serve the essential needs of residents. However, there are several proposed mixed-use developments within the six-municipality region. These proposed developments would include a mix of residential, commercial, office, and public uses. These developments include:

- The French Creek Center. This mixed-use development at the former Phoenix Steel Plant is proposed to contain one million square feet in office space and 85,000 square feet in retail, in addition to approximately 642 units of housing.
- Phoenixville’s Downtown Business District. Revitalization recommendations have been presented to the Borough to improve and redevelop the downtown district. These recommendations include land use and zoning revisions, economic incentives and marketing programs, preservation and design guidelines, parking and circulation improvements, and coordination of public and private efforts. Currently, the Borough is taking these recommendations into consideration.
- Kimberton Village in East Pikeland. This village is proposed to preserve its historic landmarks while serving local needs or specialty markets for the local area. In addition, the Village may contain a mix of retail, office, and public space with residential uses interspersed.
- Village of Devault in Charlestown. This Village could contain small residential lots on grid street patterns, sidewalks, and a central business district (e.g., a ‘main street’). In addition, commercial and office space would be added to the area.
- Ludwig’s Corner in West Vincent. Weatherstone, a new mixed-use community, is planned for the area that includes residential, retail, and office uses on a 300-acre site. There has been 25,000 square feet dedicated to the office and retail components of the community.
- Charlestown Village in Charlestown. Similar to Kimberton, the proposed development at Charlestown Village will mainly emphasize historic preservation, while offering local residents specialty retail.

While these proposed villages and other existing regional business districts might employ some residents in the area, most study area workers are employed outside the Phoenixville regional area (**Table 44**). Following County trends, residents in each of the study area’s municipality travel at least 26 minutes to work. West Vincent residents have the longest commute to work at 33.4 minutes, while Schuylkill residents have the shortest commute to work at 26.2 minutes.

Table 44: Mean Travel Time to Work in Minutes, 2000

| | 2000 |
|----------------|------|
| Phoenixville | 26.6 |
| Charlestown | 28.2 |
| East Vincent | 28.8 |
| East Pikeland | 27.0 |
| Schuylkill | 26.2 |
| West Vincent | 33.4 |
| Chester County | 27.5 |

Source: US Census

While residents may not work within the study area, total employment in Chester County overall has realized substantial job growth. From Table 38, the total number of employed persons in the County has fluctuated somewhat, but the overall trend is positive (**Table 45**). The latest available data from June 2004 reported the number of jobs in Chester County to be 242,400—up from 227,900 in 1998. The unemployment rate in Chester County has steadily increased from 2.6% in 1999 to 3.8% in 2003, but dropped somewhat to 3.4% in June of 2004.

Table 45: Number of Employed Persons and Unemployment Rate in Chester County, 1998 – June 2004

| Year | Number of Employed | Unemployment Rate |
|------------|--------------------|-------------------|
| 1998 | 227,900 | 2.7% |
| 1999 | 235,100 | 2.6% |
| 2000 | 230,300 | 2.7% |
| 2001 | 237,500 | 3.0% |
| 2002 | 241,800 | 3.8% |
| 2003 | 238,600 | 3.8% |
| June, 2004 | 242,400 | 3.4% |

Source: Pennsylvania Labor Market Information Database System

Based on the Delaware Valley Regional Planning Commission (DVRPC) projections, the number of jobs in the study area is forecasted to modestly increase from 12,290 in 1990 to 14,300 in 2025 (**Table 46**). Overall, the number of jobs in Chester County is projected to increase dramatically from 197,752 in 1990 to 289,000 in 2025. Within the study area, Phoenixville is forecasted to lose a small amount of jobs between 1990 and 2005, but will gain almost 1,000 jobs between 2005 and 2025. Only East Pikeland and Schuylkill Townships are forecasted to lose jobs between 1990 and 2025. Charlestown, East

Vincent, and West Vincent are projected to gain a modest amount of jobs during this time period.

Table 46: Total Number of Jobs, Actual and Projected, 1990 – 2025

| | 1990 actual | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Phoenixville | 5,942 | 5,850 | 5,850 | 6,150 | 6,300 | 6,450 | 6,800 |
| Charlestown | 1,151 | 1,350 | 1,350 | 1,450 | 1,450 | 1,450 | 1,500 |
| East Vincent | 1,284 | 1,500 | 1,550 | 1,600 | 1,650 | 1,700 | 1,800 |
| East Pikeland | 950 | 950 | 950 | 1,000 | 950 | 950 | 900 |
| Schuylkill | 2,818 | 3,050 | 2,950 | 2,900 | 2,850 | 2,800 | 2,800 |
| West Vincent | 145 | 300 | 350 | 400 | 450 | 450 | 500 |
| Total Study Area | 12,290 | 13,000 | 13,000 | 13,500 | 13,650 | 13,800 | 14,300 |
| Chester County | 197,752 | 230,350 | 242,600 | 256,600 | 269,200 | 277,500 | 289,000 |

Source: Delaware Valley Regional Planning Commission

While DVRPC estimates only 2,010 jobs will be created in the study area between 2000 and 2025, new development in the surrounding area may attract further employers to the study area and surrounding municipalities in Chester and Montgomery Counties. For example, a 233-acre tract in Upper Providence Township at the Route 422 and Route 29 interchange is a proposed site for new development. This potential development, located across the Schuylkill River and adjacent to Phoenixville, may include 2.5 million square feet of office and retail space. Currently, the site is zoned for upscale retail development and office use. With infrastructure construction completed by 2006, the development is expected to be built out within 25 years and bring approximately 8,000 new jobs to the area. New development, such as this site in Upper Providence, may foster further commercial, office, and retail development, as well as future job growth, in the study area.

Business Inventory

There are 1,449 businesses in the study area as of 1999. Almost half of all businesses in the study area, or 43%, are in the service industry (**Table 47**). There are few study area businesses that are in public administration or transportation industries (2% and 2%, respectively) and only one mining-type business.

Table 47: Number and Percent of Employers by Industry in Study Area

| | Number | Percent |
|--|--------------|-------------|
| Agriculture, Forestry, Fishing | 51 | 4% |
| Construction | 143 | 10% |
| Finance, Insurance, and Real Estate | 104 | 7% |
| Manufacturing | 89 | 6% |
| Mining | 1 | 0% |
| Public Administration | 27 | 2% |
| Retail | 284 | 20% |
| Services (education, hotels, health, etc.) | 623 | 43% |
| Transportation, Communication, Utilities | 31 | 2% |
| Wholesale Trade | 96 | 7% |
| TOTAL | 1,449 | 100% |

Source: PA Labor Market Information Database System

Almost 40% of all businesses in the study area, or 559 businesses, are located in Phoenixville (**Table 48**). Also, a large number of businesses are located in East Pikeland and Schuylkill as compared to Charlestown, East Vincent, and West Vincent. Only 5% of all businesses in the study area are located in West Vincent Township.

Table 48: Number and Percent of Businesses by Municipality in Study Area

| | Number | Percent |
|---------------|--------------|-------------|
| Charlestown | 130 | 9% |
| East Pikeland | 322 | 22% |
| East Vincent | 137 | 9% |
| Phoenixville | 559 | 39% |
| Schuylkill | 233 | 16% |
| West Vincent | 68 | 5% |
| TOTAL | 1,449 | 100% |

Source: PA Labor Market Information Database System

Table 49 below shows the percent of businesses in each municipality in the study area as well as the total study area by industry type. As mentioned previously, over one-third of all businesses in each of the study area’s municipalities are in the services industry. In Schuylkill, particularly, over one-half of all businesses are in this industry.

As compared to the overall study area, West Vincent Township has a high percentage of businesses (12%) in the agricultural industry, indicative of the Township’s rural community. East Vincent also has a high percentage of businesses in agricultural and in construction industries (9% and 22%, respectively). Most notably, Charlestown differs considerably from the overall study area in the type of businesses located in the Township. While Charlestown has only 36% and 8% of businesses in the services and retail industries, it has 21% in the construction industry, 10% in the manufacturing industry, and 12% in the wholesale industry.

Table 49: Percent of Businesses by Industry by Municipality in Study Area

| | Charlestown | East Pikeland | East Vincent | Phoenixville | Schuylkill | West Vincent | Total Study Area |
|--|-------------|------------------|-----------------|--------------|------------|-----------------|---------------------|
| Agriculture, Forestry, Fishing | 2% | 3% | 9% | 3% | 1% | 12% | 4% |
| Construction | 21% | 11% | 22% | 5% | 6% | 15% | 10% |
| Finance, Insurance, and Real Estate | 6% | 8% | 5% | 8% | 5% | 10% | 7% |
| Manufacturing | 10% | 5% | 6% | 6% | 7% | 4% | 6% |
| Mining | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Public Administration | 2% | 1% | 3% | 3% | 1% | 1% | 2% |
| Retail | 8% | 25% | 12% | 23% | 17% | 13% | 20% |
| Services (education, hotels, health, etc.) | 36% | 39% | 36% | 46% | 53% | 35% | 43% |
| Transportation, Communication, Utilities | 4% | 2% | 1% | 3% | 1% | 3% | 2% |
| Wholesale Trade | 12% | 6% | 7% | 5% | 9% | 6% | 7% |
| TOTAL | 101% | 100% | 100% | 100% | 100% | 100% | 100% |

Source: PA Labor Market Information Database System

As mentioned above, the largest type of business in the study area is in services with 623 businesses or 43% of all study area businesses in this industry. To provide better detail, **Table 50** shows the type of service provided by service industry businesses in the study area. Almost 50% of all service industry businesses are in business, health, membership organizations, and personal services.

Table 50: Number and Percent of Service Businesses by Type of Service in Study Area

| Type of Service | Number | Percent |
|--|------------|-------------|
| Agricultural Services | 0 | 0% |
| Amusement and Recreation Services | 37 | 6% |
| Auto Repair, Services, and Parking | 58 | 9% |
| Business Services | 99 | 16% |
| Educational Services | 34 | 5% |
| Engineering and Management Services | 40 | 6% |
| Health Services | 97 | 16% |
| Hotel and Other Lodging Places | 11 | 2% |
| Legal Services | 29 | 5% |
| Membership Organizations | 78 | 13% |
| Misc. Repair Services | 24 | 4% |
| Motion Pictures | 6 | 1% |
| Museums, Botanical, Zoological Gardens | 3 | 0% |
| Personal Services | 65 | 10% |
| Misc. Services | 4 | 1% |
| Social Services | 38 | 6% |
| TOTAL | 623 | 100% |

Source: PA Labor Market Information Database System

Almost 100 businesses or 16% of all service industry businesses in the study area are in health services, reflecting the health care network within and surrounding the Phoenixville Hospital located in Phoenixville Borough. As of August 2004, the Phoenixville Hospital, which was previously owned by the University of Pennsylvania Health System, was sold to the for-profit company, Community Health Systems Inc (CHS). Under the terms of the purchase, CHS will spend \$82 to \$117 million in renovating and rebuilding the Hospital over the next eight years. This construction and renovation may lead to further health services businesses moving to the area along with job growth in the health services industry to the area.

Office and Commercial Analysis

Regional Area

The Phoenixville Regional area is situated amidst three major office and commercial submarkets in Chester and Montgomery Counties. To the southwest of the study area and along the Route 202 corridor lie Exton and East and West Whiteland Townships. Directly to the east of the study area is the Valley Forge and Norristown area and to the southeast are the King of Prussia and Wayne centers. Currently, these regional commercial centers have more than 17 million square feet of office space. The office space in King of Prussia and Wayne alone totals almost 10 million square feet.

Over the last eight years, vacancy rates have been growing due to the economic downturn and continued new construction. Totalling the three nearby commercial submarkets, the office vacancy rate now stands at 25.7%, up from 5.7% in 1997 (**Table 51**). In the Valley Forge and Norristown submarkets, the vacancy rate has jumped by more than 30% between 1997 and 2004.

Table 51: Vacancy Rates for Select Commercial Regions, 1997 - 2004

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004* |
|--------------------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| Valley Forge/Norristown | 2.2% | 6.4% | 11.2% | 20.4% | 25.9% | 29.0% | 35.0% | 34.9% |
| King of Prussia/Wayne | 6.2% | 9.9% | 6.8% | 13.2% | 18.9% | 20.9% | 27.4% | 26.0% |
| Exton/Whitelands | 6.5% | 6.0% | 9.1% | 10.2% | 19.4% | 24.0% | 25.0% | 21.8% |
| Total Nearby Submarkets | 5.7% | 8.3% | 8.1% | 13.2% | 19.9% | 22.8% | 27.6% | 25.7% |

*As of the second quarter only

Source: Jones Lang LaSalle

Currently, there is over 4.5 million square feet of vacant office space in the commercial centers near the Phoenixville area. Growth in office space demand has not been high enough to significantly absorb this available space or to support further substantial development. Over the last eight years, demand for office space in the total region has grown by 650,000 square feet or 81,000 square feet per year (**Table 52**). At this rate, it will take decades for the office space demand to fully absorb the current vacant space in the nearby centers.

Table 52: Net Office Absorption Trends (in square feet)

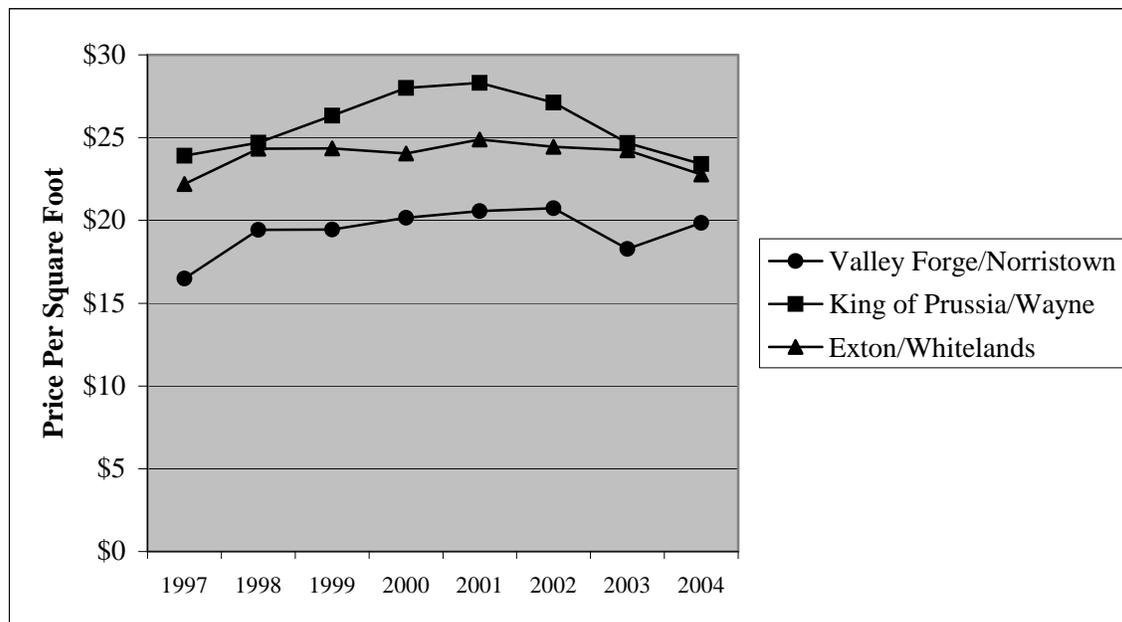
| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004* | 1997-2004 |
|-------------------------|----------------|----------------|----------------|----------------|------------------|----------------|------------------|----------------|----------------|
| Valley Forge/Norristown | (7,200) | 19,766 | (95,221) | (184,881) | (112,154) | (30,390) | (125,028) | 8,145 | (526,963) |
| King of Prussia/Wayne | 286,315 | (118,666) | 526,791 | 102,906 | (234,917) | 94,183 | (603,159) | 154,590 | 208,043 |
| Exton/Whitelands | (7,100) | 433,409 | 274,374 | 201,832 | (275,558) | 111,600 | 58,521 | 171,621 | 968,699 |
| Regional Total | 272,015 | 334,509 | 705,944 | 119,857 | (622,629) | 175,393 | (669,666) | 334,356 | 649,779 |

*As of the second quarter only

Source: Jones Lang LaSalle

In the late 1990's and in the early 2000's, the demand for office space in all three commercial submarkets drove up office space rents to a peak in 2001 of \$24.59 per square foot (See **Figure 1**). However, by 2004, average rents had dropped by over \$2.00 to \$22.01 per square foot.

Figure 1: Price Per Square Foot for Office Space, 1997 - 2004



As stated above, office space absorption in the three commercial submarket area has averaged 81,000 square feet in the past eight years. However, more than 17 million square feet of new space has been made available, resulting in a current vacancy of more than 4.5 million square feet. Under these overall depressed office market conditions, any new office space in the Phoenixville area may encounter slow development.

Despite these conditions, the proposed French Creek Center includes up to one million square feet of Class A office space in addition to retail and residential space. While total absorption of this proposed office space may be slow, certain office users may be attracted to specific assets of French Creek Center, for example, its price-sensitive space, the Phoenixville location, and its adjacency to an active downtown. In addition to facing depressed office market conditions, the French Creek Center may also have to compete with other proposed office space developments in the nearby area in order to attract development. For example, the proposed development at Route 422 and 29 in Upper Providence Township has planned for 2.5 million square feet of office and retail space. Thus, considering this new proposed development and current market conditions, total buildout of the French Creek Center's office component may take up to ten years or

longer. However, smaller commercial spaces located in the Phoenixville area that have competitive prices and convenient locations may be absorbed even with the present market conditions and development of large office spaces.

Downtown Phoenixville

Various efforts to revitalize Phoenixville's downtown are underway. These revitalization strategies include redevelopment of vacant property, economic incentives and marketing programs, pedestrian circulation, and a linkage between the downtown and the proposed French Creek Center. As the downtown becomes more attractive to residents, retail and certain office users may consider moving to the area.

As of 2001, there were 113 retail stores in the Borough occupying an estimated 433,700 square feet of store space. With further redevelopment and revitalization efforts implemented, population in the area may increase and with it greater purchasing power. This, in turn, creates more demand for retail goods and services. As the population increases in the area and revitalization strategies are implemented, more retail stores, restaurants, and even certain office space users may become attracted and locate to the downtown and the surrounding community.

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1. Introduction

The natural resources of the region play a critical role in how land uses have evolved to the patterns we see today. These natural resources also provide the framework for which future development or preservation activities can be focused. For the purposes of this report, natural resources are divided into three major components, each serving to organize a major “type” of natural feature. The three components - earth resources, water resources, and biotic resources – are essential building blocks that are interrelated to each other.

This chapter will inventory existing environmental and natural resource data in the six municipalities that make up the Phoenixville Regional Area / Study Area (terms used interchangeably throughout this section). This section builds on readily available information, including individual municipal Comprehensive Plans and Open Space, Recreation and Environmental Resources Plans. A reference list is provided at the end of this chapter.

This chapter inventories and describes the following information:

Earth Resources

- Geology
- Prime Agricultural Soils and Steep slopes
- Wetlands and Hydric Soils

Water Resources

- Watersheds and Floodplains
- Headwater Areas and Stream Corridors
- Quality and Quantity of Water Resources

Biotic Resources

- Aquatic Biota
- Pennsylvania Natural Diversity Sites
- Woodlands
- Protected/Conserved Open Space

2. Earth Resources

a. Geology

The particular region of northern Chester County is created by a mix of geologic formations formed during the past six hundred million years. The southern portion of the Study Area is underlain by felsic and intermediate gneiss, with the contact running in east - west alignment through Chester County. The felsic gneiss is quite old (pre-Cambrian), very dense (having been subject to extensive metamorphosis over time), and relatively thick (estimated at over 600 feet). This bedrock is not a particularly good aquifer, although many small domestic wells are drawn from these formations. In general, water contained in the formation occurs primarily, though not exclusively, in fractures in the upper 200 feet of the formation.

