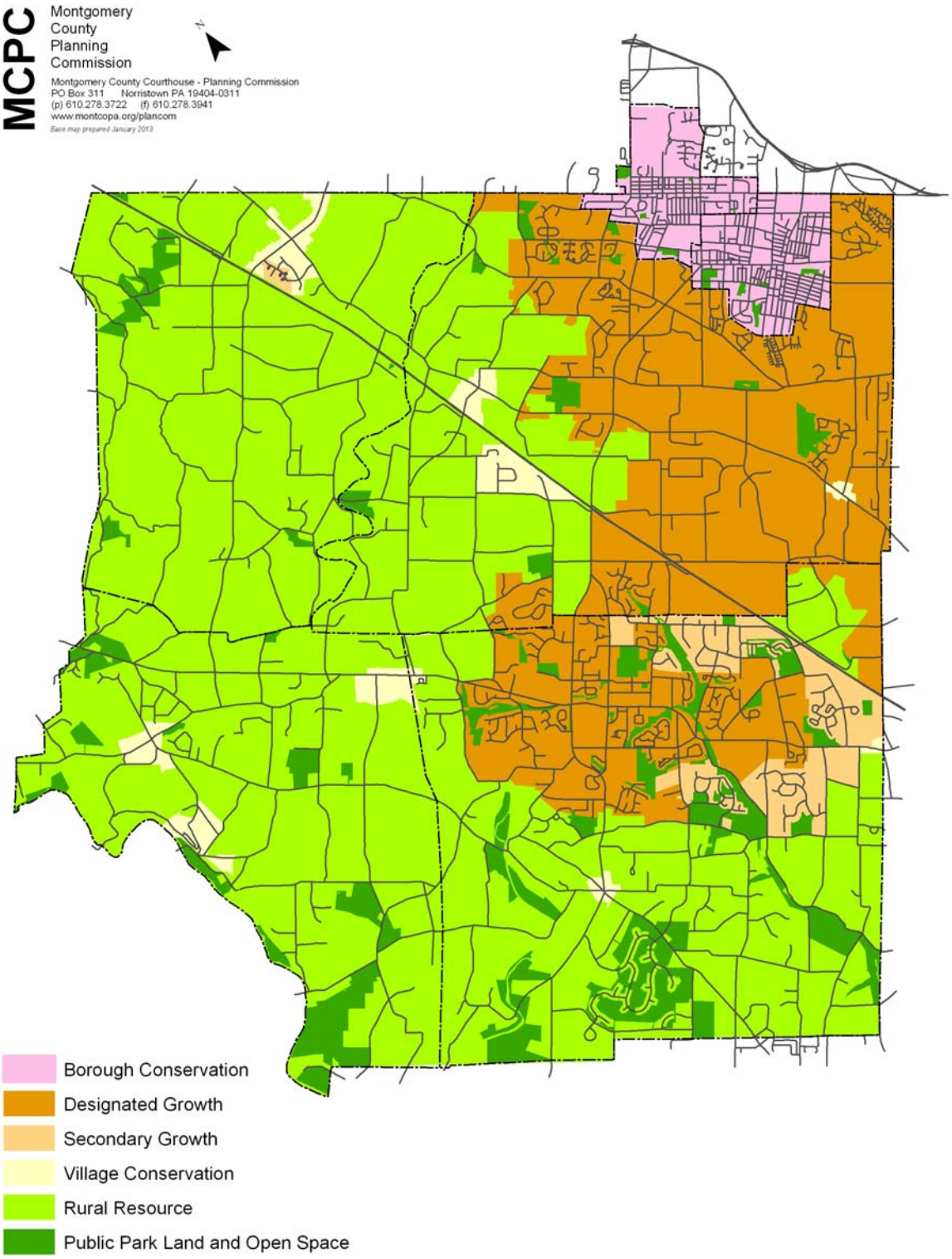
INDIAN VALLEY REGIONAL COMPREHENSIVE PLAN

MAY 2015



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(Final adoption June 1, 2016)

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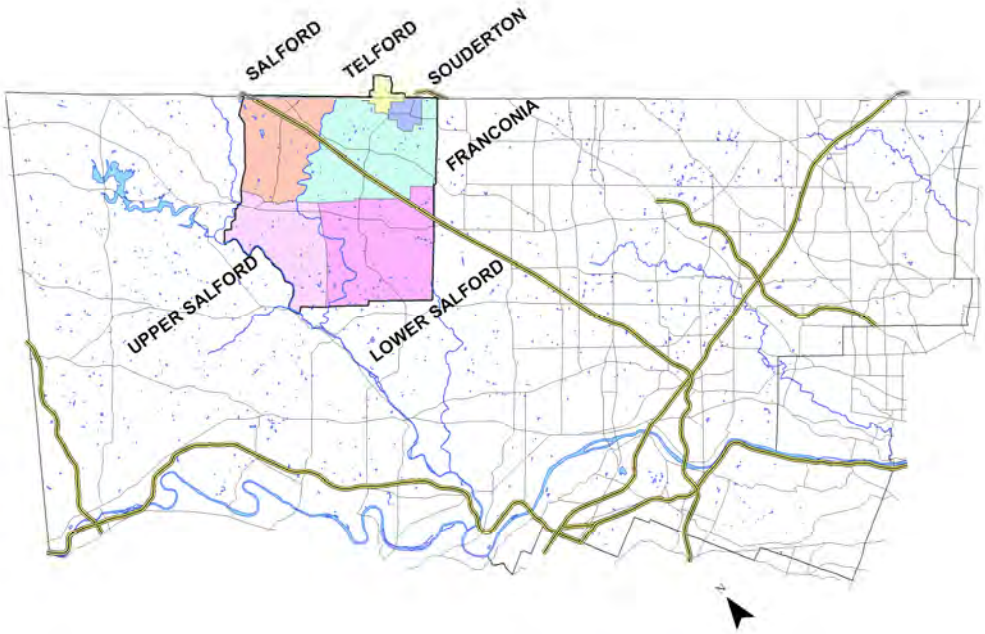
COMMUNITY PROFILE



The Indian Valley is located in the north central section of Montgomery County. It includes the four townships of Franconia, Lower Salford, Salford, and Upper Salford and the two boroughs of Souderton and Telford. These six municipalities comprise a region nearly 49 square miles in size.

As little as 30 years ago, the region was an undeveloped, rural area with many working farms and a few small villages. While a good portion of the Indian Valley retains that rural character to this day, much of the region has changed. Growth pressures pushing outward from Philadelphia have resulted in the rapid construction of many homes and businesses on what was once open land. Similar growth and development patterns have occurred repeatedly throughout Montgomery County and the larger Delaware Valley region.

The development patterns experienced by the Indian Valley region can be largely attributed to the fact that the region is conveniently located for easy access to jobs, stores, and highways. King of Prussia, North Penn, Fort Washington, Montgomeryville, and Quakertown are all within a 30-minute drive of the region. The King of Prussia area alone offers more than 30,000 jobs and has more than 2,000,000 square feet of retail space. Fort Washington and the North Penn area also offer about 30,000 jobs respectively. Quakertown and other areas of Bucks County are frequent working and shopping destinations for Indian Valley residents. The Indian Valley itself is an employment center offering approximately 3,600 jobs in the meatpacking and insurance industries alone.