The bedrock geology of the northern portion of the Study Area contains Triassic-age sedimentary formations comprising the major geologic types. These formations (Brunswick, Lockatong and Stockton) formed as flat beds with a slight slope north toward the Schuylkill River, with uplift and compression forming gentle folds as elongated ridges and valleys, running east-northeast. The excellent aquifer of Stockton sandstone comprises approximately 25% of the Study Area, and small portions of the water-poor Lockatong occur in the area. Table 1 below summarizes the geologic composition of the Study Area by major formation and Figure 6-1 maps the geologic formation of the Study Area.

Table 1. Distribution of Geologic Formations in the Phoenixville Region

| SURFICIAL GEOLOGY | Area, Acres | PERCENTAGE OF STUDY AREA |
|--|--------------------|---------------------------------|
| Stockton Fm | 10,625 | 25% |
| Granitic Gneiss | 7,701 | 18% |
| Granodiorite and Granodiorite Gneiss | 6,718 | 16% |
| Quartz Monzonite and Quartz Monzonite Gneiss | 4,972 | 12% |
| Brunswick Fm | 4,744 | 11% |
| Lockatong Fm | 2,505 | 6% |
| Gabbroic Gneiss and Gabbro | 2,047 | 5% |
| Chickies Fm | 1,827 | 4% |
| Pegmatite | 285.1 | <1% |
| Elbrook Fm | 221.1 | <1% |
| Antietam Fm and Harpers Fm Undiv | 91.1 | <1% |
| Serpentine | 83.9 | <1% |
| Franklin Marble | 54.1 | <1% |
| Metadiabase | 24.9 | <1% |
| Bryn Mawr Fm | 14.7 | <1% |
| Hammer Creek Conglomerate | 4.7 | <1% |
| Ledger Fm | 1.5 | <1% |

b. Physiography

A physiographic province is the expression of bedrock at the surface of the land. Chester County and the Phoenixville region fall entirely within the Piedmont Province, a region of gently rolling hills, fertile narrow valleys, and well-drained soils. The Piedmont is characterized by very old and very hard upland rocks that have been deposited from the erosion of the Appalachian Mountains. The Piedmont is situated between the Atlantic Coastal Plain and the Blue Ridge, and is further subdivided based on geologic history and landscape. The northern portion of the Study Area lies within the Piedmont Uplands and the southern portion lies within the Triassic Lowlands.

i. Steep Slopes

Surface elevations in the Study Area vary significantly from a low point of 65' above sea level in Schuylkill Township at the Schuylkill River to a high point of 805' in West Vincent Township near Ludwigs Corner. Slope is measured as the change in elevation over a horizontal distance and gives an indication of site suitability for a given use. Steep slopes are often covered by woodlands and are subject to severe erosion when the vegetative cover is removed. The natural undisturbed vegetative cover provides erosion control and protection, in addition to contributing to increased wildlife habitat and aesthetic viewsheds.

Municipalities generally regulate steep slopes through zoning and thus define slope as it relates to land development potential. The categories or definitions are slopes under 15%, areas with *precautionary* steep slopes (15-25%, also called "steep slopes"), and areas with *prohibitively* steep slopes (slopes greater than 25%, also called "very steep slopes"). Figure 6-2 shows the areas of steep slopes found in the Phoenixville region. Precautionary steep slopes cover approximately 6% (2,480 acres) of the Study Area and prohibitively steep slopes cover 3% (1,260 acres) of the Study Area.

ii. Hydrogeology and Watersheds

Groundwater is present in and moves in different degrees through cracks, fractures, and voids within the bedrock material in virtually all rock formations in the Study Area. These cracks, fissures, and voids have been caused by weathering over the millennia and are most common closer to the surface; therefore most of this groundwater can be found relatively close to the earth's surface as well, typically less than 500 feet in depth. As depth increases, rock tends to get "tighter" and weathering and water "opportunities" generally decrease.

Figure 6-3 shows the Study Area in relation to the local and regional Watershed system. All streams in the Phoenixville region flow to the Schuylkill River, which then flows into the Delaware River. (The only exception is a very small portion of southwestern West Vincent Township that drains to the Brandywine River Watershed). Essentially, four major watersheds drain the Study Area. In the south, the Pickering Creek watershed drains portions of West Vincent Township, East Pikeland Township, Charlestown Township and a small portion of Schuylkill Township. The Lower French Creek flows through all townships prior to confluence with the Schuylkill River in Phoenixville Borough. The northern portion of East Vincent Township and West Pikeland Township are drained by the Stony Run watershed, with a relatively small portion of the Study Area draining directly to the Schuylkill River.

c. Soil Series

The soils in the Study Area reflect the weathering process of the parent bedrock geology. In the southern portion of the Study Area, the upland areas are formed by well-drained silt loam soils (Glenelg), with transitional soils in lower elevations (Worsham) that have the same physical properties but are impacted by high water table conditions on a seasonal basis. In the northern portions of the Study Area, the soils are comprised of Penn and Readington series weathered from the Triassic bedrock with a much thinner soil mantle. Table 2 below summarizes the areal extent of soils in the Study Area and provides additional statistics on soil characteristics (discussed below).

i. Hydrologic Soil Groups

One soil characteristic, the Hydrologic Soil Group (HSG) classification (USDA, 1979), is important in explaining the relationship between water resources and land development impacts. Rated as "A" through "D", this parameter describes the physical drainage properties of a soil series, including texture and permeability, as well as certain physiographic properties, such as depth to bedrock and water table. Group A is well drained and highly permeable, while Group D is poorly drained and produces much greater runoff, usually a floodplain or hydric soil. The HSG rating also is important in determining the

feasibility of using infiltration or recharge-oriented Best Management Practices (BMPs) for stormwater management, as well as land-based technologies for wastewater effluent application and recycling.

Hydrologic Soil Group properties generally diminish as one moves further north in the Study Area, with the southern portion of the Study Area contains mostly B soils and the northern portion contains mostly C soils (Figure 6-4). The Triassic formations found in the north generally do not producing a thick, well-drained soil mantle. In the entire Study Area, lowlands along stream valleys typically consist of HSG Groups C and D soils, reflecting an almost constant saturation and poor drainage condition. The Urban (or Made Land) also tends to have relatively poor permeability, though as with C and D groups, require site specific tests to confirm permeability. It is important to note, that many heavy-clayey C soils with poor permeability are capable of natural infiltration when not disturbed and compacted and when a natural vegetative cover is maintained, owing to the added permeability created by mature dense root systems that can make a C quite permeable.

ii. Hydric Soils

The lowlands along stream valleys are comprised of extensive hydric soils that reflect a constant saturated condition. These soils are also indicators to the presence of wetlands. It is of interest to note that the extent of these wetland soils in the northern Study Area is much greater than might be expected in comparable watersheds, and is indicative of the poor drainage properties of the bedrock in low areas. Only a small portion (approximately 3,000 acres) of the Study Area contains hydric soils (see Table 2). These soils – significant for retaining and absorbing surface water and vegetation – are mapped in Figure 6-5.

Table 2. Characteristics of Soils found in the Phoenixville Region

| Soil | Area, Acres | Percent of Study Area | HSG Classification | Hydric Soil |
|--------------|-------------|-----------------------|--------------------|-------------|
| Glenelg | 12,654 | 30% | B | N |
| Penn | 9,503 | 23% | C | N |
| Urban | 5,173 | 12% | N/A | N |
| Edgemont | 1,945 | 5% | B | N |
| Readington | 1,484 | 4% | C | N |
| Brandywine | 1,483 | 4% | B | N |
| Glenville | 1,294 | 3% | C | N |
| Worsham | 1,241 | 3% | D | Y |
| Bucks | 843 | 2% | B | N |
| Wehadkee | 800 | 2% | D | Y |
| Manor | 781 | 2% | B | N |
| Croton | 748 | 2% | D | Y |
| Neshaminy | 710 | 2% | B | N |
| Rowland | 707 | 2% | C | N |
| Water | 634 | 2% | N/A | N/A |
| Bowmansville | 379 | 1% | D | Y |
| Montalto | 358 | 1% | C | N |
| Chewacla | 328 | 1% | C | N |
| Chester | 323 | 1% | B | N |
| Wheaton | 237 | 1% | B | N |
| Hagerstown | 64 | <1% | C | N |
| Conestoga | 32 | <1% | B | N |
| Congaree | 23 | <1% | B | N |
| Penlaw | 18 | <1% | C | N |
| Made Land | 10 | <1% | N/A | N |
| Thorndale | 3 | <1% | D | Y |

iii. Prime Agricultural Soils

Prime agricultural soils are soils designated by the U.S.D.A. Soil Conservation Service by capability Class I, II, or III. The capability classification for soils is a grouping that shows the suitability of that soil for farming uses. Class I soils have few limitations that restrict their use, while Class VIII soils are too rough, shallow, or otherwise limited for agricultural use. Soils not classified as I, II, or III are not considered suitable for agricultural use due to the co-occurrence of floodplains, wetlands, or steep slopes. A total of 53% of the Study Area (22,223 acres) is comprised of prime agricultural soils, with the majority of prime agricultural soils falling in the Class II category (see Figure 6-2 and Table 3). Since agricultural use has historically predominated in Chester County and the Study Area, Table 4 provides a breakdown of Prime Agricultural Soils by Municipality.

Table 3. Summary of Soil Capability Class in Phoenixville Region

| Soil Capability Class | Area, Acres |
|-----------------------|-------------|
| n/a (Urban, water) | 5,902 |
| I | 242 |
| II | 16,688 |
| III | 5,299 |
| IV | 8,072 |
| V | 770 |
| VI | 3,128 |
| VII | 1,770 |

Table 4. Distribution of Prime Agricultural Soils by Municipality

| Municipality | Soil Capability Class | Area, Acres | Percent Area | Percent of Total Land Area |
|------------------------|-----------------------|-------------|--------------|----------------------------|
| Charlestown Township | I | 105 | 1% | |
| | II | 2,384 | 30% | |
| | III | 1,658 | 21% | 52% |
| East Pikeland Township | I | 15 | 0% | |
| | II | 1,941 | 34% | |
| | III | 405 | 7% | 41% |
| East Vincent Township | II | 5,119 | 59% | |
| | III | 526 | 6% | 65% |
| Phoenixville Borough | II | 450 | 19% | |
| | III | 16 | 1% | 20% |
| Schuylkill Township | I | 3 | 0% | |
| | II | 2,225 | 39% | |
| | III | 953 | 17% | 56% |
| West Vincent Township | I | 119 | 1% | |
| | II | 4,568 | 40% | |
| | III | 1,741 | 15% | 56% |

3. Water Resources

One of the most important natural features of a region is its water supply. As the primary landscape-shaping force, it supports both the natural and human population. The streams, creeks, and rivers have influenced settlement patterns since pre-colonial times. The water resources of the Study Area are extremely high quality – with a healthy aquatic biota community (see discussion below) as well as native and fish community; an abundance of recreational opportunities, diverse wildlife habitat, and ample scenic vistas.

This section will describe the water resources of the Study Area, in terms of both water quality and water quantity, and briefly introduce concurrent planning elements that attempt to provide means for protection of this valuable resource. Both the County and the individual municipalities in have invested considerable energy in water resource planning and management. The Community Facilities section of the Plan provides a detailed inventory of the water supply issue in the Study Area.

a. Surface Waters: Streams and Major Tributaries

The Phoenixville region is fortunate to have a significant amount of high quality surface streams, allowing for many recreation and environmental assets. Figure 6-3 shows a detailed mapping of the existing stream system overlaid with the sub basins. Table 5 provides sub-basin areas by municipality and Table 6 shows total stream lengths (in miles) within each municipality. The entire study has approximately 260 linear miles of surface streams (data extracted from GIS files), including major streams Stony Run, Birch Run, Beaver Run, French Creek, Upper Pine Creek, Lower Pine Creek, Pickering Creek and the Schuylkill River. It is important to note that with the exception of the Schuylkill River direct drainage, all streams originate outside of the Study Area.

Table 5. Stream Length by Municipality*

| Municipality | Stream Length, Feet | Stream Length, Miles |
|------------------------|----------------------------|-----------------------------|
| Charlestown Township | 185,218 | 35 |
| East Pikeland Township | 224,537 | 42 |
| East Vincent Township | 310,288 | 59 |
| Phoenixville Borough | 99,967 | 19 |
| Schuylkill Township | 221,474 | 42 |
| West Vincent Township | 350,265 | 66 |

**Stream coverage provided by Chester County Department of GIS*

Table 6. Sub Basin Area by Municipality

| Municipality | Watershed | Area, Acres |
|-----------------------------------|-------------------------------------|------------------------|
| Charlestown Township | East Valley Creek | 842 |
| | Lower French Creek | 218 |
| | Pickering Creek | 6,913 |
| | West Valley Creek | 43 |
| East Pikeland Township | Direct Drainage to Schuylkill River | 403 |
| | Lower French Creek | 3,098 |
| | Pickering Creek | 1,219 |
| | Stony Run | 956 |
| East Vincent Township | Direct Drainage to Schuylkill River | 1,942 |
| | Lower French Creek | 4,294 |
| | Pigeon Creek | 191 |
| | Stony Run | 2,280 |
| Phoenixville Borough | Direct Drainage to Schuylkill River | 1,139 |
| | Lower French Creek | 1,064 |
| | Pickering Creek | 135 |
| | Stony Run | 12 |
| Schuylkill Township | Direct Drainage to Schuylkill River | 1,853 |
| | East Valley Creek | 189 |
| | Lower French Creek | 369 |
| | Pickering Creek | 3,239 |
| West Vincent Township | Black Horse Creek | 511 |
| | Lower French Creek | 7,479 |
| | Pickering Creek | 3,421 |

b. Stream order (Headwaters)

An important characteristic of surface hydrology relates to the ordering of the stream system. First order streams are especially important to watershed life because they comprise the largest percentage of the total stream system on a lineal percentage basis. Headwaters are the locations of critical ecological functioning where exchange of energy from land to water occurs most directly and is most ecologically vital. Because flows in these small headwaters are especially small, these first order streams are extremely sensitive and are the first streams to dry up when water levels decline. Figure 6-6 depicts the first order streams found in the Phoenixville region Study Area. Approximately 115 miles of first order streams are located in the Study Area. A report prepared by the Green Valleys Association in the 1999 targets these first order headwater areas as high priority for innovative land development practices (see discussion on Sustainable Watershed Management, below).

c. Floodplains and Riparian Zones (Riparian Buffers)

Floodplains and the riparian areas buffering streams, rivers, lakes, and other waterbodies are especially sensitive watershed zones. In their naturally vegetated and undisturbed state, floodplains and riparian areas provide critical stormwater management and flood control functions, both in terms of water quantity and water quality. For example, floodplains and riparian areas intercept and reduce unmanaged sheet flow runoff and absorb out of bank flows as storms increase in intensity. Flood flows are slowed, infiltrated into the vegetated floodplain zone, and actually “stored” when the entire watershed system is taken into account. Substantial physical filtering of nonpoint pollutants, especially particulates, occurs as stormwater and flood flows move across and through the vegetated floodplain, and a host of chemical and biological actions are at work both on the surface and in the sub-surface to reduce and convert nonpoint source pollutant loadings. The naturally vegetated floodplain and riparian zone typically provides substantial stream shading through the tree and shrub canopy; overheating of waters is reduced in the summer which is so important for sensitive aquatic species. The vegetation also provides a balanced level of detrital matter such as leaves and twigs which serves as an important food source for aquatic biota.

Floodplain and riparian zone vegetation anchor the stream bank and prevent scouring, undercutting, and overall erosion, important to maintain the stream's morphology, its system of meanders and riffles, and resulting aquatic habitat. Floodplains and riparian areas, when conserved, provide an effective system of greenways linking larger open space masses to support habitat for humans and non-human species. In short, undisturbed floodplains and riparian areas are absolutely essential watershed elements.

It should be noted that although these positive floodplain functions are closely interrelated to the positive functions of the riparian area buffer and in many cases floodplains and riparian areas may physically coincide, they are not necessarily the same area. In many cases, assuming a riparian buffer width of at least 50 to 100 feet or more, the designated floodplain may extend beyond the riparian buffer limit and vice versa, depending upon the upstream-to-downstream watershed location and a host of other factors. In this discussion, floodplain and riparian buffer functions and benefits are treated as one, with the strong recommendation being made that floodplains and riparian areas should be kept in a natural and undisturbed condition without structures and other improvements and without disturbance of the soil mantle and natural vegetation.

FEMA-identified floodplains account for approximately 3,200 acres of the study area, shown mapped in Figure 6-3. Data used in this map are not to be considered parcel-specific and should be verified on a case-by-case basis with land development applications.

d. Wetlands and lakes

Wetlands are transitional lands between terrestrial and aquatic environments and include swamps, marshes, and bogs. Wetlands can also include areas that may not always have standing water – hydric or alluvial soils are a strong indicator of wetland areas. Wetlands are unique environments that provide critical ecological and environmental functions including water storage, flood water abatement, water quality improvement, provision of vital plant and wildlife habitat, groundwater recharge in some cases, and in most cases groundwater discharge. The Pennsylvania Department of Environmental Protection and the Army Corps of Engineers protect wetlands under Section 404 of the Clean Water Act of 1977.

There is no comprehensive inventory of wetlands either on a local, county or state level. The National Wetland Inventory (NWI) has identified and mapped wetlands on a broad level (see Figure 6-5). Approximately 1,320 acres of the Study Area are classified as wetlands, with 640 acres considered Palustrine (marsh or swamp), 573 acres classified as Riverine (perennial or intermittent creeks, rivers, or streams) and 107 acres classified as Lacustrine (portions of the Pickering Creek Reservoir in Schuylkill Township). Certainly, NWI data underestimates the extent of wetlands found across the Phoenixville region, and it is important to stress that the maps only approximate wetlands. NWI data is based on interpretation of high altitude aerial photography. Though NWI-classified wetlands are often used for regulatory purposes, they are rarely a complete data source for wetlands and should be supplemented with ground “truthing” and field delineation of hydric soils and vegetation.

Few natural lakes exist in the Study Area; the majority of the existing ponds that do exist are man-made. Nevertheless, these surface features do provide significant recreation and ecological value to the local ecosystem and therefore should be properly maintained and protected.

e. Water Quality

As part of the water quality standards program, the Pennsylvania Department of Environmental Protection (PADEP) conducts stream use designation evaluations on an ongoing basis, pursuant to Chapter 93 of the Department's Rules and Regulations. All waters of the Commonwealth are protected for a designated aquatic life use as well as a number of water supply and recreational uses. The use designation shown in the water quality standards is the aquatic life use. These uses are Warm Water Fishes (WWF), Trout

Stocking (TSF), Cold Water Fishes (CWF), and Migratory Fishes (MF). In addition, streams with excellent water quality may be designated High Quality Waters (HQ) or Exceptional Value Waters (EV).

Figure 6-6 indicates the DEP designated stream classifications for streams in the Phoenixville region. With the exception of the Lower French Creek drainage in East Vincent Township, East Pikeland Township, Phoenixville Borough and Schuylkill Township, and the Direct Drainage to the Schuylkill River, the entire study area is comprised of Special Protection Waters designated as either Exceptional Value or High Quality streams.

i. Water quality for rivers, streams, and waterbodies

Water quality data has been developed over the past twenty-five years by federal, state and local regulatory agencies, much of it gathered as part of water resource studies performed by the USGS for the Chester County Water Resources Authority (CCWRA). That body of information indicates that ambient water quality throughout the watersheds is *good to excellent during dry weather periods* and non-storm flow conditions, with a healthy aquatic environment throughout all of the streams except in the lowest reaches of the French Creek. The streams do demonstrate some degree of enrichment from nutrients, and where impoundments hold flows for more than a week or two, accelerated eutrophication can be expected. The only major impoundment where this enrichment demonstrates itself is the Pickering Creek Reservoir.

The available “dry weather” record of water quality in the Northern Chester County watersheds reflects stream systems relatively free of the impacts of point source wastewater discharges and other less obvious pollutant inputs to the system, such as malfunctioning septic systems, barnyard drainage and livestock. However, the stormwater pollutant loads, though undocumented may be substantial, given these potential sources. The nutrients contained in runoff make themselves felt primarily in the large and small impoundments, from private ponds to the Pickering Reservoir.

ii. Stormwater Impacts

Water quality aspects of stormwater management, or nonpoint sources, have become a major concern nationwide. In fact, stormwater-linked nonpoint source pollution – the mix of pollutants that is washed off the earth's surface with each precipitation event – is often cited as the primary water quality problem in the nation today. As a result, numerous manuals have been produced setting forth management programs designed to minimize stormwater-linked water quality problems.

Stormwater-linked pollutants vary with type of land use and intensity of land use and have been shown to include bacteria, suspended solids, nutrients, hydrocarbons, metals, herbicides and pesticides, other toxics, organic matter, and others. Pollutant loads are generated both from impervious areas (“hot spots” such as gas stations, fast food parking lots, and heavily traveled roadways are primary culprits) as well as from pervious zones, such as the chemically maintained lawns and landscaped areas where chemical maintenance can be considerable. Some nonpoint pollutants are even air-borne, deposited onto the land surface and then are washed into receiving waterbodies. Sources of this pollution include:

- Vehicles
- Vegetative decay (leaves, grass, etc.)
- Direct atmospheric deposition
- General litter, including pet litter
- Soil erosion
- Road surface applications (salt, sand, etc.)
- Fertilizers
- Pesticides/herbicides

f. Water Quantity

Understanding the water cycle and how human development actions have affected this cycle is especially important in order to understand the natural resources of the Study Area. Presented below is a brief summary of the water quantity issues; Appendix A discusses water resources in significant detail, comparing pre-development hydrologic conditions to post-development hydrologic conditions, and the effects of traditional stormwater management on the lost resource of stormwater.

The natural hydrologic cycle is measured via precipitation gages and stream flow gages, and here in northern Chester County, as well as the greater Piedmont region, we typically see on average 45 inches of precipitation annually, with 15 inches of that 45 compromising stream baseflow (the water flowing in the stream in periods of little precipitation). Land development typically means a significant change in the natural landscape, including creation of impervious surfaces (roads, parking, roofs, other). When we pave over and make impervious surfaces, we increase surface runoff and decrease infiltration into the groundwater. Traditional stormwater management programs focus on managing stormwater peak rates, though much of the development occurred before any stormwater management regulations. Consequently, in areas like Phoenixville, stormwater runoff is directed into the nearest stream without any type of peak rate control, volume control, or water quality control. Presently, peak rate management for new development occurs through use of a detention basin, and current regulations do not provide for peak volume management. The result is an increase in downstream flooding as stormwater flushes first through the basin, then through the outlet structure into the nearest stream.

It is important here to appreciate that the water cycle system itself is a closed loop (Figure 6-7 below). What goes in must come out. Impacts on one part of the cycle by definition create comparable impacts elsewhere in the cycle. Through traditional stormwater management, stormwater is a lost resource. Innovative engineering and planning solutions must be instituted (and are presently being throughout the study area municipalities) in new development and redevelopment projects so that stream baseflows are maintained, downstream flooding effects are decreased, and valuable stream ecology is preserved.

The importance of water quantity issues notwithstanding, important points need to be made regarding the inextricable link between water quality and water quantity. Management strategies that effectively address water quantity will in many cases address quality as well. Stormwater runoff from newly paved surfaces – both the increased volume and rate of runoff – means that pollutants are scoured, suspended, and swept away. Strategies that reduce this impervious surface and/or immediately redirect runoff into natural swales directly reduce the source of stormwater and indirectly reduce the agent that transports stormwater-linked pollutants. If runoff is quantitatively eliminated, erosion by definition will be eliminated.

Once in the stream, increased volumes and rates of runoff mean streambank erosion, undercutting, flattening and straightening of the channel, re-suspension of sediment, all of which become serious quality problems. Even if flooding is not worst case, full or near full bank flooding has serious water quality ramifications. Therefore, although the focus of this discussion thus far has been on water quantity and the water cycle, both quantity and quality are very much at issue.

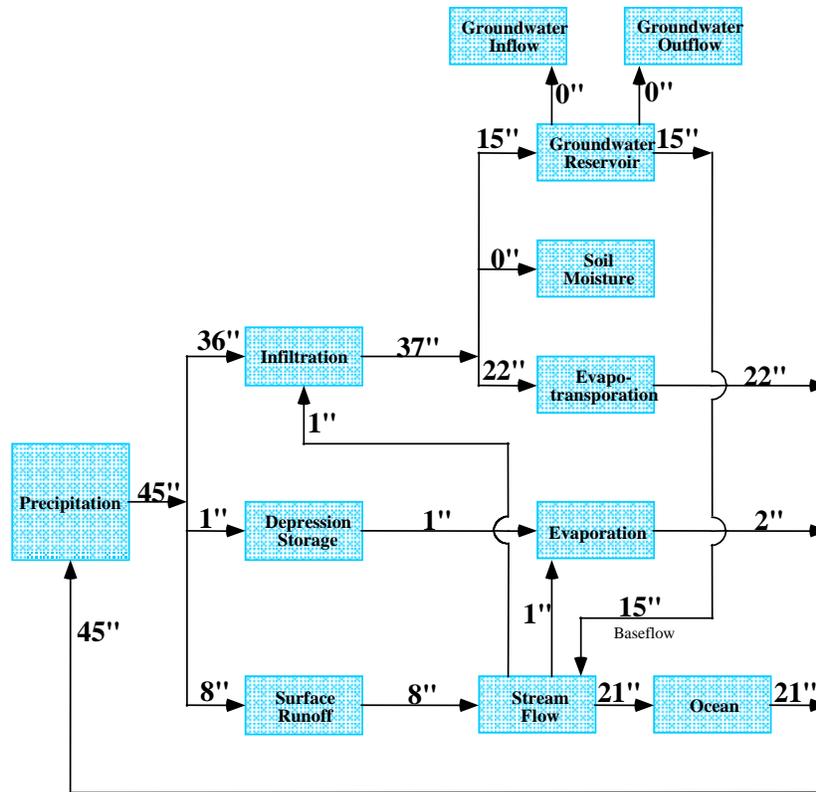


Figure 6-7. Hydrologic Cycle in Northern Chester County (GVA, 1997)

Even so, not all quality pollutant loads can be eliminated through quantity reduction techniques. Some roads and highways are necessary which will generate vehicle use and pollutant generation by definition (i.e., there is some proportion of these pollutant loads which are not variable and will be generated even if maximum reduction in quantity can be made to happen). At the other end of the quantity spectrum – reductions in stream baseflow – water quality and water quantity issues emerge as well. To the extent that any fixed or constant source of pollution – for example, point source discharges or malfunctioning onsite septic systems – continue to generate pollution – loads as infiltration and stream baseflow decline, this reduced stream baseflow translates into increased concentrations of in-stream pollutants with pollution-related problems growing more severe.

g. Sustainable Watershed Management

Northern Chester County is an exceptionally beautiful area that has, until recently, remained largely rural. The area is known for its high quality streams and "green valleys" that contribute to the quality of life. Intense development pressures, however, threaten to rapidly destroy and degrade the natural environment, especially the water resources in this largely groundwater dependent area. Development adversely impacts water resources in a variety of ways. Substantial quantities of water are pumped from watershed aquifers, lowering the water table, jeopardizing existing wells, and reducing stream base flow. The newly "developed" land surface generates increased stormwater runoff, worsening flooding during storms. At the same time, less water is returned to replenish aquifers already stressed, further reducing stream flow during critical dry periods. Streams may even dry up completely.

Sustainable Watershed Management (SWM) was developed by the Green Valleys Association to manage the special land and water systems that comprise the watersheds of Northern Chester County, which

corresponds to the majority of the land in the Study Area. The premise of the SWM program is that through the use of science and innovative techniques, we can achieve effective land management patterns that reduce impact to the water resources in the exceptional value sub-basins (these protected basins cover a majority of the study area). Major goals of the SWM include water quality and water quantity conservation. In terms of water quantity, conservation practices include onsite water supply and recycling/reuse measures. Onsite wastewater conservation techniques are also recommended. Additionally, land based stormwater management is critical to achieve both water quantity and water quality objectives.

Because land use decisions directly affect water resources, and because land use decisions are made at the municipal level, a critical element of this effort is working with the municipalities. The land use strategies have involved working directly with the municipalities and the Northern Federation of Communities, a multi-municipal organization in which West Vincent Township, East Vincent Township, and East Pikeland Township are members. Key elements of this work have included development of a Model Stormwater Ordinance to maintain groundwater recharge, and direct work with individual municipalities to review comprehensive plans and zoning, water and sewer infrastructure programs.

Current status of the implementation phase of SWM is provided in Table 7 below.

Table 7. SWM Implementation - Status by Municipality in Study Area

| Northern Fed Municipality | SWM Implementation adopted |
|----------------------------------|-----------------------------------|
| East Vincent Township | Zoning ordinance |
| West Vincent Township | Zoning ordinance |

4. Biotic Resources

Biotic resources consist of the plant and wildlife and their associated habitats. The municipalities in the Study Area are fortunate to contain incredibly diverse plant and animal communities, albeit threatened and vulnerable to development pressures. When natural vegetated (and animal) communities become fragmented, the entire ecosystem suffers from a loss in biodiversity – a serious impact that can lead to species extinction. This section discusses the rich biotic resources of the Study Area and the importance of maintaining natural diversity.

a. Aquatic Biota

Benthic macroinvertebrates—the bottom dwellers of the stream—are critical links in the food chain and are critical for the support of the higher order fish community. While the chemical sampling record provides great insight into the ambient water quality throughout the watersheds, a better indicator of ambient water quality is the composition and diversity of the benthic macro-organisms. Their type, absolute numbers and diversity of species reflect the changing water quality habitat over a full range of flows, seasons and chemical conditions. Fortunately, the same stations where flow is measured and chemically sampled have also served as biota sampling stations since the early 1970's by the USGS as part of the CCWRA program. In general, the biota data supports the conclusion that the Watersheds are of good to excellent water quality throughout their reaches. Only one station, the French Creek in Phoenixville upstream from the Schuylkill River confluence, shows signs of continuing water quality degradation.

b. Pennsylvania Natural Diversity Inventory

The Pennsylvania Natural Diversity Inventory (PNDI) was established in 1980 as a cooperative project with the PADCNR's Bureau of Forestry, The Nature Conservancy (TNC), and the Western Pennsylvania

Conservancy. PNDI partners collect biological data and conduct inventories to describe and identify Pennsylvania's threatened and endangered and otherwise rare species ("special concern" species), storing this information in a computerized data management system. In addition to species, PNDI identifies the most outstanding examples of Pennsylvania's natural communities and geologic features ("critical sites" or "priority areas").

A detailed study of these sites specific to the county, entitled the *Chester County Natural Areas Inventory*, was compiled and written by the Pennsylvania Science Office of the Nature Conservancy and published by the Chester County Planning Commission in 1994 (updated in 2000). After surveying the ecological resources of a county and identifying the outstanding species and areas, each site was ranked from 1 to 5 (1 being the highest priority) in order to prioritize conservation of these areas. The report contains a brief description of the species/site and provides general management recommendations.

Several PNDI sites are located in the Study Area (Figure 6-8). Charlestown Township contains two PNDI sites: the Charlestown Oak Seeps and the Pigeon Run Wetland. A state endangered plant occurs in the Charlestown Oak Seeps site, rated as one of the best of six known locations wetland-loving plant. The Pigeon Run Wetland is a locally significant wetland complex located in the floodplain of the Pigeon Run. Unfortunately, sites designated under this program are not afforded protection. It is up to each individual municipality to require protection of these sites.

Several plant species of concern have been identified, according to the Chester County Natural Areas Inventory and DCNR records. *Additional information from DCNR forthcoming:*

c. Woodlands as Significant Habitat Areas

Woodlands are a significant natural resource that provides an abundance of positive environmental benefits in terms of earth, water and biotic resources. Woodlands in the Study Area are extremely varied with nearly all woodlands have been disturbed by past human activity. Older more mature woodlands are generally found on steep slopes with younger stands more common in lowlands. Trees help reduce stormwater runoff by intercepting rainwater on leaves, branches, and trunks, whether it evaporates or slowly soaks into the ground, thereby reducing peak flow after a storm.

Though woodlands are found throughout the Study Area (see discussion below), the naturally wooded areas that remain tend to follow stream valleys. Streamside woodlands (riparian buffers) provide important ecological inputs to streams such as shade, temperature reduction, leaf litter and detritus material, nutrient removal, stormwater runoff interception, and pollutant removal. Effective riparian woodland buffers should include three zones. The streamside zone should include natural, undisturbed trees and bushes that provide shade and detritus to the stream, and root masses that stabilize stream channels and streambanks. The second zone is a managed forest zone with trees and shrubs that provide pollutant filtering and uptake through roots. The third zone, the upland zone, includes grasses to slow and disperse runoff and to filter pollutants and sediment.

The stream valley greenway that currently exists is a critical primary natural resource feature. Without proper planning and protection, the greenway could become a fragmented, disconnected resource. Fragmented habitat has serious implications for the natural biological systems including reduced species diversity, increased rates of species extinction, and establishment of invasive species.

Pennsylvania Scenic River Corridor

Rivers included in the Pennsylvania Scenic Rivers System Scenic are defined as "free-flowing and capable of, or under restoration, to support water-based recreation, fish and aquatic life. The view from the river or its banks shall be predominately wild, but may reveal some pastoral countryside. The segment may be intermittently accessible by road." Scenic river designations are intended to preserve the

primitive qualities the natural, and aesthetic values of a river and to protect the existing character and quality of both the river and its adjacent land environment.

In 1978, the Schuylkill River received state Scenic River status. The Federation of Northern Chester County Communities obtained Pennsylvania Scenic Rivers Designation in 1982 for the French Creek, including the Birch Run and Beaver Run tributaries. Both of these systems are important wooded riparian habitat areas for plants and animals, though are vulnerable to land development activities.

Green Infrastructure

Until recently, local governments rarely have detailed data about green infrastructure to integrate into land management or land use planning. In 2003, American Forests (AF) – a nonprofit citizen conservation organization – was funded by the US Forest Service to conduct an Urban Ecosystem Analysis study of the Delaware Valley that detailed information about the region’s tree cover and its environmental and economic impacts. The study covered nine counties in Pennsylvania and four counties in southern New Jersey and used GIS technology to connect image analysis to the ecological assessment of tree cover change trends. Three types of imagery of varying scale were used, including Landsat, a low-resolution satellite imagery from 1995-2000, Ikonos, a high-resolution satellite imagery used in conjunction with landcover classification technique, and aerial imagery, used to demonstrate site level analyses.

According to the report, heavy tree cover in the Delaware Valley region has declined 2 percent over the last 15 years. With this decline, the Delaware Valley’s urban forest as lost the ability to detain 53 million cubic feet of stormwater. Positive benefits of the tree canopy include the removal of 1.7 million pounds of air pollutants annually. (Additionally, the report details that five Pennsylvania counties and four in New Jersey do not have adequate tree cover to compensate for changes made to the landscape, making it difficult to maintain stormwater and air quality at healthy levels.)

Figure 6-8 maps the land cover categories created for the Urban Ecosystem Analysis. According to this data, nearly 26% of the Study Area is covered by forest, a number that includes low density, medium density, and high-density woodlands.

5. Air Quality/Night Sky

Amidst the “greene cuntry” of northern Chester County, air quality is often dismissed as a secondary consideration. Furthermore, in terms of local comprehensive planning, air quality issues tend to be the prerogative of Federal and State agencies, not really open to local initiative. At the same time, no other natural resource is more basic to life, to quality of life. Furthermore, mounting scientific evidence is demonstrating that human life is vulnerable to more subtleties in air quality than previously recognized.

Appendix A describes in great detail the regulatory framework under the Clean Air Act, sources of air pollution in our region and the health effects with specific pollutants, and data for air quality in Pennsylvania and the southeastern Region.

6. Conservation

Open space is land preserved by local, county, state, or federal government as common open space, deed restricted, or held in conservation easements. Though many different types of open space exist, the defining feature of open space is that the land can never be developed; i.e. it is land preserved in perpetuity. Open spaces provide benefits that improve the quality of life, the ecology and the economy of the region. Sprawl development is severely impacting our region’s green spaces, large farms, and wooded stands – our open space resources.

Protection of open space primarily occurs at a local level, where municipalities take the lead in obtaining open lands, albeit in a piecemeal fashion, and land conservancies and county agencies supporting conservation efforts. A significant concern is lack of coordination and prioritization between conservation-oriented entities. Lands targeted for preservation based on their local benefits may differ from lands targeted for preservation based on regional benefits. Conserved lands can only provide positive ecological, recreational, and public benefits if they function properly. In order to function properly, conserved lands must be linked together in a network of protected, conserved open space. This network can function as a green infrastructure that serves the common good, similar to sewer lines, water service and highways.

Two important studies that focus on the importance of regional, connected open space have been recently released. The most recent study, *Regional Open Space Priorities Report*, was prepared by the Greenspace Alliance and made available 2003. The more local study, *Linking Landscapes: A Plan for the Protected Open Space Network in Chester County* was released in 2002. Though not discussed in great detail here, both reports utilize existing GIS datasets to set forth recommendations and a set of actions that local government leaders can utilize to coordinate regional open space planning.

Based on information provided by the Chester County Planning Commission, a Protected Open Space map was prepared for the Phoenixville Regional area (see Figure 2-8). According to this information, almost 4,400 acres of land are permanently protected from development in the study area. Table 8 below shows the acres of protected open space by category.

Table 8. Protected Open Space in Phoenixville Region

| Protected Open Space (CCPC, 2002) | Acres | Number of Parcels |
|---|--------------|------------------------------|
| Parcels Owned In-fee by Land Trusts | 73 | 5 |
| Municipal Recreation (Active and Passive) | 179 | 22 |
| National Historic Parks | 205 | 17 |
| County Parks and Trails (Active and Passive) | 257 | 12 |
| Municipal Open Space (Non-recreational and Undeveloped) | 364 | 21 |
| Agricultural Conservation Easements | 893 | 17 |
| Homeowner Association Open Spaces | 991 | 165 |
| Parcels with Land Trust Easements | 1,427 | 75 |
| Totals | 4389 | 334 |

6: EXISTING LAND USES

The existing land uses within the Phoenixville Region are shown on the *Existing Land Use Map*. This map was created using the most recent tax parcel data from the Chester County Bureau of Land Records, which were visually verified and corrected by the individual municipalities for this analysis. For the purpose of expressing general land uses, the Bureau of Land Record's detailed land use codes have been simplified. The land use categories and the area distribution in each category are shown in table below titled, "Land Use Distribution for the Phoenixville Region." The predominant land uses in the Phoenixville Region are low-density residential (30%), vacant land with no associated use or structure (16%), and non-preserved and preserved agricultural land (15% and 11%, respectively). All land uses are described in more detail in the subsequent pages.