The number of residents living in the Indian Valley is increasing dramatically. In 1970, the region's population was 23,538. By 1990, it had increased by more than 9,000 people to 33,089, a 40 percent gain. In 2000, the region's population was 41,213, an increase of 5,845 persons since 1990. Finally, 2010 data shows that the region now has a population of 45,316, nearly doubling its population over a 40-year period. Though population

growth is expected to slow somewhat, growth is still inevitable, necessitating the need for smart planning over the next 20 years and beyond.

HISTORY OF THE REGION

In 1684 William Penn purchased the Perkiomen Watershed from the Lenape Indians. Many of the settlers of the Indian Valley were a collection of Rhineland Germans and Swiss. The Indian Valley got its name from early settlers who noticed that much of present-day Franconia had an abundance of fertile farmfields which were cultivated by the Lenape Indians. The early settlers called these fields "Indianfield."

By 1853 the old paths of the Indians and settlers were intersected by a north -south railroad. With the railroad, boroughs developed quite rapidly with mills, warehouses, businesses, institutions and residences. Souderton and Telford became the hub of the Indian Valley. Many young people migrated off the surrounding farms to look for work in their many mills and factories. Souderton became well known for its clothing mills and cigar factories. By 1909 Harleysville developed as a center of commerce with the opening of the Harleysville Bank and then in 1915 the Harleysville Insurance Company.

After World War II the clothing industry began to decline, and the boroughs began to suffer. However, work was to be found just south of Souderton as some of the larger farm families in the valley began building plants to process their foodstuffs. A cluster of plants as well as an auction center began to evolve through Souderton and into Franconia.

Today the Indian Valley is growing, yet much of the employment base and community traits remain the same. Growth is seen in new housing subdivisions in Franconia and Lower Salford; expanded headquarters operations in Harleysville, Franconia, and Souderton; as well as the growth of institutions within the Indian Valley.

MUNICIPAL OVERVIEW

Franconia

Franconia Township was originally a part of Salford Township, which was established about 1727. However, in 1731, Franconia, which included areas now occupied by Souderton and the Montgomery County portion of Telford, separated from the original Salford Township. The major reason for the split was that the township had grown too populous for one constable to serve.

The name Franconia signifies "the land of the Franks" and is a name derived from an old German Duchy. On a map prepared in 1682, Franconia is called "The Dutch Township," inferring a predominance of German settlers. Descendants of these original settlers are still found today in large numbers in Franconia and the boroughs of Souderton and Telford, which were a part of Franconia until the 1880's and 1890's.

The first settlers found the valley of the Indian Creek under Indian cultivation and consequently named the stream after them. The Indian Creek valley was perhaps more thickly settled with Indians than any other

place in Montgomery County, attested by the vast amount and variety of relics found within the valley. In addition, the northern section of the township was known as "Indianfield," even as late as 1809.

Religious freedom was a major reason for the emigration of people from Europe. The earliest church on record in Franconia was a log church known as Indianfield Lutheran (Little Zion) Church. The log structure was built in 1730. In 1734 there were thirty-four taxables and landholders in Franconia, nearly all German. At that time, there were not more than 175 inhabitants, two grist mills, one tannery, 153 horses, 266 head of cattle and one tavern. By 1882 there were 2,556 inhabitants, seven grist mills, 515 horses, 1,147 cattle and nine taverns.

A large number of the earlier settlers were Mennonite. The Franconia Mennonite Meetinghouse was founded between 1730 and 1750, and is one of the largest Mennonite churches in Pennsylvania. Other churches included the Indian Creek Reformed Church (Christ Church), built of logs in the 1750's. Its founders were immediate descendents of French Huguenots, Hollanders and Palatines. Leidy's Church, built in 1858, had a schoolhouse and graveyard on that site over one hundred years earlier. The schoolhouse was used for public worship until the church was built.

The township villages in 1884 were Franconia Square, near the center, Franconiaville in the southern end of the township, and Souderton and Telford, situated on the line of the railroad in the northeastern portion of the township. Franconia Square (Franconia) and Franconiaville (Elroy) were founded by the opening of hotels, stores, and post offices. Franconia Square was laid out about 1735 on Allentown Road which was one of the main arteries of travel between Philadelphia and the Lehigh Valley. A hotel was built around 1738 and a post office in 1828.

The North Pennsylvania Railroad was completed in 1857. Telford and Souderton, located on the railroad, surpassed both Franconia Square and Franconiaville in growth and soon thereafter were incorporated as separate boroughs.

Morwood is a small village located in the western part of Franconia Township near the east branch of the Perkiomen Creek. In 1888, the name of the post office was changed from Gehman to Morwood. The first syllable was evidently a tribute to Levi P. Morton, vice president of the United States. The second syllable was in recognition of the woods in the area. Earlington, like Franconia and Elroy, is also on Allentown Road. It is located in the northwestern portion of the township. The name "Earlington" was chosen by a committee of the citizens in 1855.

Community life in Franconia underwent radical changes in the early 1900s as the automobile came into common use and roads and highways were improved. By the 1960s village stores were largely replaced by borough stores, which were now accessible due to the automobile. Suburbanization increased rapidly following World War II. Reliance on the railroad decreased with use of the automobile and truck. Industrial, commercial, and residential development extended outward from Philadelphia. Most early residents in Franconia were farmers. At the beginning of the 20th Century many agricultural businesses were created by these farm families. Some of Franconia's biggest employers currently include these food processors: like MOPAC, Pilgrim's Pride (formally Longacre), and Leidy's. Another long time business establishment in Franconia is Bergey's Automobiles Incorporated.

Today, Franconia is managing its growth, retains much its rural character and culture, and maintains much of its manufacturing/processing core.

Lower Salford

The earliest recorded history of Lower Salford Township goes as far back as the Colonial Period. The first recorded settlement in Lower Salford began around 1717. Nearly 3,000 acres was granted to David Powell, an early surveyor. Mr. Powell did not intend to settle on this land, rather they acquired the land for speculative purposes.

By 1727, considerable settlement had occurred in the Township of Salford, part of which is today known as Lower Salford. In March of 1741, The Court of Quarter Sessions divided the original Salford area into the Townships of Lower Salford, Upper Salford, and Marlborough. Later in 1892, Salford Township was organized from the northern portion of Upper Salford Township.

In Lower Salford itself, many of the original settlers were of Germanic descent and members of the "plain sects." The "Schwenkfelders," a religious sect, settled prominently in the Eastern portion of Lower Salford. The first meeting house was built by the Mennonite's by 1728.

Church and mill served as a focus for the community, and a network of roads and trails connected the churches with the rest of the community. The old Manatawney Trail was adapted into a road which was converted into Sumneytown Pike in 1847. Sumneytown Pike became the main artery that linked the Indian Valley with Philadelphia. During the colonial period the many inns and taverns served as administrative posts for the Sumneytown Pike corridor.

In 1875, the Township had three hotels, four general stores, three jewelers, three feed stores, one hardware store, one shoe store, one confectioner and one sewing machine dealer. By 1860, 1,828 people resided in Lower Salford Township creating demand for these goods.

The villages of Lower Salford came to be known by name in a rather simple way. Harleysville came into name because the landlord of the Klein Tavern was Samuel Harley. The Klein Tavern was at the junction of many roads within Lower Salford. The other focal point in Lower Salford was the village of Lederach. Although Lederach was more populated during the colonial period, Harleysville eventually became more populated as the road network grew in the 19th century. Vernfield was named for a son of founder Abraham Nyce.