Land Use Distribution for the Phoenixville Region

| Land Use Category | # of Parcels | % of Total Parcels | Acres | % of Total Acres |
|--|---------------------|---------------------------|--------------|-------------------------|
| Commercial | 605 | 3.62% | 1799.50 | 4.53% |
| Low - Density Residential (> 1 acre lot) | 3734 | 22.29% | 12041.18 | 30.34% |
| Medium - Density Residential (0.25 - 1 acre lot) | 5065 | 30.22% | 2938.74 | 7.40% |
| High - Density Residential (< 0.25 acre lot) | 4870 | 29.07% | 729.78 | 1.84% |
| Agriculture & Farming | 202 | 1.21% | 6106.51 | 15.39% |
| Preserved Agriculture | 156 | .93% | 4513.98 | 11.37% |
| Open Space (protected farms, homeowner associations, etc.) | 185 | 1.10% | 1218.13 | 3.07% |
| Recreation (parks, golf courses, facilities, etc.) | 31 | .19% | 500.56 | 1.26% |
| Community Services (hospitals, nursing homes, etc.) | 80 | .48% | 492.47 | 1.24% |
| Institutional (schools, churches, etc.) | 253 | 1.51% | 1786.64 | 4.50% |
| Industrial | 37 | .22% | 453.81 | 1.14% |
| Mining | 2 | .01% | 64.32 | .16% |
| Utility and Transportation | 97 | .58% | 685.95 | 1.73% |
| Vacant | 1438 | 8.58% | 6355.52 | 16.01% |

Note : GIS Land Use Data provided by Chester County Planning Commission

Low-Density Residential

The largest land use category in the Phoenixville Region is low-density residential, with approximately 12,000 acres or 30% of the Region's acreage. The low-density residential category includes all residential lots greater than one acre. Although it is the region's largest land use, a distinction needs to be made between two types of low-density residential: suburban subdivisions and large lot rural.

Respectively, Schuylkill Township and East Pikeland Township contain about 28% and 26% of low-density residential land, most of which could be described as suburban subdivisions. On the other hand, Charlestown Township contains about 37%, West Vincent Township contains 34%, and East Vincent Township contains 29% of low-density residential land, most of which could be described as large lot rural, farmsteads, or rural estates.

One of the region's key issues is the direct and cumulative impact of suburban subdivisions, which is typically referred to as "suburban sprawl." Some of the direct impacts from this land use pattern are the erosion of rural character, the loss of wildlife habitat and open space, and traffic impacts due to the necessity of a car for travel. Some of the cumulative impacts include stormwater impacts that cause flooding, wastewater and aquifer recharge impacts, and air quality impacts from vehicle emissions. This is only a short list of impacts from the suburban sprawl pattern of residential development.

Vacant

The second largest land use category is vacant property with no associated use or structure. This category encompasses about 6300 acres or 16% of the Region. The majority of vacant land is located in West Vincent and East Pikeland with 21% of the townships' acreage, followed by Phoenixville (16%), Charlestown (15%), East Vincent (11%), and Schuylkill (10%). This land use category signifies the potential for additional growth, whether it is desired or not.

In the case of Phoenixville, a large portion of vacant land is within the old Phoenix Steel site (130 acres) that has been master planned for mixed-use redevelopment. On the other hand, the rural townships face the prospect of additional residential subdivisions, which could further deteriorate the region's rural character if not planned appropriately. The rural townships may prevent this scenario by assisting in Phoenixville's redevelopment and by maximizing efforts for transfer-of-development rights (TDR), purchase-of-development rights (PDR), and innovative zoning for farmland and large lot rural property.

Non-Preserved & Preserved Agriculture

The third largest land use category in the Phoenixville Region is non-preserved and preserved agriculture with 6100 acres (15%) and with 4500 acres (11%), respectively. The majority of agricultural acreage is located in West Vincent with 22% non-preserved and 15% preserved; East Vincent with 19% non-preserved and 16% preserved; and, Charlestown with 12% non-preserved and 20% preserved. Although these townships have progressive zoning codes and transfer-of-

development rights (TDR) programs, current development pressures and a diminishing farm support network threaten the agricultural land uses.

East Pikeland Township also contains a significant amount of non-preserved agriculture (14%), but contains a negligible amount of preserved agriculture. Although the township is concerned about preserving the rural character of its northern and southern districts, the township should focus its immediate attention on preserving the southern district. Due to the significant amount of preserved farmland at its border with Charlestown and with West Vincent and East Vincent along the French Creek, it may be possible to create a semi-circular rural greenbelt from Route 23 in East Vincent, past the French Creek into West Vincent, through the southern district in East Pikeland, and into Charlestown to Route 29 or its Schuylkill Township border.

Medium-Density Residential

The medium-density residential category involves approximately 2,900 acres or 7% of the Region's acreage, and includes all residential lots equal to or greater than a quarter acre but no larger than one acre. Schuylkill and East Pikeland Townships contain the largest amounts of this land use with 20% and 17%, respectively, most of which could be described as medium-density subdivisions. As indicated in the low-density residential category, suburban subdivisions cause many direct and cumulative impacts. This is also the case for medium-density subdivisions. Although there is a higher relative density, the medium-density subdivisions are similarly disconnected and require driving everywhere and have similar environmental and community service impacts. On the other hand, when medium-density residential is well planned and interconnected, such as Phoenixville (11%), this land use can provide more housing variety within a community.

Commercial

Commercial uses encompass approximately 1800 acres or 5% of total acreage in the Phoenixville Region. Commercial uses include the following: banks, restaurants, retail, shopping centers, offices, entertainment, hotels, car dealers, gas stations, warehouses, and airports. The majority of commercial uses are located in urban centers, in suburban corridors, and in rural centers, as follows:

- (1) in downtown Phoenixville and the Route 23/113 intersection;
- (2) along Routes 23, 113, and 724 in East Pikeland;
- (3) along Route 724 in East Vincent; and,
- (4) along Route 100 in West Vincent.

Institutional

The institutional category encompasses about 1800 acres (5%) of the Region, and includes the following uses: federal, state, county, and township buildings and property; private and public schools; and, churches and cemeteries.

Open Space

The open space category encompasses about 1200 acres (3%) of the Phoenixville Region, and includes protected open space from easements or homeowners' association common open space.

High-Density Residential

The high-density residential category involves approximately 700 acres or 2% of the Region's acreage. In addition, this land use category involves 29% of the Region's parcels. Simply, a larger amount of housing may be accommodated with a smaller amount of acreage. This category includes all residential lots less than a quarter acre, which typically accommodates rowhomes, twins, or small single-family homes, and also includes condominiums and apartment buildings. Phoenixville Borough contains the only significant amount of high-density residential with approximately 500 acres or 26%, which is appropriate for an urban center.

Recreation

The recreation category contains about 500 acres (1%) of the Region, and includes public and private parks and private recreational facilities, such as golf courses and campgrounds.

Community Services

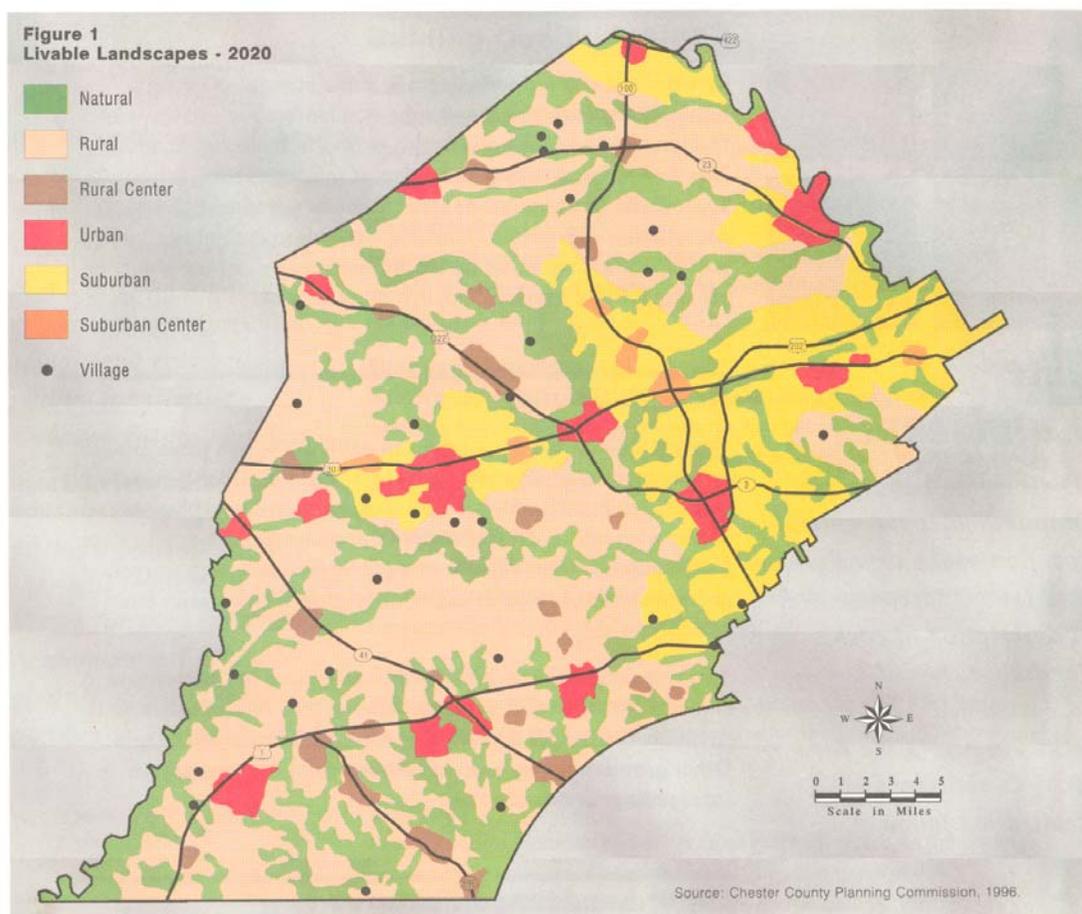
Community services utilize about 500 acres (1%) within the Region, and include hospitals, nursing homes, non-profit organizations, and fire companies.

Industrial

Industrial uses utilize about 450 acres (1%) of the Phoenixville Region, and includes all light and heavy industrial uses. Phoenixville Borough was a major industrial center for over a hundred years, but now only contains 40 industrial acres (2%).

Planning Implications

In 1996, the Chester County Commissioners adopted a comprehensive plan policy element titled *Landscapes: Managing Change in Chester County, 1996-2020*. This highly acclaimed planning document produced by the Chester County Planning Commission (CCPC) highlights the county's past and present land use trends and identifies a future land use vision appropriate for the county's legacy. In particular, *Landscapes* states that the County has been experiencing the most intense rate development in its history, and that more land has been impacted by sprawling development in the last 25 years than in the previous 300 years. As part of the *Landscapes* planning effort, CCPC conducted a public opinion survey that found by a 10 to 1 margin that people would prefer a development pattern that consumes less land. As a result, *Landscapes* encourages the establishment of growth boundaries and the creation of "livable landscapes" as a positive alternative to sprawl (see map).



The Logic of Livable Landscapes: "The urban and suburban landscapes have been centers for development and have the infrastructure to best accommodate the anticipated future population. The natural and rural landscapes, because of their important open space, environmental, scenic, and agricultural resources, are least appropriate for development."

Fortunately, the participating municipalities of the Phoenixville Region understand the planning implications of *Landscapes*, and are working to manage growth and direct growth into the appropriate areas. The Livable Landscapes map highlights Phoenixville Borough as an urban center, and the regional municipalities are working

cooperatively to help revitalize the borough and direct growth away from rural areas. Although it is not a participating municipality, Spring City also is highlighted as an urban center on the Livable Landscape map. As such, it would be appropriate for East Vincent and East Pikeland Townships to consider extensions of the urban street pattern of Spring City into their townships as one way to consolidate growth. This type of urban extension is already evident in East Vincent. Urban centers are most appropriate for mixed-uses, medium-to-high density housing, intense commercial uses, and industrial uses, as well as open space and recreation.

Regarding the suburban landscapes, the Livable Landscapes map highlights significant suburban areas within Schuylkill and East Pikeland Townships and smaller suburban areas reaching into East Vincent and Charlestown Townships. Since the suburban areas within Schuylkill and East Pikeland are established, a key planning implication is to create real communities out of suburban subdivisions. One potential solution is to provide strategic locations for "suburban villages" that accommodate mixed-uses of neighborhood commercial, apartments, townhomes, and possible civic space. In addition, pedestrian and bike connections between existing suburban subdivisions and these "suburban villages" will be necessary to reduce the reliance on the car. For future suburban development, all participating municipalities may be able to identify strategic locations for "suburban villages" as a way to accommodate future growth. Recently, it has been noted that the Chester Springs area is becoming part of Main Line Philadelphia. West Vincent, East Pikeland, and Charlestown Townships may fare better in the future if the development pattern of Main Line communities is used as an example for future growth.

Lastly, the Livable Landscapes map highlights significant rural areas with East Vincent, West Vincent, and Charlestown Townships, and a small area in the southern district of East Pikeland. As mentioned previously, these townships are managing growth impacts in their rural areas through TDR, PDR, and agricultural easements, and may be able to create a rural "greenbelt" that forms a de facto growth boundary in a semi-circular arc southwest of Phoenixville. This scenario would provide a clear break from the suburban sprawl that currently spreads outward from Phoenixville into Schuylkill and East Pikeland Townships. In addition, the Livable Landscapes map highlights two centers within West Vincent--Ludwigs Corner as a rural center and Birchrunville as a village. West Vincent is currently working to create an appropriate mixed-use center at Ludwigs Corner, as a way to accommodate new retail, office, medium-to-high density housing, and civic uses, such as a library, school, and village green. Birchrunville, as well as other historic villages throughout the village, could become key locations for additional growth by creating "village extensions" that sensitively build upon the village structure and design.

7. COMMUNITY FACILITIES

1. Water Supply Facilities
 - a. Public Facilities
 - b. Private Facilities
 - c. Source Water Protection Issues
2. Wastewater Facilities
 - d. Municipal/Centralized Treatment
 - e. Private, Community-Based Treatment Systems
 - f. Summary of Act 537 Planning
3. Solid Waste
4. Utilities (Power, Communications, etc.)
5. Planning Issues
 - Regional
 - Local

1. Water Supply Facilities

Water supply facilities in the Phoenixville study area reflect the diversity of water supply, which is so typical throughout Chester County. Chester County is unique in a variety of ways, including the fact that it formed some years ago the Chester County Water Resources Authority (CCWRA), which has much more recently published the equally unique *Watersheds: An Integrated Water Resources Plan for Chester County*. Although *Watersheds* is substantially more than a conventional water supply plan, *Watersheds* does include important existing and future water supply information, which informs this water supply discussion for the Phoenixville study area.

Major public water service areas are listed in Table 8-1 and shown in Figure 8-1 (this mapping is based on Chester County Planning Commission's *Watersheds* 2002 and may have undergone small changes), including Pennsylvania PUC-designated franchise areas for water service. As with wastewater treatment system (see below), public water supply systems in the study area are complex, both public and large-scale as well as private and small-scale (i.e., on-site wells). The larger public water supply systems in the study area are dominated by private water companies, regulated by Pennsylvania Public Utility Commission. At the top of the list is Aqua America (or Aqua Pennsylvania), formerly the Philadelphia Suburban Water Company, which is the largest private water supplier in the Commonwealth and one of the largest, if not the largest private water supplier in the nation. This private supplier is joined with another large private water supplier, Pennsylvania American Water Company, which has recently purchased Citizens Utilities Home Water Company, which had water systems in East Vincent and East Pikeland Townships, among many other municipalities. Pennsylvania American is now operating these facilities.

An important reality to be reckoned with is that the owners and operators of public water supply systems are not the same entities as wastewater treatment systems (see below). Furthermore, the institutional and management system governing water supply systems is decidedly different than that institutional system which governs wastewater treatment systems. Like wastewater management, PADEP has some role in permitting public water supply systems and monitoring their ongoing performance; PADEP also has a modest role in terms of permitting individual on-site wells. However, the Pennsylvania Public Utility Commission (PUC) regulates water suppliers and issues franchise areas for future water service, with special focus on those privately-held water suppliers such as Aqua Pennsylvania and Pennsylvania American. PUC also is involved in those cases where municipal systems/authority systems extend service into neighboring municipalities.

Public water supply systems - and their importance in influencing future growth patterns - notwithstanding, many, if not most of the residences and land uses in the study area rely on private on-site wells for water supply. Given the amount of land development which has been occurring and may continue to occur on large lots (an acre or larger) and given the generally acceptable water yields enjoyed by many if not most of the geological formations found in the study area, new land developments can be supported by on-site wells. With the exception of some new water-intensive use, it is a rarity that new land developments are simply prevented from occurring in the study area due to inability to drill a well with an adequate water yield with acceptable water quality. On-site well management and regulation is provided by the Chester County Health Department, which assumes minimum PADEP state requirements as well as some additional Chester County program requirements.

Phoenixville Borough Water Department:

The Borough operates a [public water supply system, which provides water supply in most locations throughout the Borough itself and extends into adjacent portions of Schuylkill and East Pikeland Townships. The water system is surface water-based with a large surface intake allocation from the Schuylkill River (12 MGD), which is then treated at the Borough's water treatment plant (6.5 MGD).

Distribution of/demand for treated water tends to average substantially less (around 4 MGD) than plant capacity, such that substantial additional water supply capacity is available in this system (September 2004, Conversations with Brian Watson, Phoenixville Borough Public Works Department; Phoenixville Borough 1988 Comprehensive Plan). There have been management problems in the past at the water treatment plant.

Aqua Pennsylvania/Aqua America (AP):

The former Philadelphia Suburban Water Company (PSWC), recently renamed Aqua Pennsylvania/Aqua America (AP), is the largest fully inter-connected private water company in the state (perhaps the nation). AP provides public water to many municipalities throughout suburban Philadelphia counties, relying on an extremely complex water supply system, which is both surface water- and groundwater-based. The AP system has the ability to re-distribute considerable quantities of water from one portion of its system to another, thereby making its ability to accommodate growth and future water system expansion quite impressive. In recent years, AP has aggressively expanded its water supply system throughout Philadelphia suburban communities and beyond. In system-wide corporate documentation, AP indicates that the rated capacity of the total of its many different surface and groundwater supply system components is substantially greater than the current demands being experienced by the system; substantial growth can be accommodated, if warranted. Given the size and complexity of this AP system, a detailed description would be both voluminous and not especially useful.

AP provides substantial public water in the eastern portion of the study area, in areas of Schuylkill and Charlestown Townships. Both townships have worked to channel infrastructure such as public water supply lines in ways, which focus new development and higher densities of development. Both municipalities have intentionally zoned out, literally and figuratively, areas where public water supply is not to be provided. The bulk of this public water service comes from AP's relatively new advanced Pickering East Water Treatment Plant, as well as the older Pickering West Treatment Plant, both of which are located in Schuylkill Township and treat water from AP's Pickering Reservoir, a major surface water source also located in Schuylkill Township. The 375-million gallon Pickering Reservoir, which provides substantially more water supply to AP's water supply system outside of the study area, receives water from Pickering and Perkiomen Creeks, as well as from the Schuylkill River. The AP system in the study area also includes wells and various water storage facilities, some of which are used only in emergency and/or peak demand periods. Given the variability of the topography in the study area, delivery of public water supply is not without issues; however, the overall supply capacity of the AP system is clearly capable of handling substantial growth and development within the study area.

AP now provides water supply in the extreme western portions of the study area, in limited portions of West Vincent Township (Ludwig's Corner area of West Vincent Township); this relatively new water service reflects designation of a limited franchise area, which West Vincent Township developed with AP.

Pennsylvania American Water Company (PAWC):

Recently, this large private water company has purchased the holdings of the previous private water company, Citizens Utilities Home Water Company, which consists of a variety of relatively small water supply systems serving users in East Vincent and East Pikeland Townships. In East Vincent Township, this water supply system consists of a limited area east of PA 724, near Spring City Borough; water is supplied by a well located next to the Schuylkill River, rated with an extremely high yield (1,300 gallons per minute, according to the East Vincent Township Comprehensive Plan, 1994) and with a 3 million gallon reservoir. Existing service notwithstanding, all of the East Vincent is franchised by PAWC and therefore can be legally serviced by PAWC, provided that additional water supply lines are constructed (a

cost issue for PAWC and a township regulatory/management issue). Given the capacity of the existing water supply source, there is capacity to support additional water supply connections.

The PAWC system in East Pikeland is more extensive and more complex. Again the PAWC franchise area includes all of East Pikeland Township (even though Phoenixville Borough supplies a small portion of East Pikeland). Water service areas include areas of higher residential density, commercial, and industrial development in the core of the municipality, all supplied by a surface water intake and allocation from the Schuylkill River.

According to Robert Rambo (August 2004 Phone Conversation), Royersford Office Network Supervisor for PAWC, there exists adequate capacity in the PAWC system to serve project future public water supply needs for its franchised municipalities. As with AP, PAWC works closely and carefully with its municipalities to provide public water supply if and when this infrastructure is desired by the municipality, pursuant to its overall comprehensive planning.

Additional Public Water Supply Systems:

In addition to the major public water supply systems, which currently serve and will serve the study area in the future, a variety of smaller more or less site-specific water supply systems also exist in the study area. These systems provide water to institutions (Camphill Village) and a variety of private mobile home parks and residential developments. It is possible that more such water systems can be developed within the study area; however, given the permitting and regulatory requirements associated with developing such systems and their water supply sources (including the added requirements of the Delaware River Basin Commission here in the Ground Water Protected Area which includes all of the study area except West Vincent Township), it is not likely that such sources will be developed.

Table 8-1. Public Water Suppliers in the Phoenixville Region (Watersheds 2002; Public Water Supply Service Areas and Franchise Areas are Shown in Figure 8-1).

| PUBLIC WATER SUPPLY SYSTEM | MUNICIPALITIES |
|--|---------------------------------|
| Major | |
| Aqua America (previous PSWC)/ | Charlestown Township |
| Aqua Pennsylvania | Schuylkill Township |
| | West Vincent Township |
| Phoenixville Borough Water Department | Phoenixville Borough |
| | East Pikeland Township |
| | Schuylkill Township |
| Pennsylvania American (previous | East Pikeland (Fox Knoll) |
| Citizens Utilities Home Water Company) | East Vincent Township |
| | East Pikeland Township (Merlin) |
| Minor | |
| Camphill Village USA, Inc. | East Vincent Township |
| Riveredge | East Vincent Township |
| Southeastern PA Veterans Center | East Vincent Township |
| Stony Run Mobile Home Park | East Vincent Township |
| St. Stephens Green | West Vincent Township |
| Wetherill Estates | West Vincent Township |
| Phoenix Mobile Homes | Schuylkill Township |
| Phoenixville Mobile Homes, Inc. | East Pikeland Township |

Future Water Supply Demand

Table 8-2 provides a projection of future water supply demand in the study area municipalities; information is based on a methodology which has been developed for *Watersheds* planning, including population and employment projections for the municipalities themselves, a host of assumed factors such as per capita water use, and other important variables such as expansion of water service areas. These projections of demand reflect the County's projection of growth contained within *Landscapes* planning; these areas of growth are shown in Figure 8-1 and indicate areas of potential public water service expansion. This information has been developed for *Watersheds* for a variety of purposes, one of which is to evaluate the adequacy of existing public water sources, as well as impacts on the underlying hydrologic sub-basin it should be noted that CCWRA authors state that numbers in this table "...are estimates intended only to provide planners with a starting point for determining future water and wastewater demand and should not be used as absolute planning figures...."). Without analyzing the merits of the *Watersheds* methodology, the estimates and projections provide useful comparative measures for understanding existing and future water supply demand in the study area. For example, total water supply demand is estimated to be about one-third individual wells, and two-thirds connected to public water supply systems (much, if not most of this public water supply would be surface water-based). Water use in the study area is projected to increase by 564,480 gallons per

Table 8-2. Existing and Projected Average Daily Water Demand (GPD) for Phoenixville Region Municipalities (Based on *Watersheds* 2002).*

| 1998 | Individual Wells | Public Systems | Total |
|---------------------------|-------------------------|-----------------------|------------------|
| Charlestown | 190,588 | 120,197 | 310,785 |
| E. Pikeland | 353,180 | 147,190 | 500,370 |
| E. Vincent | 235,743 | 166,722 | 402,465 |
| Phoenixville | 22,277 | 1,321,093 | 1,343,370 |
| Schuylkill | 62,876 | 529,234 | 592,110 |
| West Vincent | 165,480 | 21,000 | 186,480 |
| Totals | 1,030,144 | 2,305,436 | 3,335,580 |
| | | | |
| 2020 | Individual Wells | Public Systems | Total |
| Charlestown | 205,498 | 134,312 | 33,810 |
| E. Pikeland | 382,802 | 249,448 | 632,250 |
| E. Vincent | 261,183 | 220,317 | 481,500 |
| Phoenixville | 22,277 | 1,487,473 | 1,509,750 |
| Schuylkill | 80,267 | 573,733 | 654,000 |
| West Vincent | 217,248 | 65,502 | 282,750 |
| Totals | 1,169,275 | 2,730,785 | 3,900,060 |
| | | | |
| Additional by 2020 | Individual Wells | Public Systems | Total |
| Charlestown | 14,910 | 14,115 | 29,025 |
| E. Pikeland | 29,622 | 102,258 | 131,880 |
| E. Vincent | 25,440 | 53,595 | 79,035 |
| Phoenixville | - | 166,380 | 166,380 |
| Schuylkill | 17,391 | 44,499 | 61,890 |
| West Vincent | 51,768 | 44,502 | 96,270 |
| Totals | 139,131 | 425,349 | 564,480 |

*Table 6-3 in *Watersheds*.

day (16.9 percent) to 3,900,060 gallons per day, up from 3,335,580 gallons per day. The majority of this increase (425,349 gallons per day or 75.4 percent) is projected to occur in public water supply systems. To the extent that these public water supply systems are supported by water supply intakes from the Schuylkill River (Phoenixville, PAWC to a large extent, and AP to a large extent) and to the extent that supply capacity exists within these systems as appears to be the case, future water supply does not appear to be a significant issue for planning in the study area.

2. Wastewater Treatment in the Study Area

Like the water supply systems in these municipalities, wastewater treatment in the Phoenixville Region is complicated, reflecting historical growth of the towns and villages as well as topographic and other natural features. A substantial portion of the study area is connected to centralized wastewater treatment systems, some of which are planned to expand incrementally into areas currently not served. At the same time, a substantial portion of the study area uses on-site septic systems and is likely to continue to rely on on-site systems. In fact, much of the area in Charlestown, East Vincent, and West Vincent as well as parts of East Pikeland and Schuylkill are not planned for centralized wastewater treatment as a matter of policy – at least in the foreseeable future. Well-planned, installed, and managed on-site wastewater treatment systems can provide an acceptable, if not preferable, solution for wastewater treatment.

In this particular study area, centralized wastewater treatment systems (existing wastewater treatment service areas are shown in Figure 8-2; this mapping is based on Chester County Planning Commission's *Watersheds* 2002 and may have undergone small changes) are of several types. Probably the Borough of Phoenixville's treatment system is most traditional, with its collection lines radiating out into adjacent municipalities such as Schuylkill Township. Spring City's systems (though technically not part of the Phoenixville Region) similarly extend out into portions of East Vincent. A radically different "model" is the Valley Forge Sewer Authority, a regional system formed much more recently to accommodate rapid suburban development in the rolling topography of eastern Chester County; with the help of a complex system of pump stations and force mains. This system collects wastewater flows in Charlestown, East Pikeland, and Schuylkill Township (among others) and delivers it to its Schuylkill Township treatment facility. East Vincent not long ago (approximately 1995) took over and has expanded and upgraded the pre-existing wastewater treatment plant at the Southeastern Pennsylvania Veterans Center (known as Pennhurst), which became available when the institution was closed. Virtually all of these wastewater treatment plants discharge treated effluent into, or virtually into, the Schuylkill River. On the other hand, the new wastewater treatment system serving the Ludwigs Corner development in West Vincent is a state-of-the-art land application system, designed to provide a high level of water quality and water quantity performance, critical given its location in headwaters of Chapter 93-designated Exceptional Value Birch Run. In short, there exist a wide variety of different technical and institutional arrangements to support wastewater treatment in the study area.

Provision of sewers has historically been a major factor in shaping and influencing growth and development and by all counts remains important in the Phoenixville Region. Though studies have not been done to document the assertion, it appears that more development has happened more quickly as the result of developers being able to connect to sewers; in most cases, study area municipalities have varied (increased) their zoned densities along with centralized wastewater treatment.

Nevertheless, a surprising amount of land development in the form of large-lot residential subdivisions continues to occur throughout unsewered areas, to some extent related to the adequacy of the soils in much of the study area and also related to the relatively large lots which are required by the respective zoning ordinances and the relative ease in locating appropriate locations for septic tanks and drainage systems. The fact that the real estate market can support these large homes on large lots is also an

important factor in the continuation of this type of development. In some more limited cases, community on-lot disposal systems (COLDS) and various other types of small wastewater treatment systems also have been and may be constructed where higher densities are proposed and connection to a centralized system is not feasible.

A final and important point to be made is that all wastewater treatment planning in Pennsylvania is conducted pursuant to Act 537 Sewage Facilities Plan requirements. Each municipality is required to prepare and adopt a 537 Plan (municipalities may join together and prepare and adopt joint 537 plans) which provides for anticipated future land use needs, using wastewater treatment systems which are environmentally sound and cost effective (including properly managed on-site septic systems). The record of 537 planning in the Phoenixville study area, again, reflects the complexity of the treatment systems and the different management and institutional arrangements supporting these different physical treatment systems and is summarized in the municipal discussions below. Because of the extent to which wastewater treatment is “handled” by each municipality, the information presented here focuses on systems and the planning for these systems being undertaken specific to each municipality.

Charlestown Township

Charlestown Township Official Plan: Pennsylvania Sewage Facilities Act (June 1989, Comitta Associates, Inc.)

Although the bulk of the township remains unsewered in its center and western portions, this plan calls for (see Figure 15 Proposed Community Sewerage System) modest extensions of the Valley Forge Sewer Authority collection/treatment system along the southern border of the township, as well as expansion of the existing sewer area in the northeastern portions of the township, currently connected to the Phoenixville wastewater treatment system (the potential for re-directing connections here from the VFSA to the Phoenixville system has been the object of some study in the past, although according to Joseph Bateman, Executive Director of the VFSA, apparently has been rejected, at least in the near term). Different service areas exist within the township, typically connecting to pump stations and force mains which ultimately link to the VFSA treatment plant (northern section from Charlestown Hunt to Township Line Road tying to Whitehorse Road Pump Station in Schuylkill Township; another system in Tyrone Farms area tied to Charlestown Road Pump Station; a system along Pine Drive extending into East Pikeland, tied to Kimble Road Pump Station; in the southeastern section, a system for Charlestown Oaks and Devault, tying to East Whiteland with Devault portion going to Lee Boulevard Pump Station). Some of these collection systems extend into other townships as well. Scattered malfunctions of on-site wastewater treatment systems are documented elsewhere, to be resolved through individual re-construction and better management. See VFSA below.

East Pikeland Township

Act 537 Wastewater Facility Plan Special Study (October 2001, LTL Consultants, Inc.)

Based on this plan (Figure 1.1 Facility Plan Study area and Figure 6.1 Existing Service and Proposed Service), the central portion of the township (generally to the west of PA 23) is shown as currently served by the VFSA, with modest extensions being proposed to provide service to nearby areas of malfunctioning on-site systems, as well as areas of growth. According to the VFSA (see discussion below), VFSA does have adequate reserve capacity to allow for future system expansion in East Pikeland, consistent with 537 planning. The 2001 Comprehensive Plan points out that much more area of the township is sewerred than is publicly watered, resulting in quantities of water originating

from on-site wells being used, collected, piped, and stream discharged into the Schuylkill River at the VFSA wastewater treatment plant. Such a practice has an adverse impact on groundwater quantity, the water table, local wetlands, stream baseflow, and any other groundwater-linked resource. According to Ed Latshaw, Township Engineer from LTL Consultants (Phone conversation, August 29, 2004), LTL is updating East Pikeland's 537 plan (to be completed in approximately six months); this plan update will feature a hierarchy of alternative wastewater treatment options for non-public sewer areas. See VFSA below.

East Vincent Township

East Vincent Township Act 537 Sewage Facilities Plan (SC Engineers, Revised 1992, Revised 1993)

This 537 planning documents the acquisition of the Southeastern Pennsylvania Veterans Center/Pennhurst wastewater treatment facility (Schuylkill River discharge) by the newly created East Vincent Municipal Authority in 1994/5, plus the development of four pump stations and force mains as part of this system. This originally-rated 1.0 MGD treatment plant has been modified and is now rated at 0.5 MGD (approximately 2,000 equivalent dwelling units). Flows in 1998 were listed as 142,800 GPD with projections to 269,300 GPD by 2003. Average daily flows in July, 2004 were 221,100 GPD. However, current flows indicate that the treatment plant would come close to its rated capacity, given additional development, which has been committed for connection to the system or is in planning. According to Miller Environmental, Inc. July 2004 Monthly Operation and Maintenance Report for the East Vincent Municipal Authority, a total of 494 uncommitted EDU's existing at the Southeastern Veterans Center wastewater treatment plant, with 41 additional EDU's committed to approved plans and another 351 EDU's possibly committed to proposed developments in planning, for a remainder of 102 EDU's. The Township and the Authority has been considering treatment plant expansion, which could occur at this site; however, no decision has been reached. EDU statistics for the last 10 years (EDU's added by year) indicate a substantial rise in connections in the first years that the plant was available for use:

Total EDU's Connected to Veterans Center Treatment Plant

| | |
|------|-------|
| 1995 | 290 |
| 1996 | 595 |
| 1997 | 948 |
| 1998 | 1,081 |
| 1999 | 1,232 |
| 2000 | 1,322 |
| 2001 | 1,393 |
| 2002 | 1,456 |
| 2003 | 1,501 |
| 2004 | 1,531 |

Adjacent to Spring City are several short sections of collection lines, which connect to the Spring City wastewater treatment facility out of the study area (the Comprehensive Plan estimated that about 800 persons were so connected, directing about 80,000 GPD to the Spring City treatment facility). Also of note, the separate Barton Meadows mechanical treatment plant, built some

years ago to serve the Barton Meadows residential subdivision, has had a history of malfunctioning and, although now taken over by the Authority, these problems remain to be resolved. This system had an average daily flow of 41,713 GPD in July, 2004. A private wastewater treatment system exists for West Dairies, and various COLDS systems are utilized by residential, commercial, and camping facilities in the Township.

SC Engineers also prepared a 537 Plan Update for Industrial Zoned Property and Allocation Plan for System Capacity (March 2000) and a December 1997 537 Sewage Facility Plan Update Stony Run Drainage Basin, as well as multiple other 537 plan addenda in previous years.

**Phoenixville Borough
Draft 537 Plan (February 2001)**

Previously, the Borough's wastewater treatment plant, which discharges secondary treated effluent (activated sludge system with primary clarification, oxidation and aeration, final clarification, chlorination; sludge is directed to a landfill) into the Schuylkill River, has been rated with a treatment capacity of 4.5 MGD and has had substantial excess treatment capacity (as much as 2 MGD has been previously discussed as available; at one point, discussions involving re-direction of service areas and their wastewater from the VFSA system to the Phoenixville system had been occurring). However, recent action with PADEP indicates that available treatment capacity may be limited, at least until a variety of remediative actions are taken. Most recent 537 planning identifies a variety of much-needed inflow/infiltration mitigation projects (I/I is a problem in this system; sludge disposal has been a problem in the past), as well as plant upgrades, interceptor reconstruction, and related projects. The plant apparently is currently flowing between 2.0 and 2.5 MGD, projected to increase moderately in the next 10 years (Meeting with Mathew Mullin, Phoenixville Borough Wastewater Superintendent, September 16, 2004). See VFSA below.

**Schuylkill Township
Updated Act 537 Sewage Facilities Plan (October 1994, SMC Environmental Services Group)**

This 537 plan indicates that most of the township is shown as sewerage or planned to be sewerage (Exhibit No. 1), with flows connected to the VFSA as well as the Phoenixville treatment facility. A modest portion of the Pickering portion of the township to the west is to remain unsewered. A few on-site system malfunctions are reported in the PA29/Creek Road area but apparently can be resolved without sewerage. The 1996 537 plan accounts for a substantial addition of EDU's (Equivalent Dwelling Units), from 1,168 to 1,195 EDU's during the 10-year planning period through 2004, the bulk of which are to be directed to the VFSA system. A modest number of on-site septic systems also are included in areas where connection to public sewers are not feasible and where lot size and soils are acceptable. See VFSA below.

**Valley Forge Sewer Authority
Valley Forge Sewer Authority Regional Act 537 Plan (June 2002)**

Charlestown, East Pikeland and Schuylkill Townships founded the Valley Forge Sewer Authority in 1968; since then, inter-municipal agreements to provide wastewater treatment service have been struck with Tredyffrin, Malvern, Easttown, East Whiteland, and Willistown. According to Joseph Bateman, General Manager of VFSA (Phone Conversation, August 31, 2004), VFSA is working on updating its regional 537 plan through a contract with Gannett Fleming. Nevertheless, VFSA has concluded that treatment capacity, adequate for existing connections and future growth, exists for its service area for approximately the next 20 years. The 54-acre VFSA treatment plant on the Schuylkill in Schuylkill Township has a rated capacity of 9.2 MGD

(Meeting with Joseph Bateman, VFSA General Manager, September 16, 2004), and currently serves about 24,626 customers with an average daily flow of 7.97 (January 1, 2004); VFSA also owns and operates 90 miles of collection lines as well as 9 pump station.

VFSA's existing regional 537 plan was undertaken for systemwide planning purposes in order to accommodate facility expansion and new connections. This plan sets forth and recommends consideration of Alternative 5 wherein VFSA develops 1 MGD/2 MGD of treatment capacity at the Phoenixville wastewater treatment plant, to be subsidized by VFSA, which could assist in accommodating new flows being generated by the Charlestown Hunt interceptor and other areas in Schuylkill Township. Feasibility of this alternative concept apparently has not been finally determined. According to General Manager Bateman, VFSA has set aside this alternative at the present time, given the costs indicated by Phoenixville for implementing this alternative (i.e., according to General Manager Batemen, VFSA can provide additional treatment capacity at a lesser cost through other alternatives).

West Vincent Township

Act 537 Wastewater Facilities Plan: Phase III (Tatman & Lee, 1993)

This planning highlights several special problem areas in the township: the RM/PRD zoned area (northeastern portion of township), Kimberton area malfunctions, the Birchrunville area stream corridor, and the Ludwigs Corner growth area. The selected area in the RM/PRD zone is planned for a limited connection to the VFSA system. In all other areas well-managed community on-site disposal systems, including the land application of effluent, have been proposed, where water quantity and quality impacts are minimal and consistent with the Exceptional Value and High Quality stream designations.