Manufacturing in Lower Salford began as early as 1726 when Garrett Clemens built the first mill in the Township along the East Branch of the Perkiomen. By the 1880's, textile manufacturing concentrated in Harleysville with two garment factories.

It is essential to recognize Lower Salford's history to understand its future formation. Settled primarily by the plain sects, it has enjoyed a rural life for much of its history. Although industry provided goods for local needs, manufacturing in Lower Salford never could compete with other manufacturing centers to the east because of poor railroad circulation. Consequently, commercial services were modest and geared towards agricultural products. The township now stands in the pattern of residential growth and must plan to accommodate this growth in an efficient manner.

Salford

The Salford lands are a southern part of the Old Goshenhoppen region. The original Salford Township contained some thirty thousand acres, including the present-day townships of Marlborough, Upper Salford, Lower Salford, and Salford. In 1741, the township was considered too large to manage, and following petition, the original Salford Township was split into three smaller townships named Marlborough, Upper Salford, and Lower Salford. In 1879, Upper Salford was divided into two voting districts with the eastern portion voting in Tylersport. This separation became permanent in 1892. The eastern district was named Salford Township while the western district was named Upper Salford Township.

Salford is a rural area with few villages and towns. Tylersport is the largest settlement in the township. It was originally named Cressmanville until a post office was established in 1842. The postmaster renamed the village Tyler's Port in honor of John Tyler who

succeeded William H. Harrison as President. In 1880, the village had 50 houses, a "segar" factory, a Belgian block factory, and 224 inhabitants.

Salford was agrarian, and much of its early commerce supported the needs of farmers. In 1893, four gristmills were active including Whites Mill, Dietz Mill, and the Cowpath Road and Fretz Road mills. These mills were important for grinding wheat and corn but also as places for farmers to socialize. Salford Township never evolved into a commercial center and is still decidedly rural. Today, Salford Township is a bedroom community with most of its residents working elsewhere.

Salford's physical features are scenic, but they also remarkably influence the township's development. Changes in elevation from high points in the Unami Hills along Salford's western border to low points along the Ridge Valley Creek and along its eastern border, add beauty to the township. Salford is known for it boulder fields, including the area locally known as "Devil's Potato Patch," which extend into the township's upper region. These boulder-strewn hillsides discourage farming and development.

Souderton

Souderton was first settled over 200 years ago by immigrant Welsh, giving it the early name "Welshtown." The ground on which the borough now stands is part of the original one thousand-acre tract conveyed to Thomas Fairman in 1708. It was a portion of the original grant of five thousand acres made by William Penn to Thomas Harley in 1682.

The town is named in honor of the Souder family, one of the early families of the area. The stone house that Henry O. Souder built in 1835 still stands at the northwest corner of Main and Chestnut Streets.

Souderton first appeared on a map in 1847 when "Souder's Lumberyard" was marked on the site of the village. In 1888 the borough had a population of 600 people. As Souderton approached the 20th Century, it had its own newspaper, bank, school, churches, railroad depot, hotels, industry, stores and over 100 dwellings. The buildings and infrastructure were unassuming but had all the solid comforts necessary for a "self-denying" people.

For over 100 years prior to the advent of the railroad, this area was almost entirely devoted to agricultural uses. As a result, Souderton developed into a small, farm service oriented village. Once the railroad arrived in 1857, Souderton was in position to serve the agricultural needs of the Indian Valley and North Penn area.

The railroad enabled Souderton to grow not only in industry but also as a community. The textile and cigar making industries brought prosperity and

population to the borough. Some of the big cigar manufactures at this time had factories in Souderton. However by 1920, automation in the cigar industry reduced the need for labor and space and the industry started to decline in Souderton. The textile mills remained prominent in Souderton after the decline of the cigar industry. In the years following World War II, the need for expensive labor in the textile industry was eliminated.

Souderton Borough is becoming increasingly residential as some buildings that were formerly commercial or industrial have been renovated for residential or office use. There are very few tracts of open space left in the borough. Souderton remains in character as an urban center for the Indian Valley.

Telford

In the year 1737, Conrad Detterer purchased the land on which Telford ultimately developed. It included about 120 acres and evolved quite early into a small, farm service oriented village.

Telford was accessible by road and railroad with the completion of County Line Road in 1752. The name Telford, adopted in 1867, was given in recognition of Thomas Telford who was an Englishman known for his roadmaking skills. In 1886, the borough petitioned the Bucks County Court for a borough charter which was granted. However, it was not until 1897 that the Montgomery County Court granted Telford a charter and allowed it to secede from Franconia Township. At the time, Telford (Montgomery County) was known as West Telford. In 1937, the boroughs of Telford and West Telford merged by order of the Governor.

In 1780, the first industry was introduced into the future Telford area when a tannery was founded. However, there was not much activity in Telford until the railroad opened in 1857. As in Souderton, textile and cigar making industries located along the railroad in Telford. Telford depended more on the cigar industry then its neighbor Souderton. Telford was almost completely transformed by the cigar industry. The industry furnished employment and brought investment into the community. The establishment of cigar manufacturing was a prelude to the complete change in orientation of borough industry from local farm processing to the conversion of imported raw materials into finished products to be exported to a regional or national market.

With a growing population many retail stores opened in the 19th and early 20th Century. During the same time, many homes were converted into shops. This created a mix of uses across the borough. This pattern of development still exists today.

Upper Salford

Upper Salford, founded in 1727, is part of the original Salford Township. In 1741, Salford Township split into Marlborough, Upper Salford, Lower Salford, and part of Franconia Township. In 1892, Upper Salford further split into the present day Salford and Upper Salford Townships.

The village of Woxall was originally known as Kroppestettel, which in Pennsylvania Dutch means Crowtown. The village was later named Mechanicsville. By the end of the eighteenth century, the town contained a hotel and restaurant, town hall, shoe shop, wheelwright, and 12 homes. The village kept the name Mechanicsville until 1888 when a post office was established. A new name needed to be selected for the post office because another Pennsylvania town had the same name. After much discussion, residents submitted the name Noxall, "Knocks All," to postal authorities. The name had been read on the side of a bar of a box of soap in the village store. Evidently, they misread the "N" for a "W" and approved the name Woxall for the post office.

The Village of Woxall grew up near the Old Goschenhoppen Church, erected in 1744, where Lutheran and Reformed congregations met. With the arrival of the railroad in 1868, Salfordville, which prospered without railroad or trolley, grew around an old inn. By 1877 it contained a post office, general store, cigar factory, and 19 homes.

The Village of Salfordville was originally situated on a main route between the "upper country" and Philadelphia, from which it was a distant thirty-five miles, and became an early settlement in Montgomery County. This early route was opened in June 1728 and locally passed through Skippack, Lederachsville, and Salfordville on the way to Sumneytown. Along the northeastern side of Old Skippack Road within the township milestones depicting the distances to Philadelphia may still be seen.

Salfordville was a bustling village in the 1700s and 1800s with a thriving market for livestock and farm goods. Surrounded by farms, the small village had two hotels, a one-room schoolhouse, a cigar

factory, a blacksmith livery and a general store. Salfordville was also home to Chirstopher Dock who was an early German educator, artist, and historian. In fact, the Christopher Dock White Oak tree, estimated to be close to 300 years old, was destroyed by a storm and Upper Salford Township residents replanted a White Oak tree in its place with a bronze plaque to mark this historic landmark. Finally, genealogy records indicate an early resident, John Michel Weigel, was born here in 1689.

Other villages include Bergey, known in 1893 as Branchville, and Salford, called Rudy in the early 1900s. These two villages along with Woxall and Salfordville were noted for their general stores that sold a variety of items including fine clocks, furniture, barrel molasses, and quilting thread. Along the Perkiomen Creek, the village of Salford was once known as Salford Station when the railroad still came through the township.

Farming, particularly dairy farming, was once a primary occupation in Upper Salford. The number of dairy farmers declined as milking techniques modernized and herds become larger. Today, open space is used primarily for crop farming.

Spring Mountain, once called Stone Hill, was and is a recreation area for the township and the region. At the end of the 1800s, Solomon K. Grimley established an amusement a park, named after himself, on the west end of the mountain. Only a short walk from the railroad, the park included an observatory, picnic and playground facilities, dance floor for hoedowns, and areas for horseshoes and croquet. For a while it proudly displayed the clock from the former County Courthouse in Norristown. For years the Spring Mountain House was a widely known resort. The park was abandoned when it was sold in 1901. Even with the close of the park, the area continued as a popular summer destination for railroad passengers. Today, Spring Mountain is the only downhill ski area in Montgomery County. Prior to becoming a recreation area, however, the mountain was quarried on a commercial basis for its black granite rock. Many Belgian blocks cut from the quarry were hauled by the Perkiomen Railroad to Philadelphia to pave the city's streets. The name Stone Hill died out when the quarry was abandoned around the 1920s.

Today, most of Upper Salford's residents commute to work in neighboring townships. The township is primarily rural and residential as reflected in it farms, open space, and natural features.

DEMOGRAPHICS

The information presented below summarizes population and housing counts, estimates, and trends for the Indian Valley region. In order to gauge each community's contribution to the regional profile, data is presented for each individual community as well as the overall region. To provide a broader context in which to view the data, comparisons to Montgomery County are made where possible.

The information presented in this chapter draws from the U.S. Census, Montgomery County and Delaware Valley Regional Planning Commission (DVRPC) projections and estimates.

Population

Population Counts and Changes

The overall population in the Indian Valley region has increased since the early twentieth century. Over the last 90 years the region's population, once concentrated in the railroad towns of Telford and Souderton Boroughs, has spread throughout the region. In 1920, 47.8% of the population lived in the boroughs of Souderton and Telford. That percentage peaked 10 years later in 1930 at 51.0%. Since 1940, however it has dramatically declined. It reached a low of 25.4% in 2010. Another indication of the changing growth pattern can be seen in Souderton. Between 1920 and 1980, Souderton had the largest population of any of the region's municipalities. In 1990 Souderton was surpassed by both Franconia and Lower Salford in absolute population. This trend has continued through the past two decades.

Figure 1.1 Population Change 1990-2010

Municipality	**1990**	**2000**	**2010**	**% Change 1990-2000**	**% Change 2000-2010**
Franconia	7,236	11,523	13,064	59.2%	13.4%
Lower Salford	10,735	12,893	14,959	20.1%	16.0%
Salford	2,216	2,363	2,504	6.6%	6.0%
Souderton	5,957	6,730	6,618	13.0%	-1.7%
Telford	4,294	4,680	4,872	9.0%	4.1%
Upper Salford	2,719	3,024	3,299	11.2%	9.1%
Indian Valley	**33,157**	**41,213**	**45,316**	**24.3%**	**10.0%**

Source: U.S. Census

Figure 1.1 shows how the region's population increased between 1990 and 2010. According to the 2010 Census, 62% of the population within the Indian Valley Region is concentrated in Franconia and Lower Salford townships. Census figures indicate that the population of the Indian Valley increased by 4,103 people, or 10%, between 2000 and 2010. The addition of only 4,103 people over the last decade is roughly half the number of people that were added in the 1990s (8,056). This reflects a dramatic slowdown in growth for the region. However, this slowdown was not unique to just the Indian Valley. The County's growth rate for the 1990s was over 10%, but dropped to 6.8% in the first decade of the new century. All of the Indian Valley communities, except Souderton, increased in population between 2000 and 2010. Franconia, which had by far the highest growth rate through the 1990s, only increased its population by 13.4% (1,541 people) over the last decade and actually trailed Lower Salford by several percentage points. Lower Salford added over 2,000 people between 2000 and 2010.

Population Forecasts

Figure 1.2 contains population forecasts conducted by the Delaware Valley Regional Planning Commission (DVRPC). The area is predicted to grow by 16.7% of its 2010 population by 2030. In contrast, Montgomery County as a whole is predicted to increase only about 10%.

Figure 1.2 Population Forecasts 2010—2030

Municipality	Existing	Forecasted		Change					
	2010	2020	2030	2010-2020		2020-2030		2010 - 2030	
Franconia Township	13,064	13,902	16,368	838	6.4%	2,466	17.7%	3,304	25.3%
Lower Salford Township	14,959	15,479	17,291	520	3.5%	1,812	11.7%	2,332	15.6%
Salford Township	2,504	2,697	3,026	193	7.7%	329	12.2%	522	20.8%
Souderton Borough	6,618	6,711	7,036	93	1.4%	325	4.8%	418	6.3%
Telford Borough	4,872	4,963	5,237	91	1.9%	274	5.5%	365	7.5%
Upper Salford Township	3,299	3,461	3,904	162	4.9%	443	12.8%	605	18.3%
Indian Valley	45,316	47,213	52,862	1,897	4.2%	5,649	12.0%	7,546	16.7%
Montgomery County	799,874	842,452	878,158	42,578	5.3%	35,706	4.2%	78,284	9.8%

Source: Delaware Valley Regional Planning Commission

Figure 1.2 shows that all of the Indian Valley communities are expected to have a positive change in the period between 2010 and 2030.