In the vicinity of Ludwigs Corner, a new wastewater treatment facility consisting of lagoon treatment ponds, storage ponds for the treated effluent, and spray irrigation fields for the wastewater effluent has recently been completed by the Hankin Group and is designed to accommodate all projected wastewater treatment needs for Hankin's Weatherstone development at build out (110,000 GPD, based on the assumption of 262.5 GPD per household or EDU), as well as additional wastewater flows from neighboring uses in the Ludwigs Corner area. There are currently about 65 residential units connected to this new system, which is flowing at about 6,000-7,000 GPD. In other words, wastewater generation per household is proving to be closer to 120 GPD. Assuming that this wastewater generation factor maintains itself at this very low rate, this new system may experience substantial excess capacity. Furthermore, according to the Township Engineer, the treatment lagoon system capacity for this 110,000 GPD facility can be increased with the addition of more aerators in the treatment lagoon. The Township hopes to gain ownership and control from the Hankin Group over this new wastewater treatment facility in the near future, although this system management issue has been controversial.

Additionally, the recently approved Cornerstone development in the Ludwigs Corner area also includes a complete lagoon treatment, lagoon storage, and spray irrigation wastewater treatment facility, sized at approximately 40,000 GPD. This system is proceeding through the PADEP permit approval process, although the Cornerstone developer has discussed the option of making a connection between Cornerstone and Weatherstone and utilizing the excess capacity in the already-completed Weatherstone wastewater treatment system. These discussions between the developers apparently have been unsuccessful, due to an inability to reach agreement on costs of providing this wastewater treatment. In any case, Cornerstone is planned and designed to accommodate this additional wastewater treatment capacity, including treatment and storage lagoons, plus additional area for spray irrigation of the treated wastewater effluent. There also

exists a small community on-site disposal system at Ludwig's Village, which provides 6,000-8,000 GPD sub-surface treatment for these shops and eateries.

In summary, the Ludwigs Corner area appears to have planned wastewater treatment capacity of 156,000-158,000 GPD (with potentially expandable treatment capacity, though additional spray fields would need to be provided beyond the 158,000 GPD), with the bulk of this wastewater treatment system completed. Although a considerable amount of undeveloped area and uses have been in planning for the Ludwigs Corner area, substantial wastewater treatment capacity appears to exist in the area which could serve new development, although detailed and exact wastewater planning has not been undertaken as yet. With the exception of the small portion of the township connected to the VFSA system to the east, remaining areas of the township are to be accommodated with carefully managed on-site wastewater treatment systems.

Future Wastewater Treatment Issues

Figure 8-2 indicates areas in the study area where the County's Landscapes planning has designated additional development. Although no analysis or quantification of additional wastewater treatment needs has been developed in either Landscapes or Watersheds, Figure 8-2 implies that some sort of centralized wastewater treatment will be necessary to support this growth, if it is to occur. Wastewater treatment expansion could occur through expansion of the existing treatment systems, as discussed in the various municipal discussions above, or possibly through development of additional decentralized treatment systems, as is occurring in West Vincent Township's Ludwigs Corner area.

3. Solid Waste Disposal

Disposal of solid waste is typically handled by each municipality, coordinated with the Chester County Solid Waste Management Plan as required by Act 97 of 1980, the Pennsylvania Solid Waste Management Act. In most cases, individual municipalities contract with private solid waste disposal companies to provide collection service including recycling; solid waste is transported to the Lanchester Landfill, owned and operated by the Chester County Solid Waste Authority. This system is expected to continue operating for the foreseeable future.

Passage of the Pennsylvania Municipal Waste Planning, Recycling, and Reduction Act, Act 101 of 1988, has had major positive impact on solid waste management in the study area. Solid waste planning is now provided by Chester County (County Health Department, Division of Solid Waste Management), including formation of the Chester County Solid Waste Authority, which operates the Lanchester Landfill. The Authority is planning on expansion of this facility to accommodate future Chester County solid waste disposal needs. Act 101 also requires that all municipalities above a certain population threshold (300 persons per square mile and a population of more than 5,000 persons) provide curbside recycling, although virtually all private trash haulers provide curbside recycling services directly.

Phoenixville Borough has recently decided to institute its own solid waste disposal program and will begin collecting trash on January 1, 2005. However the other study area municipalities do not provide this service directly. In most cases, property owners arrange for service with private haulers. Some municipalities, such as

Charlestown Township, maintain a list of licensed solid waste haulers. Municipalities also have special township ordinances, which manage and control disposal of hazardous waste.

8: COMMUNITY FACILITIES: RECREATION AND COMMUNITY SERVICES

Emergency Services

Police

Each municipality has its own police force with the exception of Charlestown. The number of officers in each municipality is shown in Table 1. Charlestown relies on the state police to patrol and respond to calls in its area. Police service seems adequate for the region. Generally 1.1 to 1.8 police officers per 1000 people is considered an adequate ratio for law enforcement. Ratios in small municipalities tend to be closer to 1.1. The region currently has 49.5 officers that cover 34,053 people, not including Charlestown. That is 1.45 officers per 1000 people. This seems to be appropriate for the region, since the crime rate is low and the municipalities have not expressed concerns about the number of officers. However, there might be a cost saving to forming a regional police force.

Table 1: Police Officers per municipality

| Municipality | Full-time Officers | Part-time Officers | Population (2000) | Officers per 1000 people |
|------------------------|---------------------------|---------------------------|--------------------------|---------------------------------|
| East Pikeland Township | 5 | 1 | 6,551 | 0.84 |
| East Vincent Township | 7 | 2 | 5,493 | 1.46 |
| Phoenixville Borough | 24 | 0 | 14,788 | 1.62 |
| Schuylkill Township | 7 | 2 | 6,960 | 1.15 |
| West Vincent Township | 3 | 2 | 3,170 | 1.10 |
| Charlestown Township* | * | * | 4,051 | * |

*State Police patrol Charlestown.

Fire and Ambulance Protection

Fire protection is provided to each municipality by the fire companies listed in Table 2. The Community Facilities map also shows where these fire companies are located and the area they cover. All of the stakeholder interviews mentioned the difficulty of maintaining volunteer fire companies. There might be potential for shared municipal services to provide more full time fire company staff.

All emergency services can be dispatched through the Chester County 911 system. One hospital is located in the region, the Phoenixville Hospital. This hospital was recently sold by the University of Pennsylvania Health System to Community Health System in

August 2004. The hospital has plans to stay in Phoenixville and renovate the existing building in Phoenixville and build another facility in the immediate vicinity. The ambulance companies and the municipalities they cover are listed in Table 3.

Table 2: Fire Companies in Phoenixville Region

| Municipality | Fire Company Coverage |
|------------------------|---|
| East Pikeland Township | Kimberton, Liberty |
| East Vincent Township | Ridge, Liberty, Kimberton |
| Phoenixville Borough | Phoenixville Fire Department includes three stations: West End, Friendship, and Hose, Hook and Ladder |
| Schuylkill Township | Valley Forge, Kimberton, West End |
| West Vincent Township | Ludwigs, Kimberton, Ridge |
| Charlestown Township | Kimberton, East Whiteland |

Table 3: Ambulance Coverage in Phoenixville Region

| Municipality | Ambulance Company Coverage |
|------------------------|-----------------------------------|
| East Pikeland Township | Spring City, Uwchlan |
| East Vincent Township | Spring City, West End |
| Phoenixville Borough | West End |
| Schuylkill Township | West End |
| West Vincent Township | Uwchlan, Spring City, West End, |
| Charlestown Township | East Whiteland, Kimberton |

Public Schools

There are three public school districts in the Phoenixville region, the Owen J. Roberts School District, Phoenixville School District, and Great Valley School District. The following public schools are located in the region: Vincent Elementary School, Spring City Elementary School, East Pikeland Elementary School, Kindergarten Center, Second Avenue Elementary School, Berkeley School, Phoenixville Area Senior High School, Phoenixville Area Junior High School, Schuylkill Elementary School, and Charlestown

Elementary School. These school districts and schools are located on the Community Facilities map.

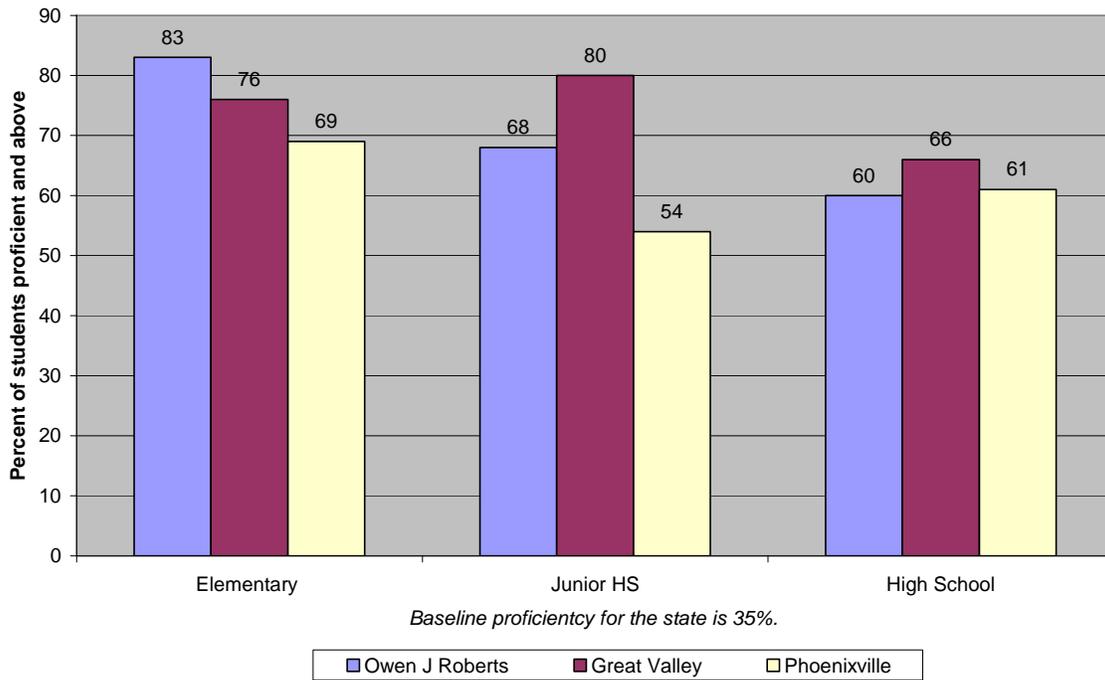
The 2001-2002 Pennsylvania District Report Cards show that all of these schools are performing above the state’s baseline standards for proficiency in reading, writing, and math. The report cards show that Phoenixville’s junior high and elementary schools have lower scores than Great Valley and Owen J. Roberts school districts’ junior high and elementary schools, but are still achieving scores significantly higher than the state’s baseline.

Strong school districts can contribute to a strong real estate market and residential growth, as they seem to in the Phoenixville region study area. As a result of the growth, the Owen J. Roberts and Great Valley School Districts are reaching the capacity in some of their existing facilities. Owen J. Roberts School District recently conducted a Feasibility Study to address future facility needs of the school district. The study identified the need for a new elementary school and an addition to the existing high school. Two of the potential sites for building the elementary school are in the study area, one in West Vincent and the other in East Vincent. The five other sites are located in South Coventry and Warwick Townships, which are adjacent to the study area. Phoenixville Area School District, however, does not project significant growth in the next three years.

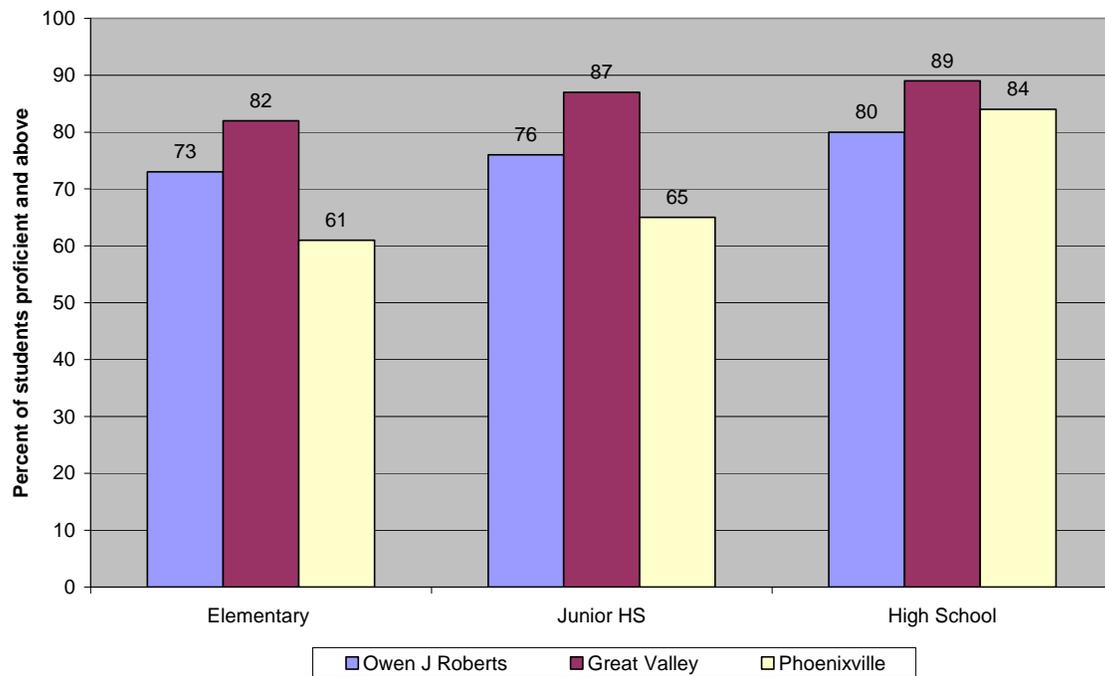
Table 4: School District Enrollments

| District | Enrollment (2003-4) | Enrollment Projections |
|------------------------------|----------------------------|-------------------------------|
| | | (2008-9) |
| Owen J. Roberts Total | 4,241 | 5,311 |
| Elementary | 1,912 | 2,441 |
| Middle School | 1,017 | 1,334 |
| High School | 1,312 | 1,536 |
| | | (2006-7) |
| Phoenixville Total | 3174 | 3131 |
| Kindergarten | 256 | 264 |
| Elementary | 1,215 | 1330 |
| Middle School | 796 | 738 |
| High School | 907 | 799 |
| | | (2008-9) |
| Great Valley Total | 3984 | 4477 |
| Elementary | 1811 | 2031 |
| Middle School | 962 | 1109 |
| High School | 1211 | 1337 |

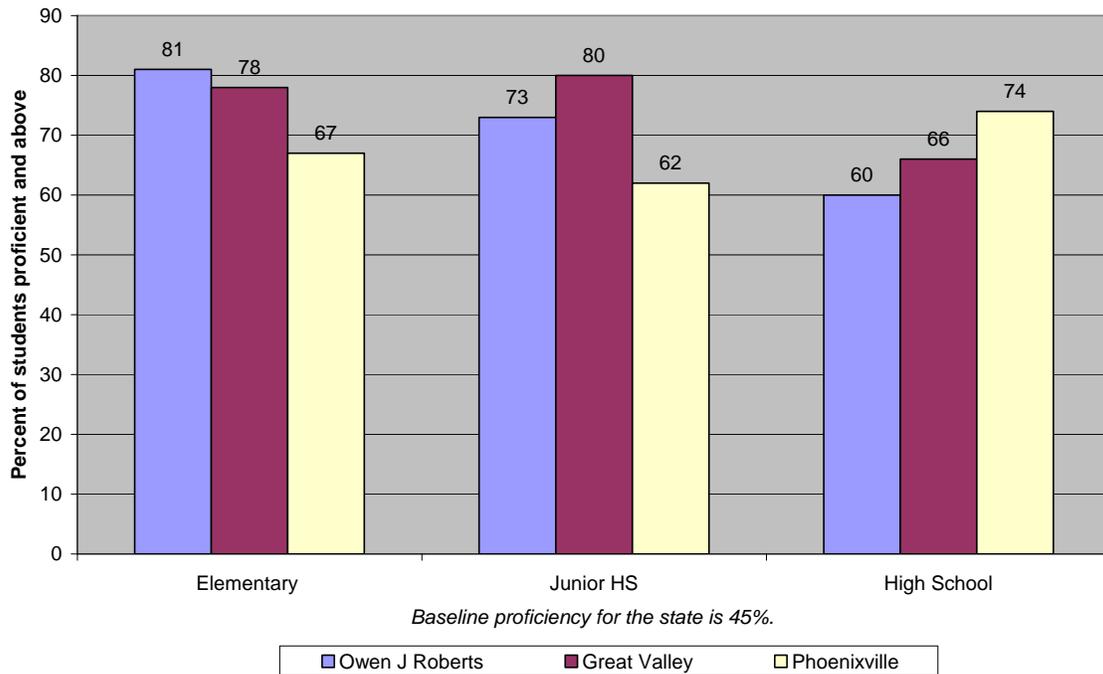
Math Proficiency



Writing Proficiency



Reading Proficiency



Libraries

In the Phoenixville region study area, as shown on the Community Facilities map, there are two libraries the Phoenixville Library and the Hankin Library. The Phoenixville Library's has a collection with 55,000 items including audio books, videos, DVDs, CDs, software, fiction, non-fiction, biography, collective biography, large type and children's books. The Hankin Library was recently opened and has approximately 80,000 items and is primarily a popular materials library, providing homework help and assistance to small businesses. There are two other libraries directly outside of the region that are used by residents in the Phoenixville region; these are the Spring City Library and the Chester Springs Library. The Spring City Library has a children's center and 14,000 items with a focus on popular materials. The Chester Springs Library has a collection of 19,500 items featuring popular titles, non-fiction with a focus on the arts and a strong Children's collection.

Each municipality, except Charlestown, has appropriated funds to a library in the last two years. East Vincent Township appropriated \$5,493 to Spring City Library in 2003. West Vincent Township appropriated \$3,200 to Chester Springs Library in 2002, but none since. Charlestown Township does not appropriate any funds to any of the libraries. East Pikeland and Schuylkill Townships appropriate funds to Phoenixville Library through the Phoenixville Area School District (PASD). For 2003-2004 the total appropriated from the PASD was \$342,000.

Parks and Recreation

The Phoenixville region has a total of 161.8 recreation and parks facility acres. The Linking Landscapes report from Chester County recommended an additional 146.3 acres in the region based on the 2000 Census population density data. As Table 6 indicates, the only municipality that is providing enough parks and recreation facilities is East Pikeland Township, but the existing 63.4 acres of park space includes in the Rapps Dam Reservoir.

| Municipality | Facilities: Recreation and Park Facilities | Total Acreage <i>(from the Linking Landscapes Report)</i> |
|----------------------|--|---|
| East Pikeland Twp. | Rapps Dam, East Pikeland Township Park | 63.4 |
| East Vincent Twp. | Kimberton Fish and Game Association, Community Park on Ridge, Spring City Borough Park | 10.2 |
| Phoenixville Borough | Reeves Park, Reservoir Park, YMCA – Phoenixville Branch | 35.1 |
| Schuylkill Twp. | Valley Forge National Historic Park, Pickering Creek Preserve | 0 |
| West Vincent Twp. | Horse Shoe Hiking Trail | 12.0 |
| Charlestown Twp. | Lionsville Park, Charlestown Township Park | 41.1 |

| Municipality | Types of Facilities Needed | | | Total Existing Acreage | Additional Acreage Needed to Meet | |
|----------------------|-----------------------------------|----------------------------|-------------------|-------------------------------|--|-------------------|
| | Com-munity Parks | Neighbor-hood Parks | Mini-Parks | | 2000 Needs | 2025 Needs |
| | | | | | | |
| East Pikeland Twp. | 1 | 1 | 0 | 63.4 | 0 | 13.0 |
| East Vincent Twp. | 1 | 1 | 0 | 10.2 | 33.7 | 69.4 |
| Phoenixville Borough | 1 | 1 | 1 | 35.1 | 49.9 | 64.1 |
| Schuylkill Twp. | 1 | 1 | 0 | 0 | 55.7 | 60.8 |
| West Vincent Twp. | 1 | 0 | 0 | 12.0 | 7.0 | 13.8 |
| Charlestown Twp. | 1 | 0 | 0 | 41.1 | 0 | 0 |

In addition to needing additional parks and recreation acreage, many stakeholders and the Chester County Linking Landscapes Plan recommend expanding the greenway system to provide more linear park facilities for recreation. The Chester County Linking Landscapes Plan identifies the Pickering-Upper Uwchlan Corridor, Sow Belly-French Creek Corridor, and Horse-Shoe Corridor as informally used greenways through the Phoenixville region. These corridors connect regional parks, municipal parks, and points of interest along their routes through the study area. The existing Horse-Shoe Trail, which has been utilized by equestrians and hikers since 1935, loosely parallels the turnpike through Chester, Berks, Lancaster, Lebanon, and Dauphin Counties. All of the trails listed are recommended for expansion, but Chester County designated the Horse-Shoe Corridor as a priority trail for the County.