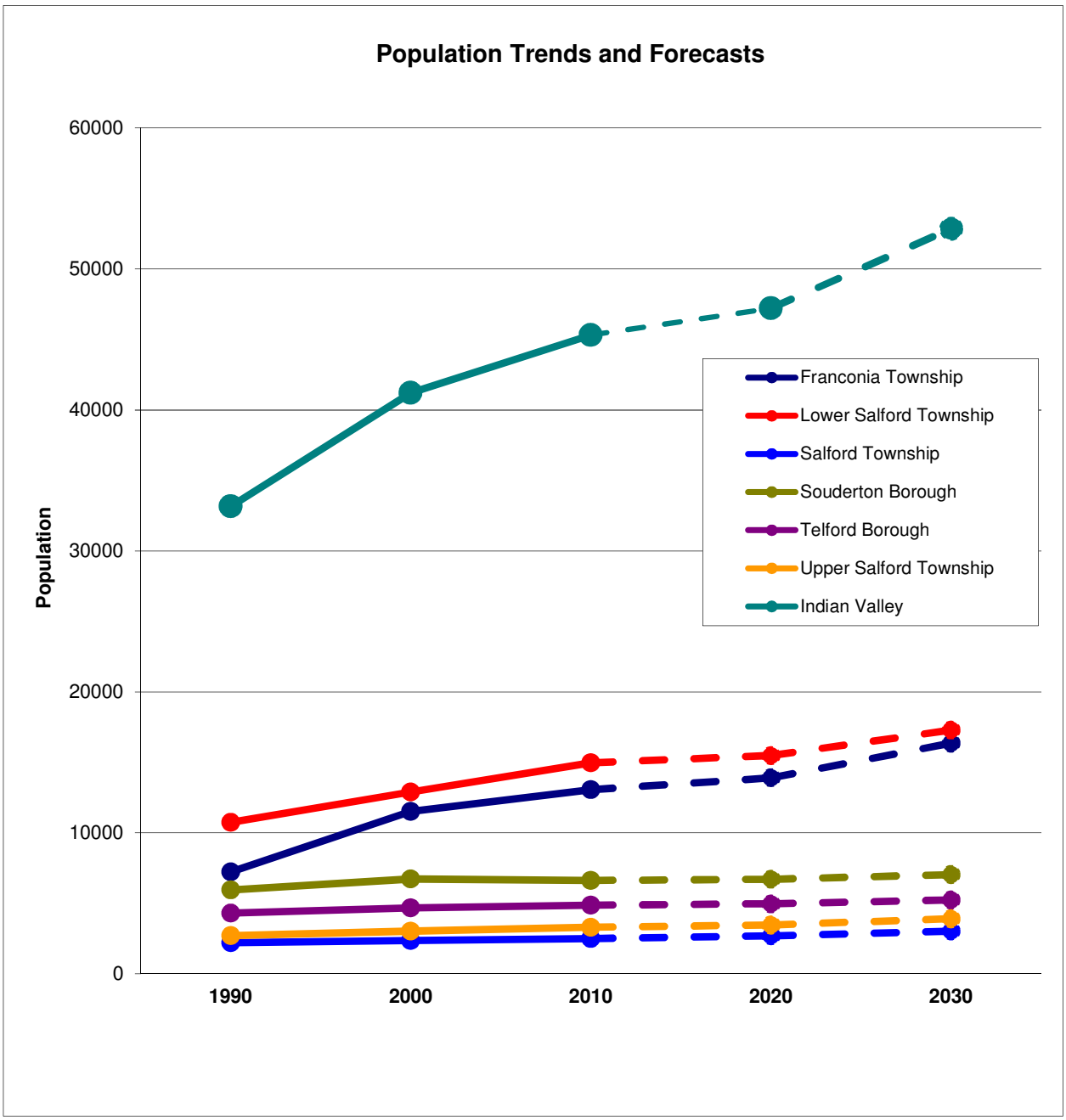
Souderton's population is expected to grow the slowest, but still at about 6% over the next 20 years. Previously, as shown in the 2005 Comprehensive Plan, it was expected to decline by 1.6% over the 20 years from 2000—2020.

Franconia is expected to regain the title as the fastest growing municipality in the Indian Valley region after slowing considerably during the 2000—2010 decade from its population boom decade of 1990—2000. The previous forecast for Franconia was for a 62% increase in the 20 years from 2000—2020, making the current forecast of about 25% much less dramatic.

The other noticeable projected change is for Lower Salford Township, which previously was expected to grow 40% in the 20 years of 2000—2020, but now is expected to grow 15.6%.

In the end, according to these projections, by 2030 the Indian Valley will grow at a rate of about 17% and gain a greater share of Montgomery County's total population, growing from 5.7% to 6%. Figures 1.3 and 1.4 graphically show the change in population trends predicted for the entire region and the individual municipalities in the Indian Valley over the period 1990-2030.

Figure 1.3 Population Trends and Forecasts 1990—2030



Source: Delaware Valley Regional Planning Commission, 2012

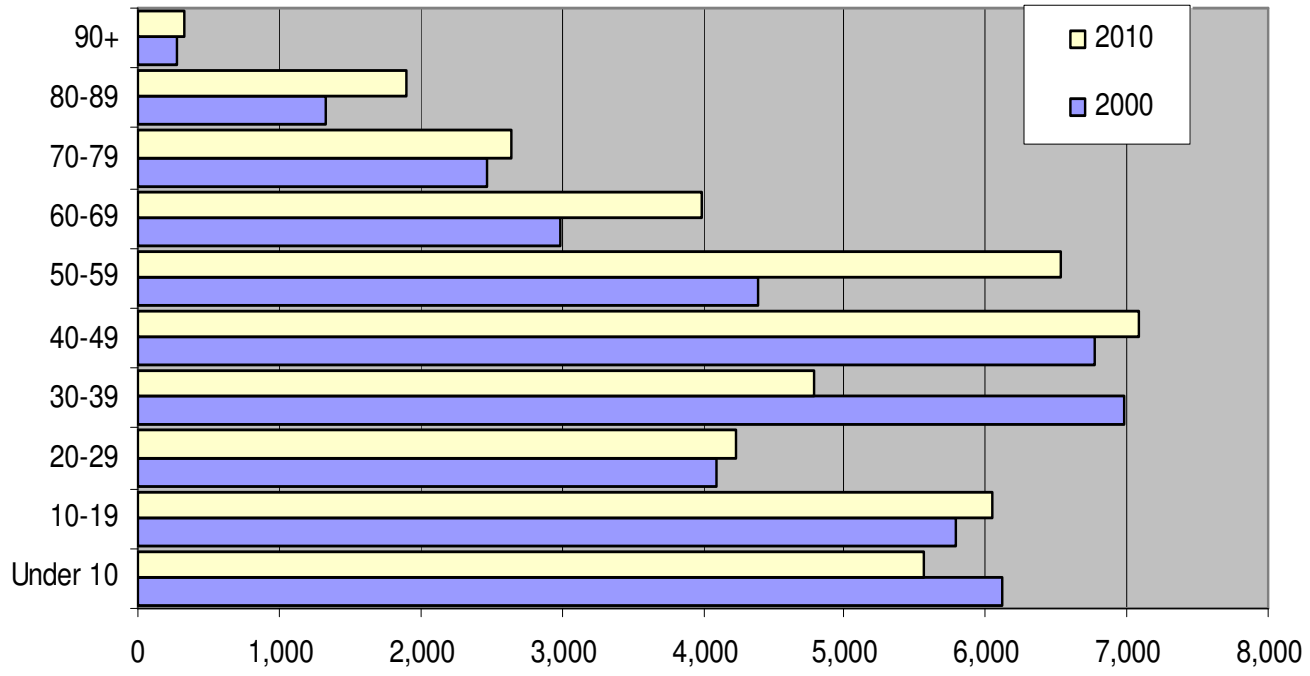
Age Characteristics

As illustrated in Figure 1.4, the Indian Valley Region is becoming older, particularly due to an increase in 50 to 69 year olds and a significant decrease in the 30 to 39 year olds in all the municipalities. However, there are some significant differences between the individual municipalities: Telford is the only one to significantly increase the proportion of older children in its population; Telford and Souderton are the only ones to significantly increase the proportion of 20 to 29 year old young adults. While the older children are not likely to have a choice as to the location of their residence, young adults generally do. Since the region does not have a college or a large enough employment base to retain all the high school graduates, it is normal to expect 20 to 29 year olds to leave the region, but Salford and Telford were somehow able to actually significantly increase the share of young adults in their populations by either losing less of their high school graduates or attracting new young adults or a combination of the two.

On the other end of the age spectrum, while generally increasing their median ages, Souderton and Telford significantly decreased their proportions of 70 to 79 year olds and Telford's proportion of its 80 and over population.

So, a few conclusions could be: 30 to 49 year old parents and their children did not move to the Indian Valley as significantly as they did in the 1990's, and those who were here and whose children began to leave or had left seemed to stay in the Indian Valley. At the same time Telford seemed to attract families with older children as well as young adults while its older residents were leaving, perhaps to Franconia where there are several nice

Figure 1.4 Indian Valley Region Population by Age Group, 2000 and 2010



Source: U.S. Census

retirement communities, which may have also attracted older residents from outside the region as well, or to Lower Salford, which also seemed to keep or attract more older residents.

Household Profile

Nationally, as well as locally, households are changing. In census data a household is defined by the Census Bureau as a person or persons occupying a single housing unit and therefore is important to help understand housing as well as social issues.

Nationally, there has been an overall increase in non-family and single person households since the 1970's. Fragmentation of the family unit through increases in divorce, longer-living widows and widowers, or children leaving home to form their own, often smaller, households has contributed to an increase in the number of households and a decrease in the size of households. The average household size is the number of persons in households divided by the number of occupied housing units. This, too, has seen a national decline as households continue to diversify.

Figure 1.5 shows how quickly or slowly the number of households have been increasing in the region. While all of the municipalities have increased the number of households over the past decade, clearly Lower Salford has done so the most rapidly, nearly double the rate of the next highest rate in Franconia. Lower Salford's population increased at 16%, but its households increased quite a bit faster at 23.2%. This means the households must have been smaller than average, which is indeed the case as shown in Figure 1.6. Other similar comparisons can be made for Salford and Telford where the households increase faster than the population.

Figure 1.5 Total Households, 2000 and 2010

Municipality	2000	2010	Number Change	% Change
Franconia	4,151	4,661	510	12.3%
Lower Salford	4,432	5,460	1,028	23.2%
Salford	807	888	81	10.0%
Souderton	2,635	2,641	6	0.2%
Telford *	1,930	2,038	108	5.6%
Upper Salford	1,053	1,154	101	9.6%
Indian Valley *	15,008	16,842	1,834	12.2%
Montgomery County **	286,098	307,750	21,652	7.6%

* includes the portion of Telford in Bucks County

** does not include the portion of Telford in Bucks County

Source: U.S. Census

The average household size for the rest of the municipalities in the region, and therefore the region itself, also decreased as shown in Figure 1.6., with only Franconia decreasing slower than the county average. One might surmise that smaller households may mean smaller dwelling units, but until recently that has not been the case. Smaller households may mean higher per capita spending, however, and would also have significance for public schools.

For planning purposes it is also important to understand the different types of households in the planning area. A household can be broken down into two categories. A family household is two or more related persons living in a single housing unit,

and a non-family household is occupied by a single person or a group of unrelated persons.

Family Households can be further broken down into 4 categories:

Married Couple With Own Children under 18 — a married couple living together in the dwelling with at least one of their own children (by birth, adoption, or a stepchild), that is under 18 years of age.

Married Couple Without Own Children under 18 — a married couple living together in the dwelling without any children of their own under 18; such as simply the married couple alone, with one or more of their own children over 18, or with one or more persons who are not their children (such as foster children, boarders, or elderly parents, in-laws, or other relatives).

Figure 1.6 Average Household Size Change, 2000 to 2010

Municipality	2000	2010	% Change
Franconia	2.70	2.70	-0.1%
Lower Salford	2.89	2.73	-5.5%
Salford	2.92	2.82	-3.6%
Souderton	2.54	2.50	-1.5%
Telford	2.58	2.33	-9.7%
Upper Salford	2.86	2.82	-1.3%
Indian Valley	**2.70**	**2.65**	**-1.9%**
Montgomery County	*2.54*	*2.53*	*-0.4%*

Source: U.S. Census

Single Parent Family — a parent living together in the dwelling with at least one child of their own under the age of 18, but possibly, in addition to one or more of their own children (birth, step, or adopted), also with one or more persons who are not their own child (such as foster children, boarders, non-married partners, or elderly parents or other relatives).

Other Family — two or more related but unmarried persons living together in the dwelling in a combination not included in the previous categories; such as bothers or sisters or cousins living together, one or more unmarried grandparents with one or more of their own grandchildren, an unmarried aunt or uncle living with a niece or nephew, or an unmarried adult living with an in-law.

Non-family Households can be divided into 2 categories:

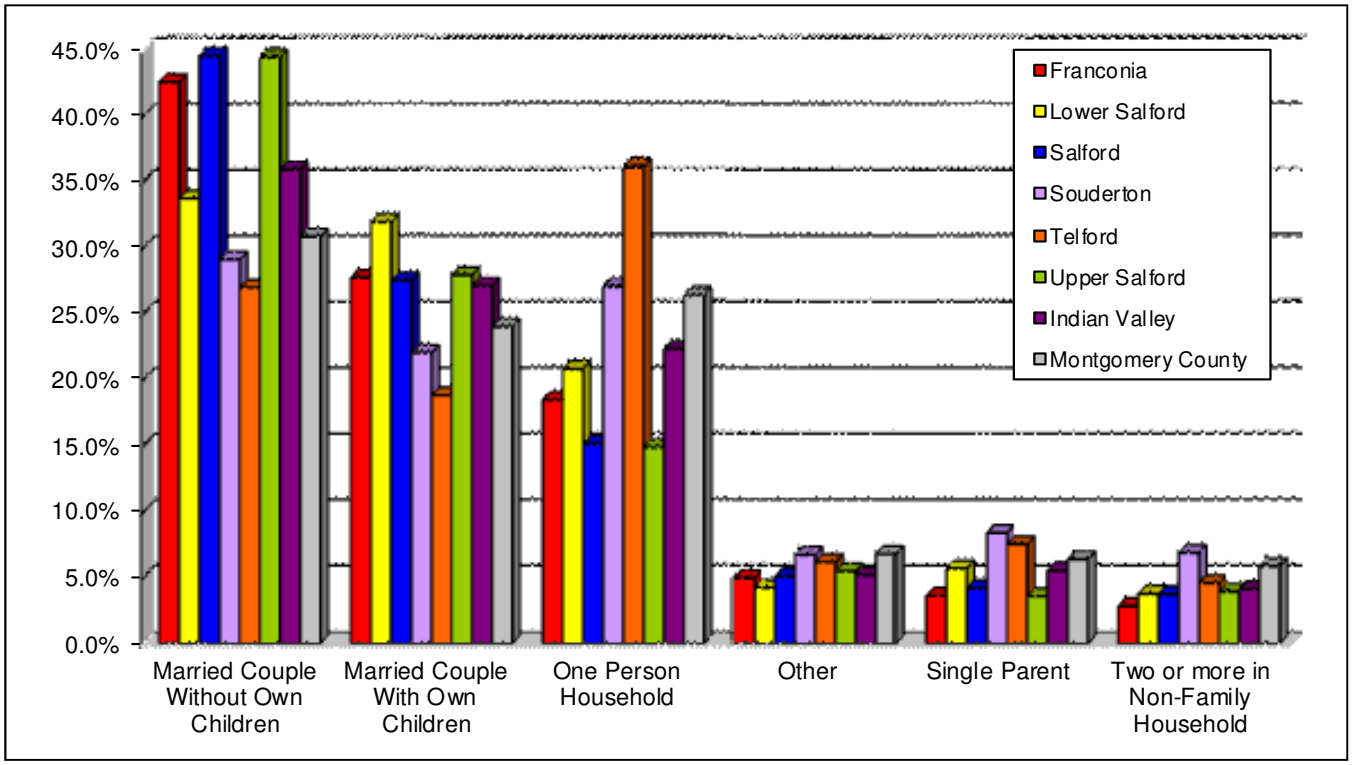
One Person — one person living alone with no relatives and no unrelated persons.