As the primary greenway in the study area, the Schuylkill River Corridor is identified by Chester County as a ‘partially developed corridor’, which means that the corridor includes existing County or municipal trails. The Schuylkill River Trail currently has two sections completed – the Thun Trail in Berks County and the Manayunk section to the south. Chester and Montgomery Counties are working together to acquire the property for this trail and have already determined the route of the trail along the Schuylkill River on the Montgomery County side and crossing over to Phoenixville on the Route 29 bridge. The Schuylkill River Trail is a regional priority for the County, and it is important for the Phoenixville region study area to build connections to this greenway.

9: MUNICIPAL FINANCES

Tax Rates

The total column in **Table 53** is the total property tax rate in mills for each municipality in the study area and the Chester County average. East Vincent, Phoenixville, and West Vincent have higher property tax rates than the Chester County average of 25.501 mills. Phoenixville has the highest property tax rate of 27.645 mills, meaning for every \$100,000 of assessed property value, the resident must pay \$2,764.50 in property taxes. Conversely, Charlestown has the lowest property tax rate of 19.384 mills. In addition, Charlestown residents do not pay earned income tax to the school district (Great Valley School District) unlike every other municipality in the study area, which pays 0.5% of their income to their respective school districts (either Owen J Roberts or Phoenixville School Districts). As of 2004, every municipality in the study area levies municipal earned income tax on residents (Charlestown Township began levying the earned income tax in 2004). While residents in Charlestown, East Pikeland, Phoenixville, Schuylkill, and West Vincent pay 0.5% of their income to their respective municipalities, residents in East Vincent pay 0.632% of their income to the Township.

Table 53: Tax Rates for Study Area Residents as of 2004

| | School District | Real Estate Tax (Mills) | | | | Earned Income Tax (Percentage) | |
|------------------------|-----------------|-------------------------|--------------|-----------------|--------|--------------------------------|-----------------|
| | | County | Municipality | School District | TOTAL | Municipality | School District |
| Charlestown | Great Valley | 3.414 | 0.750 | 15.22 | 19.384 | 0.500% | 0.000% |
| East Pikeland | Phoenixville | 3.414 | 0.290 | 20.83 | 24.534 | 0.500% | 0.500% |
| East Vincent | Owen J Roberts | 3.414 | 0.900 | 21.40 | 25.714 | 0.632% | 0.500% |
| Phoenixville | Phoenixville | 3.414 | 3.401 | 20.83 | 27.645 | 0.500% | 0.500% |
| Schuylkill | Phoenixville | 3.414 | 0.300 | 20.83 | 24.544 | 0.500% | 0.500% |
| West Vincent | Owen J Roberts | 3.414 | 1.400 | 21.40 | 26.214 | 0.500% | 0.500% |
| Chester County Average | n/a | 3.414 | 1.427 | 20.66 | 25.501 | 0.481% | 0.363% |

Source: Pennsylvania Department of Revenue

Revenues and Expenditures

For each municipality in the study area, the total revenue and expenditure amounts from the general fund as recorded in each municipality's budget are presented for fiscal years 2003 and 2004 (**Table 54**). Excluding Charlestown and West Vincent, the study area municipalities have not realized drastic changes in revenue or expenditure amounts in their budgets between the 2003 and 2004 fiscal years. Conversely, Charlestown and West Vincent Townships have seen significant changes to their general fund amounts. Charlestown's revenue increased by over 13% between 2003 and 2004, representing the addition of the earned income tax levied on Township residents. Additionally, the 36% expenditure increase in Charlestown is a result of the transfer of general funds to open space acquisition and improvement accounts in the 2004 budget cycle. West Vincent's revenue increased by almost 10% due to an increase in real estate tax revenue, while its expenditures increased by almost 11% due to the Township's debt expenses from the new municipal building.

Table 54: General Fund Revenue and Expenditure Amounts from Municipal Budgets, 2003 and 2004

| | 2003 | | 2004 | | Change in Revenues | Change in Expenditures |
|---------------|-------------|--------------|-------------|--------------|--------------------|------------------------|
| | Revenues | Expenditures | Revenues | Expenditures | | |
| Charlestown | \$1,417,498 | \$1,130,857 | \$1,603,852 | \$1,539,601 | 13.15% | 36.14% |
| East Pikeland | \$1,688,000 | \$1,782,600 | \$1,799,000 | \$1,888,500 | 6.58% | 5.94% |
| East Vincent | n/a | n/a | \$1,900,697 | \$1,968,247 | n/a | n/a |
| Phoenixville | \$5,382,365 | \$5,878,360 | \$5,722,211 | \$6,068,801 | 6.31% | 3.24% |
| Schuylkill | \$3,612,473 | \$3,612,473 | \$3,395,367 | \$3,395,367 | -6.01% | -6.01% |
| West Vincent | \$3,302,351 | \$3,260,062 | \$3,616,731 | \$3,616,731 | 9.52% | 10.94% |

Note: Totals do not include any large capital revenues from bonds.

Source: Municipal Budgets

Table 55 below shows the expenditures per capita for each municipality in the study area. West Vincent Township has the largest expenditures per capita at \$1,140.92 in 2004, while East Pikeland Township has the smallest expenditures per capita at \$288.28. Excluding Charlestown, the municipalities in the study area spend a large portion of funds on public safety. Schuylkill spends the most on public safety at \$235.97 per person. Charlestown spends only \$63.24 on public safety per person since the Township does not have a local police force or local fire company. Instead, Charlestown uses the State Police and East Whiteland and Kimberton volunteer fire departments for public safety services. West Vincent spends over \$280 per person on debt services due to the recent construction of the Township building.

Table 55: Expenditures Per Capita

| | Expenditures Per Capita* | General Government | Services Per Capita* | | | | |
|---------------|-----------------------------|-----------------------|------------------------------------|-------------------------|---------------|-------------|------------------|
| | | | Highway and Road Maintenance | Parks and Recreation | Public Safety | Solid Waste | Debt Services |
| Charlestown | \$380.05 | \$91.74 | \$64.07 | \$13.26 | \$63.24 | n/a | n/a |
| East Pikeland | \$288.28 | \$122.45 | \$32.30 | \$3.24 | \$125.76 | n/a | n/a |
| East Vincent | \$358.32 | \$128.35 | \$72.21 | \$4.38 | \$148.02 | n/a | \$5.36 |
| Phoenixville | \$410.39 | \$60.06 | \$55.05 | \$26.93 | \$187.86 | \$52.73 | \$27.44 |
| Schuylkill | \$487.84 | \$117.57 | \$118.64 | n/a | \$235.97 | n/a | n/a |
| West Vincent | \$1,140.92 | \$488.42 | \$168.73 | \$8.83 | \$133.67 | n/a | \$283.62 |

*Based on population in 2000 and 2004 Budgets.

Note: Solid waste includes Phoenixville's Solid Waste Fund

Source: Municipal Budgets

From **Table 56**, the municipal earned income tax is the major source of revenue for most municipalities in the study area. In every municipality except Phoenixville, the percent of total revenue generated from earned income tax is greater than the percent generated from the municipal real estate tax. East Pikeland generates over 50% of its revenue from the earned income tax, but only 8% from the real estate tax. East Pikeland, Phoenixville, and West Vincent generate 23% or more of their revenue from charges for services. These services include licenses, fines, permit issuance, and other fees. In particular, West Vincent generates 30% of its revenue from these charges. The majority of this revenue comes from traffic impact fees that the Township charges developers. Additionally, Schuylkill and West Vincent Townships had significant amounts in their general funds carried over from 2003. West Vincent also generated revenue from its open space tax and sale of fixed assets.

Table 56: Percent of Budget by Revenue Source

| | Municipal | | | | |
|---------------|------------------------------|----------------------|-----------------------------|------------------------|------------------------------|
| | Municipal Real Estate Tax | Earned Income Tax | Real Estate Transfer Tax | Charges for Service | Intergovernmental Revenue |
| Charlestown | 22% | 28% | 16% | 17% | 7% |
| East Pikeland | 8% | 53% | 10% | 23% | 6% |
| East Vincent | 14% | 33% | 9% | 11% | 14% |
| Phoenixville | 35% | 27% | 3% | 29% | 6% |
| Schuylkill | 6% | 38% | 12% | 7% | 6% |
| West Vincent | 9% | 23% | 8% | 30% | 0% |

Source: Municipal Budgets

In municipalities with both police and fire departments, a significant portion of the budget is allocated to public safety expenditures (**Table 57**). These expenditures include

police and fire protection, emergency services, and animal protection. As stated above, Charlestown does not have a local police force or fire department. West Vincent also does not have a fire department and instead receives service from several local volunteer fire companies and has limited police services. Both Charlestown and West Vincent make contributions to outside public safety providers from their general funds.

At least 11% of budget funds in each of the municipalities in the study area are directed to the maintenance of local highways and roads. This includes repair, maintenance, and lighting of roads as well as snow removal. In addition, West Vincent spends 25% of its funds on debt services. These expenditures are predominately expenses for the Township's new municipal building. Lastly, almost 40% of Charlestown's expenses are diverted to 'other' sources. In Charlestown, the majority of this money is the transfer of general funds to an open space acquisition fund.

Table 57: Percent of Budget by Expenditure Source

| | General Government | Public Safety | Highways and Roads | Parks and Recreation | Debt Services | Solid Waste | Other |
|---------------|--------------------|---------------|--------------------|----------------------|---------------|-------------|-------|
| Charlestown | 24% | 17% | 17% | 3% | n/a | n/a | 39% |
| East Pikeland | 42% | 44% | 11% | 1% | n/a | n/a | 2% |
| East Vincent | 36% | 41% | 20% | 1% | 1% | n/a | 0% |
| Phoenixville | 15% | 46% | 13% | 7% | 7% | 13% | 0% |
| Schuylkill | 24% | 48% | 24% | n/a | n/a | n/a | 3% |
| West Vincent | 43% | 12% | 15% | 1% | 25% | n/a | 5% |

Note: Schuylkill Township's 2004 operating budget does not itemize for parks and recreation; solid waste includes Phoenixville's Solid Waste Fund

Source: Municipal Budgets

Recent Capital Investment Concerns³

While several of the municipalities in the study area have capital funds and projects, only Phoenixville Borough currently has a significant debt load in general, water, and sewer capital fund accounts. In 2004, Phoenixville's expenditures for all capital projects totaled to almost \$6 million. This debt load may limit borrowing capacity for Phoenixville until a significant portion of loans are retired in six years.

In 2003, West Vincent borrowed over \$3 million to acquire open space in the Township and to build a new township building. While the Township will be paying a substantial amount on the loan principal and interest yearly, the debt load is minimal and should not present any borrowing capacity problems.

³ This information was provided by municipality leaders during meetings held with KSK. Other municipalities in the study area may also have capital investment concerns that were not mentioned at these meetings.

10: TRANSPORTATION CONDITIONS

The Phoenixville Area Region is located in northeastern Chester County, Pennsylvania. Municipalities located within the study area include the Borough of Phoenixville, the Townships of East and West Vincent, the Township of East Pikeland, the Township of Charlestown, and the Township of Schuylkill. The Phoenixville Regional Area is served by regional highways such as the Pennsylvania Turnpike (I 76), PA 23, PA 29, PA 100, PA 113, PA 401 and PA 724. In addition, the region is served by alternative modes of travel. Public transportation services in the region include the SEPTA Route 99 bus route and the Chester County Paratransit service. An extensive sidewalk network serves pedestrian travel within the region as well as some bicycle and pedestrian trails. Freight rail service is also available within the region.

The following transportation and circulation information is evaluated in this chapter:

- Functional Classification
- Traffic Volumes
- Roadway Ownership and Conditions
- Scenic Roads
- Crash Data
- Public Transportation
- Parking
- Airport Facilities
- Freight Rail Facilities
- Bicycle and Pedestrian Facilities
- Completed Transportation Studies
- Capital Improvement Projects

FUNCTIONAL CLASSIFICATION

Functional classification groups streets and highways according to the character of service they are intended to provide. The classification recognizes that individual roads and streets do not serve travel independently, but that most travel involves movement through a network of roads. In June 2003, the Chester County Planning Commission adopted a recommended road functional classification. The functional classification system is based on the following criteria:

- Average traffic volumes;
- Access and mobility;
- Corridor length;
- Relationship to other nearby roads;
- Truck traffic;
- Roadway design and capacity;
- On-street parking;
- Pass-through traffic;
- Posted speeds; and
- Bicycle and pedestrian facilities.

Urban and rural areas have different characteristics with regard to density and types of land use, density of street and roadway networks, nature of travel patterns and the way that these elements are related. Therefore, urban and rural roadway systems are classified differently. Urban areas are those places within boundaries set by the State and municipality as having a population of 5,000 or more.

The functional classification categories for urban areas are expressways, arterials, collectors, distributors, and local roads. The following are descriptions of each of the classifications and the roads within the Phoenixville Region that meet the respective criteria:

Expressways are designed to carry the maximum amount of traffic at high speeds by limiting the number of access points. These roadways carry interstate and regional traffic and provide the highest mobility for truck traffic. The only expressway in the region is Interstate 76.

Major arterials carry most of the trips entering and leaving an urban area as well as most of the traffic passing through the urban area and provide high mobility for truck traffic. They also accommodate travel between the central business district and outlying residential and major suburban areas. Major arterials in the region are PA 23 between PA 724 and the Chester County line in Valley Forge and PA 100 in West Vincent Township.

Minor arterials interconnect with the principal arterials, accommodate trips of moderate length at a somewhat lower level of mobility and provide high mobility for truck traffic. They distribute travel to smaller geographical areas than principal arterials. These types of roads place more of an emphasis on land access and connect to collector roads. Minor arterials in the region include PA 23, PA 724, PA 113, PA 401, and PA 29.

Major collectors provide both land access and circulation over moderate distances, a smaller geographical area within the commercial and industrial areas and provide moderate mobility for truck traffic. They collect traffic from the local streets and channel them to the arterial system. Major collectors in the region include Pughtown Road, White Horse Road, Pothouse Road, and Charlestown Road.

Minor collectors provide both land access and circulation within the residential neighborhoods and commercial and industrial areas and provide moderate mobility for truck traffic. They collect traffic from the local streets and channel them to the arterial system. Minor collectors in the region include Pikeland Road, Merlin Road, Saint Matthews Road, Valley Park Road, Country Club Road, Mowere Road, and Wall Street.

Local distributors provide both land access and circulation within the residential neighborhoods and commercial and industrial areas and provide for delivery truck traffic. They collect traffic from the local streets and channel them to the arterial system. Local distributors in the Region include Kimberton Road, Hollow Road, Sheeder Road, Birchrun Road, Flowing Springs Road, Horseshoe Trail Road, and Seven Stars Road.

Local roads primarily provide access to land adjacent to the collector roads, serve travels over relatively short distances and provide for delivery truck traffic. The local road system includes all roads not classified as major arterials, minor arterials, collector and distributor roads.

The Road Functional Class Map shows the functional classification of the roads in the region. The map was created by compiling information from the Chester County Planning Commission functional classification of State roads.

ROADWAY OWNERSHIP AND CONDITIONS

Table 1 shows the roadway mileage and density of roadways for the municipalities in the region. The overall roadway density of the region is 4.55 linear miles of roadway per square mile. The urban nature of Phoenixville Borough creates a much higher density, 12.79 linear miles of roadway per square mile, than the other Townships.

**Table 1
Roadway Ownership**

| <i>Municipality</i> | <i>Roadway Mileage</i> | | | <i>Density**</i> |
|-----------------------------------|------------------------|---------------------|---------------------|------------------|
| | <i>Local*</i> | <i>State*</i> | <i>Total</i> | |
| Charlestown Township | 20.69 miles | 23.51 miles | 44.20 miles | 2.94 |
| East Pikeland Township | 36.70 miles | 13.32 miles | 50.02 miles | 5.68 |
| East Vincent Township | 34.06 miles | 19.96 miles | 54.02 miles | 3.86 |
| Phoenixville Borough | 40.04 miles | 7.41 miles | 47.45 miles | 12.79 |
| Schuylkill Township | 33.93 miles | 24.10 miles | 58.03 miles | 6.15 |
| West Vincent Township | 40.69 miles | 19.00 miles | 59.69 miles | 3.33 |
| Phoenixville Regional Area | 206.11 miles | 107.30 miles | 313.41 miles | 4.55 |

* - Source – Official Township Directory of Chester County, 2004

** - Linear mile of road per square mile

For Chester County, the roadway ownership distribution is 67 percent local and 33 percent state. In the Phoenixville Region, the distribution is consistent with the rest of the County. Local roadway ownership is 66 percent and State is 34 percent. This ratio may change in the future when new roads are built to serve new land developments and are dedicated to the municipalities, or the State continues to transfer ownership back to the municipalities. Transferring ownership to places more responsibility and greater maintenance control of the roadways with the municipalities.

TRAFFIC VOLUMES

Existing Daily and Peak Hour Traffic Volume Estimates

The Transportation Map provides annual daily traffic volumes for major roads and streets in the Phoenixville Region as compiled by the Chester County Planning Commission. The map shows that the heaviest traffic volumes, ranging from approximately 25,000 to 40,000 vehicles daily, exist along the Pennsylvania Turnpike (Route 76).

Significant volumes also exist on other major roads in the region ranging between 15,000 and 25,000 vehicles daily along the following roads:

- Route 23 from Route 724 to the Chester County border
- Route 29 from Starr Street to the Chester County border
- Route 29 from Charlestown Road to East Whiteland Township

CONGESTION

In recent years, significant population and employment increases with the Phoenixville Region have contributed to more traffic congestion. Additional, traffic congestion during peak commuter hours, 7:00 – 9:00 A.M. and 4:00 – 6:00 P.M., has been created by large employment centers located in the following areas surrounding the Phoenixville Region:

- Exton/Lionville;
- West Chester;
- Great Valley;
- Valley Forge;
- King of Prussia;
- Route 422/Collegeville.

In addition, the region experiences pass-through traffic destined to other employment areas in the Philadelphia region such as Conshohocken, Plymouth Meeting, Fort Washington and Center City Philadelphia.

Quantifying the acceptability of delay, or congestion, drivers experience is highly subjective and varies from region to region, usually according to the intensity of development in an area. Typically congestion occurs when pass-through traffic mixes with local traffic.