Two or More Person Non-Family — two or more unrelated persons living in the same dwelling. This can include roommates and unmarried couples with no children of either of the partners.

Figure 1.7 provides an overview of the household types in the Indian Valley Region. Notice that for all the municipalities, the region as a whole, and the county, the largest household category is Married Couple Without Own Children (under 18). Married Couples With Own Children (under 18) is second in most municipalities. However, in **Telford** and **Souderton**, as well as for the entire county, Married Couples With Own Children actually falls to the third category behind One Person Households.

This difference was also the case in 2000, but it has become more pronounced this past decade as can be seen in Figures 1.8 and 1.9. The stereotypical suburban family of married parents with children has not been the most prominent type of household in this region in over a decade. One

Figure 1.7 Household Types, 2010



Source: U.S. Census

Person households are also quite prominent in the region as can be seen in Figure 1.7.

Households differed slightly throughout the region as a reflection of other demographic trends such as age of the population (discussed earlier) and housing types (discussed in the next section).

Household Type Changes: Franconia Township

Figure 1.8 shows in Franconia the share of Married Couples Without Own Children was already the largest type of household in 1990 and has grown from 41% of the total households in 1990 to 42.5% in 2010 (but it did decline in the 90's to 40.5% by 2000). That is a growth of only 2 points over 20 years. Meanwhile, the Married Couples With Own Children households decreased rapidly from 37% of the total households in 1990 to 32% in 2000 and now is under 28%, a dramatic decline of almost 10 points in 20 years.

Household Type Changes: Lower Salford Township

Figure 1.8 shows in Lower Salford there is a different story. Here in 1990 Married Couples With Own Children were the largest type of household with 38.7% of all the households. This share increased slightly during the 90's to 39%, but then dropped dramatically more than 7 points to under 32% in just the last 10 years. This is especially significant since this was also a period of overall population growth, not decline. This change was accompanied by changes in two other household types: Married Couples Without Own Children, which grew 3.5 points from 33.3% in 1990 to 33.7% in 2010, and One Person households, which grew over 3 points from 17.7% to 20.8% in the same time period.

Household Type Changes: Salford Township

Figure 1.8 shows in Salford, in 1990, Married With Own Children households were almost 43% of the households, the highest in the region at the time, and 7 points higher than Married Without Own Children in Salford, but by 2010 Married With Children households dropped over 15 points to 27.5%, making it now the lowest of the four townships, and Married Without Children picked up most of that difference by rising almost 9 points from 35.6% in 1990 to 44.5% in 2010, the highest in the region. Almost half of the rest of the difference was made up by One Person households by rising 2.4 points from 12.7% in 1990 to 15.1% in 2010.

Household Type Changes: Souderton Borough

Figures 1.5 and 1.9 show that in Souderton the overall number of households barely increased. However, like all the others, there was a significant drop in Married With Own Children households, and it, along with Telford, also decreased its share of Married Without Own Children. This means it had a net loss of both types of married couples. These losses are offset, of course, by increases in the other categories, primarily Other Family and Single Parent households.

Household Type Changes: Telford Borough

Figure 1.9 shows Telford, as might be expected since it is also a small borough, has had changes in its households similar to Souderton: the overall number of households increased only slightly and less than the previous decade, both types of married couples decreased in both the '90s and the '00s, and the most significant increases in the share of types of households was in the Single Parent Family and Other Family household categories. The most significant characteristic of households in Telford, however, is that One Person households have been the largest household type for decades. Already in 1990 there were more One Person households in Telford than any

Figure 1.8 Household Type: Changes in Share of the Total Number of Households, 1990 to 2010

	Married Couple Without Own Children < 18			Married Couple With Own Children < 18			One Person Household			Other			Single Parent			Two or more in Non-Family Household		
	Share of Municipal Total			Share of Municipal Total			Share of Municipal Total			Share of Municipal Total			Share of Municipal Total			Share of Municipal Total		
Municipality	**1990**	**2000**	**2010**	**1990**	**2000**	**2010**	**1990**	**2000**	**2010**	**1990**	**2000**	**2010**	**1990**	**2000**	**2010**	**1990**	**2000**	**2010**
Franconia	41.1%	40.5%	42.5%	37.3%	31.7%	27.7%	12.9%	18.0%	18.4%	4.1%	3.9%	4.9%	2.9%	3.4%	3.6%	1.7%	2.5%	2.8%
Lower Salford	30.3%	31.1%	33.7%	38.7%	39.0%	31.9%	17.7%	16.1%	20.8%	3.4%	3.8%	4.2%	6.0%	6.1%	5.7%	3.9%	4.0%	3.8%
Salford	35.6%	41.0%	44.5%	42.8%	33.6%	27.5%	12.7%	12.5%	15.1%	4.5%	6.4%	5.1%	2.7%	2.9%	4.2%	1.8%	3.6%	3.7%
Souderton	31.5%	29.4%	29.1%	27.3%	25.7%	22.0%	27.3%	26.4%	27.0%	5.3%	5.1%	6.7%	4.8%	6.8%	8.4%	3.8%	6.6%	6.9%
Telford *	29.4%	28.4%	26.9%	26.6%	22.6%	18.8%	30.9%	33.3%	36.1%	4.5%	4.4%	6.1%	4.8%	6.7%	7.5%	3.9%	4.5%	4.6%
Upper Salford	37.0%	39.3%	44.4%	39.7%	34.9%	27.9%	14.5%	15.1%	14.8%	3.8%	3.5%	5.5%	3.2%	2.3%	3.6%	1.7%	4.8%	3.9%
Indian Valley *	33.4%	34.2%	35.9%	34.7%	31.9%	27.1%	20.0%	20.4%	22.2%	4.2%	4.2%	5.2%	4.6%	5.1%	5.5%	3.1%	4.1%	4.1%
*Montgomery County ** *	33.0%	31.0%	30.8%	27.0%	26.3%	24.0%	24.6%	25.6%	26.3%	5.8%	5.7%	6.8%	5.2%	5.7%	6.4%	4.4%	5.3%	5.8%