Locations throughout the Region that currently experience congestion during the commuter peak hours are along PA 23 through the Borough of Phoenixville to the Chester County border and along Charlestown Road and Route 29 in the vicinity of the Great Valley Corporate Center. The PA 29 and Charlestown Road corridors experience congestion because they serve as a connection for Montgomery County commuters and the Great Valley Corporate Center and for Chester County commuters and the pharmaceutical companies at the PA 422/PA 29 interchange. The PA 23 corridor experience congestion because it serves as a connection to employment opportunities in King of Prussia and Valley Forge. The Route 100 corridor serves as a connection between residential areas in northern Chester County and western Montgomery County and employment opportunities in the Lionville, Exton and West Chester areas.

Other corridors such as PA 113 and PA 724 experience intermittent congestion at intersections with insufficient capacity to handle the volume of traffic passing through it. These intersections, along with the previously mentioned corridors, are shown on the Traffic Congestion Map. As a result of the heavy congestion along regional corridors such as Route 23, traffic volumes are beginning to divert to roads such as Pughtown Road, Horseshoe Trail and Saint Matthews Road.

ROADWAY CONDITIONS

Based on the municipal comprehensive plans, the majority of the roads in the region are in reasonably good condition and do not have significant safety problems. Due to the rural character of many secondary roads in the region, there are some roads with limited sight distance at intersections, narrow cartway widths, poor access management, structures located close to the edge of roadway, sharp horizontal and steep vertical curves, and poor intersection alignment.

BRIDGES

The Phoenixville Region has 49 state maintained bridges in the region greater than eight feet in length. There are also numerous state bridges and culverts less than eight feet in length and county and municipal maintained bridges. There are two state and two municipal maintained bridges in the region with posted weight limits. There are no closed bridges in the region. Table 2 summarizes the bridges in the region that currently have posted weight restrictions.

**Table 2
Posted Bridges**

| <i>Municipality</i> | <i>Road name</i> | <i>Crossing</i> | <i>Posting</i> | <i>Ownership</i> |
|-------------------------------|-----------------------------|------------------------|---------------------------------------|------------------|
| East Vincent Township | Bertolet School Road | French Creek | 8 tons | Municipal |
| West Vincent Township | Sheeder Mill Road | French Creek | 6 tons | Municipal |
| East Pikeland Township | Hares Hill Road | French Creek | 7 tons | State |
| Schuylkill Township | White Horse Road | Pickering Creek | 18 tons/ 26 tons combo | State |

The Phoenixville region contains several bridges that are listed on the National Register of Historic Places. Bridges that are listed on the National Register include:

- Hare's Hill Bridge over French Creek, East Pikeland Township
- Rapp's Covered Bridge both over French Creek, East Pikeland Township
- Hall's Bridge over Birch Run, East Vincent Township
- Kennedy Covered Bridge over French Creek, East Vincent and West Vincent Townships
- Black Rock Bridge over the Schuylkill River, Borough of Phoenixville
- Mule Bridge over Valley Creek, Schuylkill Township.

SCENIC ROADS

Scenic roads are important to preserve the rural nature and historic areas of the Phoenixville Region. The identification of scenic roadways is generally a subjective exercise. However, scenic roads are often characterized by rolling curves, tree lined cartways, adjacent streams, and elevated views of open space. Some of the municipal comprehensive and open space plans

contain comprehensive inventories of scenic roads. Table 3 includes some of the scenic roads in the region.

**Table 3
Scenic Roads**

| <i>Charlestown Township</i> | <i>Schuylkill Township</i> | <i>West Vincent Township</i> |
|---|------------------------------|------------------------------|
| PA 29: Dickson Drive – Schuylkill Township | Pothouse Road | PA 401 |
| Whitehorse Road: Mine Road to Ashenfelter Road | Valley Park Road | St. Matthews Road |
| Pikeland Road: Hollow Road to Charlestown Road | Whitehorse Road | Pughtown Road |
| Charlestown Road: Hollow Road to Hilltop Road | Ashenfelter Road | Birchrund Road |
| Valley Road | Clothier Springs Road | Sheeder Mill Road |
| Merlin Road | Creek Road | Hollow Road |
| PA 401 | McAvoy Road | French Creek Road |
| Church Road | Country Club Road | |
| Pickering Dam Road | Buckwalter Road | |
| Pickering Road | Casselberry Lane | |
| Sycamore Lane | Diamond Rock Road | |
| Buckwalter Road | Graham Road | |
| Mine Road | Horseshoe Trail | |
| Ashenfelter Road | Mill Road | |
| Rees Road | Oakwood Road | |
| Howells Road | Tinkerhill Road | |
| Wells Road | | |
| Blackberry Lane | | |

Scenic roads that traverse more than one municipality include Whitehorse Road, Ashenfelter Road, Buckwalter Road and Route 401.

The features that create a scenic roadway often affect transportation mobility and safety. To provide a safe and efficient roadway, yet preserve the rural character of the region, context sensitive design solutions can be incorporated into a municipality’s Subdivision and Land Development Ordinance. Context sensitive solutions meet the objectives of safety and mobility, while preserving the natural environment and community character. Impacts to scenic roads associated with the proliferation of roadway signage must also be evaluated.

PUBLIC TRANSPORTATION

The SEPTA Route 99 and Chester County Paratransit Service serve the Phoenixville Area Region. These services are shown on the Bicycle and Public Transportation Map. The Region is not directly served by passenger rail service. However, the SEPTA R5 rail line is located within approximately ten miles of most of the Region. Each of these public transportation services is described below:

SEPTA Route 99

The Southeastern Pennsylvania Transportation Authority (SEPTA) Route 99 provides bus transportation between the Borough of Norristown and the Borough of Pottstown with a stop at the intersection of Bridge Street and Main Street. The route provides service at intervals (headways) of approximately 60 minutes. There is also limited service to the Shoppes at Valley Forge in East Pikeland Township via the Route 99 bus route. It also makes informal stops at locations not recognized on the schedule.

SEPTA R5 Regional Passenger Rail Service

Currently there is no regional rail service in the Phoenixville region. Commuters frequently use the SEPTA R5 regional rail line. This regional rail line retains the highest daily ridership out of all the SEPTA regional rail line services. This line provides service between Thorndale in Chester County and Doylestown in Bucks County with stops at significant activity centers such as Exton and Paoli in Chester County, Villanova and Ardmore in Montgomery County, 30th Street and Market East Stations in Philadelphia and Lansdale in Bucks County. The R5 provides service at 15 and 30-minute headways during weekday peak periods and hourly during off-peak periods. It provides service ranging from one to two hour headways on the weekend.

Chester County Paratransit Service

Paratransit service is available to persons age 65 and older through the Chester County Paratransit System on weekdays between the hours of 7:00 A.M. and 5:30 P.M. This service is a state subsidized shared-ride program providing transportation at a reduced fare. There are no regularly scheduled stops or routes. Residents wishing to utilize this service make appointments, and the route is dictated by demand.

AIRPORT FACILITIES

There are no airports located within the Phoenixville region. The nearest airport is Pottstown-Limerick Airport located in Limerick Township, Montgomery County. This airport is a reliever airport that provides services for corporate and recreational aircraft. There are no scheduled carriers. The nearest airport located in Chester County is the Brandywine Airport near West Chester. This is also a reliever airport with no scheduled carriers. The nearest commercial service airport is the Philadelphia International Airport.

FREIGHT RAIL FACILITIES

As shown on the Transportation Map, the Phoenixville Region has two active freight rail lines operated by Norfolk Southern. The first line connects Philadelphia to Reading and places further west. This rail line generally follows the Schuylkill River, passes through the Blackrock Tunnel in northern Phoenixville, where it then crosses the Schuylkill River into Montgomery County. There is no at-grade crossing of this rail line.

The second active line connects Norristown and Lansdale to the Devault Industrial Park. This rail line generally follows the Schuylkill River to French Creek. It then follows French Creek west to the Phoenixville Industrial Park, where it continues south to the Davault Industrial Park. The rail line has at-grade crossings at the intersection of Bridge Street and Pot House Road and also at Route 29, north of Charlestown Road.

BICYCLE AND PEDESTRIAN FACILITIES

Pedestrians are accommodated through an extensive sidewalk network along a majority of the roads and streets in the Borough of Phoenixville and sporadically throughout the remainder of the region in residential subdivisions and retail centers.

The Chester County Planning Commission recently adopted recommended networks of bicycle facilities. As shown in the Bicycle and Public Transportation Map, the network identifies routes for beginner, intermediate, and advanced levels of recreation, as well as commuter/connector routes. The commuter routes identified in the region include Route 113, Pughtown Road, and Bridge Street from Route 23 to Stoney Run Road.

The recommended network also identifies the proposed alignment of the extension of the Schuylkill River Trail. Currently the trail extends from Philadelphia to Montgomery County. The plan is to extend the trail the entire length of the Schuylkill River. The proposed alignment of the Schuylkill River Trail will start at Cromby near Phoenixville Borough. It will continue west within the Phoenixville Area Region through East Pikeland, Spring City Borough and East Vincent Township ending at Stowe on the Montgomery/Berks County border.

COMPLETED TRANSPORTATION STUDIES

Several transportation studies have been completed in the Phoenixville Area Region in recent years. The intent of these studies was to identify transportation improvements that address safety, operational, capacity, access management, public transportation and bicycle and pedestrian facilities. The majority of the studies contain an implementation plan so that proposed projects can proceed with preliminary engineering. The recommended transportation improvements from each of the studies described below are contained in Appendix ___.

Phoenixville Area Intermodal Transportation Study

In 2003, the Delaware Valley Regional Planning Commission (DVRPC) completed a comprehensive transportation evaluation for East Pikeland, Schuylkill, Charlestown and Upper Providence Townships and Phoenixville Borough. The study set forth a Mobility Improvement Plan (MIP) for the municipalities that includes cost and phasing information for multi-modal transportation improvements to accommodate travel in the year 2025. The improvements were prioritized into short, near, medium and long-term stages.

Phoenixville Northern Relief Route

A preliminary study was completed by the Borough of Phoenixville to evaluate the feasibility of providing a new roadway that would connect between PA 113 in the northern end of the Borough and PA 23 in the western end. Such a new roadway would reduce pass through traffic in the central business district and residential areas of the Borough. A further connection to PA 29 in Upper Providence Township, Montgomery County could further reduce pass through traffic.

PA 100 Corridor

The intersection of PA 100 and PA 401 (Ludwig's Corner) in West Vincent Township is a major crossroad in North-central Chester County. PA 100 serves as a connection between residential areas in the northern part of the County and employment centers in Lionville, Exton and West Chester. PA 401 serves as a connector to employment centers in Great Valley and King of Prussia. The Township has begun preliminary engineering to provide significant capacity at Ludwig's Corner with a loop road. This improvement was included as a recommendation in the PA 100 Corridor Study completed by DVRPC in 1998.

PA 724 Corridor

In 2004, DVRPC completed the PA 724 corridor study. The limits of the study included five intersections in East Vincent and East Pikeland Townships in the Phoenixville Region. The study evaluated geometric and operational deficiencies along the corridor. The recommended improvements included turn lanes, traffic signals, signage, maintenance of roadside vegetation and enforcement of current access controls. The task force assembled for the study unanimously agreed that widening the corridor for additional travel lanes should not be implemented because of cost and lack of local support.

PA 113 Corridor

The Chester County Planning Commission completed the PA 113 Access Management Study in 1991. The study area extended from PA 100 in Uwchlan Township to PA 23 in the Borough of

Phoenixville. The study recommended a series of short and long term roadway improvements and ordinance revisions to preserve the function and capacity of the roadway.

CAPITAL IMPROVEMENT PROJECTS

There are several capital improvement projects currently planned for the Region that have been allocated funding for engineering and/or construction. The scheduling of these improvements is done through the PennDOT Twelve Year Program. Every two years, PennDOT submits recommended projects for the next twelve fiscal years to the State Transportation Commission (STC) for their consideration. After a public review and comment process is completed, the STC adopts the Program with a list of projects that includes a description of each project, estimated cost of the project and the time frame for phases of the project to be completed in the next twelve years.

The Chester County Transportation Inventory is a capital improvements program that includes highway, bridge, public transportation and bicycle and pedestrian projects that have been recommended to the County by legislators, municipalities and regional planning commissions. The inventory serves as Chester County’s input to PennDOT and the STC for the development of the Twelve Year Program.

Table 4 lists those highway and bridge projects in the Region that are included in the adopted 2005 PennDOT Twelve Year Program.

**Table 4
Phoenixville Area Region Proposed Improvements
On the 2005 PennDOT Twelve Year Program**

| Project | Municipality | Type of Improvement |
|--------------------------------------|---------------------|-----------------------------|
| PA 29/Charlestown Road | Charlestown | Intersection Turning Lanes |
| Hares Hill Road Over French Creek | East Pikeland | Bridge Rehabilitation |
| Pickering Road Over Pickering Creek | East Pikeland | Bridge Rehabilitation |
| Rapp’s Dam Covered Bridge | East Pikeland | Bridge Rehabilitation |
| Sheeder Mill Road Over French Creek | East/West Vincent | Bridge Rehabilitation |
| French Creek Parkway | Phoenixville | New Collector Road |
| Gay Street Over French Creek | Phoenixville | Bridge Replacement |
| Phoenixville Trail System | Phoenixville | Multi-use Trail |
| Phoenix Column Truss Bridge | Phoenixville | Trail Bridge Rehabilitation |
| French Creek Trail | Phoenixville | Multi-use Trail |
| Whitehorse Road Over Pickering Creek | Schuylkill | Bridge Replacement |
| PA 100: Blackhorse – Horseshoe Trail | West Vincent | Capacity Improvements |
| Phoenixville Area Signal System | Regional | Closed Loop Signal System |
| Schuylkill Valley Metro | Regional | New Passenger Rail Service |
| Schuylkill Valley Trail | Regional | Multi-use Trail |

Sources: 2003 Chester County Transportation Improvements Inventory
2005 PennDOT Twelve Year Program
2005 Transportation Improvement Program (TIP), DVRPC

Table 5 contains projects that have been proposed in Chester County that could have land use and transportation impacts on the Phoenixville Area Region.

Table 5
Regional Transportation Improvements

| Project | Type of Improvement |
|--|-----------------------------------|
| PA 100: Eagle Loop Road | Capacity Improvements |
| PA 100: PA 113 to Township Line Road | Capacity Improvements (Vanguard) |
| US 202: PA 252 to US 30 (Section 300) | Capacity Improvements |
| US 422: Keim St. to Armand Hammer Blvd. | Capacity/Interchange Improvements |
| US 422: PA 363 to US 202 (Montgomery County) | Capacity/Interchange Improvements |
| Pennsylvania Turnpike/PA 29 | New Interchange |
| Cross County Metro | New Passenger Rail Service |
| PA 29/PA 113 (Montgomery County) | Capacity Improvements |
| Arcola Road (Montgomery County) | New Collector Road |

Source: 2003 Chester County Transportation Improvements Inventory
2005 PennDOT Twelve Year Program
2005 Transportation Improvement Program (TIP), DVRPC

The improvements included in Table 5 for PA 100, US 202 and US 422 have received funding for design and/or construction on the PennDOT Twelve Year Program and the TIP. The proposed interchange of the Pennsylvania Turnpike and PA 29 is included in the Pennsylvania Turnpike Commission Capital Program. The capacity improvements to PA 29 and PA 113 have been proposed in Upper Providence Township, Montgomery County in the vicinity of US 422. The Arcola Road will serve as a collector Road connecting PA 29 and PA 113 to the east of US 422. The scope of the Cross County Metro has been modified to include service between Glenloch, Chester County and King of Prussia, Montgomery County with a connection to the proposed Schuylkill Valley Metro.

A variety of major corridor, operation, bridge, public transportation and bicycle and pedestrian improvements have been proposed in the Phoenixville region by the municipalities, County and legislators that have not received funding commitments. These proposed improvements are included in Appendix ___.

REGIONAL TRANSPORTATION ISSUES AND IMPLICATIONS

The following transportation conditions, facilities and capital planning and programming efforts have been identified as having transportation and land use planning implications for the Phoenixville Area Region:

Regional Traffic Congestion

The Phoenixville Region experiences traffic congestion along its major corridors of PA 23, PA 29, PA 100, PA 113, PA 724 and Charlestown Road due to the employment centers that surround the region such as Great Valley, Valley Forge, King of Prussia and the US 422/PA 29 Interchange area. A cooperative effort is needed from the Region and coordination with PennDOT and DVRPC to mitigate the impacts of commuter through traffic.

Capital Improvement Planning

Several transportation studies have been completed in recent years that identify projects to improve safety and mobility on the region's major roadway corridors and provide transportation choices other than the automobile. A regional implementation plan is needed to begin the pre-construction phases for high priority projects.

Phoenixville Northern Relief Route

The construction of the Northern Relief Route, including a connection with PA 29 in Upper Providence Township, Montgomery County has the potential to reduce high volumes of through traffic in the central business district and residential areas of the Borough of Phoenixville and spur revitalization efforts. A cooperative planning effort is needed to evaluate potential transportation and land use impacts throughout the region.

US 422/River Crossing Project

Significant capacity improvements are planned along the US 422 corridor at the PA 23 and PA 363 interchanges. The improvements could include a partial interchange at Pawlings Road. This access point along the corridor could reduce congestion along PA 23 in Schuylkill Township and increase land development pressures in areas of the Region.

US 202 Corridor

Significant capacity improvements were recently completed on US 202 between PA 252 and I 76, including the US 202, US 422 and I 76 interchange area. Capacity improvements are also scheduled for US 202 between PA 252 and US 30 in Chester County. The additional capacity being provided through these improvements with the US 422/River Crossing project could reduce pass through traffic in the Phoenixville Region between US 422 and the Great Valley Corporate Center.

Pennsylvania Turnpike/PA 29 Interchange

The Pennsylvania Turnpike Commission is scheduled to construct a full interchange at PA 29 in East Whiteland Township. The interchange will only be serviced with electronic toll collection. The improved access to the Pennsylvania Turnpike would likely increase residential land development pressures and increase traffic volumes on secondary roadways in Charlestown and Schuylkill Townships.

Schuylkill Valley Metro

The Schuylkill Valley Metro is a proposed new passenger rail service connecting between Center City Philadelphia and the City of Reading. The new rail line would include a station in the Borough of Phoenixville in the French Creek Center. The passenger service would reduce traffic volumes on regional arterials by providing a commuting alternative for residents, particularly through transit oriented development and provide direct access for those outside the region to employment opportunities in the French Creek Center. The estimated cost of this service is in excess of \$2 billion. The project will likely require significant matching funds from municipalities and private entities along the corridor and have to be constructed in phases due to the significant cost.

Recreational Trail Network

Chester and Montgomery Counties have received funding to extend the Schuylkill River Trail from the Borough of Phoenixville to Berks County. The trail will also connect with the Chester Valley Trail, which will eventually connect between Norristown in Montgomery County and Downingtown in Chester County. The extension of the French Creek Trail will connect the central business district of Phoenixville with the existing trail to the west of the Region. The combination of existing and proposed trail facilities in the Region could create an opportunity for the Borough of Phoenixville to become a “bicycle hub” along the Schuylkill River corridor.

Parking Supply

A key to revitalization efforts in the Borough of Phoenixville is the amount of parking provided for new or redeveloped residential, commercial and office uses. Existing parking facilities need to be better utilized and opportunities for new facilities need to be identified. As commercial activity increases in the future, strategies need to be identified that reduce the conflict between parking demand for commercial uses and on-street parking supply needed for residential uses in the Borough.

Historic Bridges

Several historic bridges are located in the region. Rehabilitation strategies should be identified that preserve the historic character of the region while providing safe access to residents and the agricultural business community.

Scenic Roadways

Scenic roadways are located throughout the rural landscapes and natural resource areas of the Region. The scenic qualities of these roadways could be compromised during land develop if proper design guidelines are not established.