* includes the portion of Telford in Bucks County

** does not include the portion of Telford in Bucks County

Source: U.S. Census

Figure 1.9 Household Type: Changes in Number of Households, 1990 to 2010

Municipality	Total Households		Married Couple Without Own Children < 18		Married Couple With Own Children < 18		One Person Household		Other Family		Single Parent		Two or more in Non-Family Household	
	% Change in Number of Households		% Change in Number of Households		% Change in Number of Households		% Change in Number of Households		% Change in Number of Households		% Change in Number of Households		% Change in Number of Households	
	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010	1990 - 2000	2000 - 2010
Franconia	**77.2%**	12.3%	**74.5%**	17.8%	**50.6%**	-1.8%	**148.0%**	14.7%	**69.5%**	**42.9%**	**105.9%**	20.0%	**153.7%**	**26.0%**
Lower Salford	19.2%	**23.2%**	**22.4%**	**33.6%**	**20.1%**	0.9%	8.0%	**59.4%**	**32.3%**	**36.3%**	**21.0%**	14.0%	**22.9%**	15.8%
Salford	13.5%	10.0%	**30.8%**	19.3%	-10.9%	-10.0%	12.2%	**32.7%**	**62.5%**	-13.5%	**21.1%**	**60.9%**	**123.1%**	13.8%
Souderton	11.7%	0.2%	4.3%	-0.9%	5.0%	-14.2%	8.2%	2.4%	7.2%	**32.1%**	**57.9%**	**22.8%**	**94.4%**	4.6%
Telford *	13.7%	5.6%	10.0%	0.0%	-3.1%	-12.4%	**22.5%**	14.3%	11.8%	**47.1%**	**60.5%**	17.7%	**30.3%**	8.1%
Upper Salford	17.8%	9.6%	**25.1%**	**23.7%**	3.7%	-12.5%	**22.3%**	7.5%	8.8%	**70.3%**	-17.2%	**70.8%**	**240.0%**	-11.8%
Indian Valley *	**28.0%**	12.2%	**31.0%**	17.9%	17.9%	-4.8%	**30.3%**	**22.5%**	**30.3%**	**36.4%**	**43.6%**	**21.0%**	**68.5%**	11.0%
*Montgomery County **	12.2%	7.6%	5.3%	7.0%	9.0%	-1.8%	16.8%	10.5%	11.2%	**26.5%**	**24.7%**	19.0%	**35.5%**	17.5%

* includes the portion of Telford in Bucks County

** does not include the portion of Telford in Bucks County

Source: U.S. Census

other household type (30.9%) — and that share has been increasing and was in 2010, at 36.1%, almost double the share of Married Couples With Children (18.8%). This dramatic difference is obvious in Figure 1.8. Meanwhile, Single Parent Family households increased significantly from 4.8% of the households in the borough in 1990 to 7.5% in 2010. Other Family households increased from 4.5% of the households in the borough in 1990 to 6.1% in 2010, with a 47% increase in the number of Other Family households between 2000 and 2010, the most significant change in households in Telford in this past decade.

It seems **both boroughs**, and especially Telford, are more attractive to younger adults and singles than the other municipalities. Looking at age groups in the region (Figure 1.4), from 2000 to 2010 **Telford** had the most dramatic increase in its share of 10 to 19 year olds and 20 to 29 year olds, resulting in tying **Souderton** for the highest share in the region of 20 to 29 year olds in its municipality. Typically, many of this age group are not married, but are out on their own, so increases in non-parent/child relatives living together (Other Family households) could mostly explain this age change, especially since Telford has a significant net gain in the people who were 10 to 19 years old in 2000 (10.9% of the population) and are now 20 to 29 in 2010 (14.7% of the population).

Household Type Changes: Upper Salford Township

Figure 1.5 shows Upper Salford with a total household growth rate from 2000 to 2010 of 9.6% which is lower than the regional average, and yet, in that same time period had the second highest growth rate (Figure 1.9) in Married Without Own Children in the region (23.7%), the second highest decline in Married With Own Children households in the region (-12.5%), the highest and quite dramatic growth rates in Single Parent Family (70.8%) and Other Family (70.3%) households.

These changes combined with the data about age groups in Figure 1.4 (increases in the 50 to 69 age group and the decreases in the 30 to 49 and under 10 age groups), lead to the possibility that most of these changes were the result of: fewer young married couples with young children moving to the township or more of them leaving (although some older children did move to the township, 12 of which were at the New Life facility); empty nesters aging in place; divorced or widowed parents of older children moving to the township; or people moving in with relatives due to divorce, separation, or the loss of their home elsewhere.

Household Type Changes: Indian Valley Region

As a whole, the Indian Valley Region can be described in a similar way using the data in Figures 1.9 and 1.10. While the total number of households grew 28% in the 1990s, which is more than double the county's average rate (Figure 1.9), that growth in the total number of households slowed to 12.2% in the 2000s. At the same time, the largest share of the households in the region, Married Without Own Children households, increased that share 0.8 points in the 1990s from 33.4% of the total households in the region in 1990 to 34.2% in 2000 and then further increased 1.7 points in the 2000s to 35.9% in 2010 (Figure 1.9). Meanwhile, during the 2000s while the total number of households in the region was growing at 12.2%, Married With Own Children households actually decreased in number by 4.8%, cutting its share of the total households a dramatic 4.8 percentage points in only 10 years from 31.9% in 2000 to 27.1% in 2010. The other household types, however, increased their share of the households during these two decades. Regionally, One Person households now are approaching the same share of households as Married With Own Children since it has increased its share from 20% in 1990 to 20.4% in 2000 and most recently, at a 22.5% growth rate (Figure 1.9) to 22.2 % in 2010 (Figure 1.8), less than 5 points behind Married With Own Children. The three other household types account for the smallest shares of the total households, but two of them are growing faster than the county average. The Other Family households grew in number by 30.3% in the 1990s and 36.4% in the 2000s while the Single Parents grew 43.6% in the '90s and 21% in the '00s (Figure 1.9). In 2010 they account for 5.2% and 5.5% of the households, respectively. The smallest household group in the region is Two or More in a Non-Family Household, with only 4.1% of the households in 2000 and 2010 (Figure 1.8). While this group grew at the fastest

rate during the '90s, its growth slowed to only 11% in the '00s (Figure 1.9), almost matching the region's total household growth rate.

Considering the age group changes (Figure 1.4) and giving weight to the overall population distribution in the region (**Lower Salford** and **Franconia** having the most population, Figure 1.3) discussed previously, these household changes might be understood to be a result of a population that is generally aging in place, losing its children upon graduation from high school to places outside the region, losing and not replacing or adding new young married couples with children, but adding retired couples or retired singles as well as young singles in the boroughs.

Educational Attainment

It is important to understand the level of education of the region's residents and also identify any trends. Not only is education directly related to income, in today's economy, workers and the skills they bring are more important than ever--especially for higher-paying jobs. The national economy no longer revolves around natural resources and market location; instead, it often depends on people – what they can do, what creative ideas they generate, and how smart they are. The Indian Valley's diverse, dynamic, and modern economy depends on the skills, education, and training of its workforce. Fortunately, the region's resident workforce is fairly well-educated and highly-skilled, and has improved over time. From 2000 to 2006-2010 there was a 21.5% increase in the proportion of the Indian Valley residents over 24 years of age that have attained a Bachelor, Post Graduate or Professional Degree. Similarly, the proportion of those without a high school diploma has decreased by 34.7% during the same time.

While the educational attainment of the region has been increasing, the region could still improve considerably. Compared to all the municipalities in the 2-county (Bucks and Montgomery Counties) area, see Figures 1.10 and 1.11, the educational attainment of the residents of the Indian Valley Region municipalities generally find themselves in the bottom or middle third.

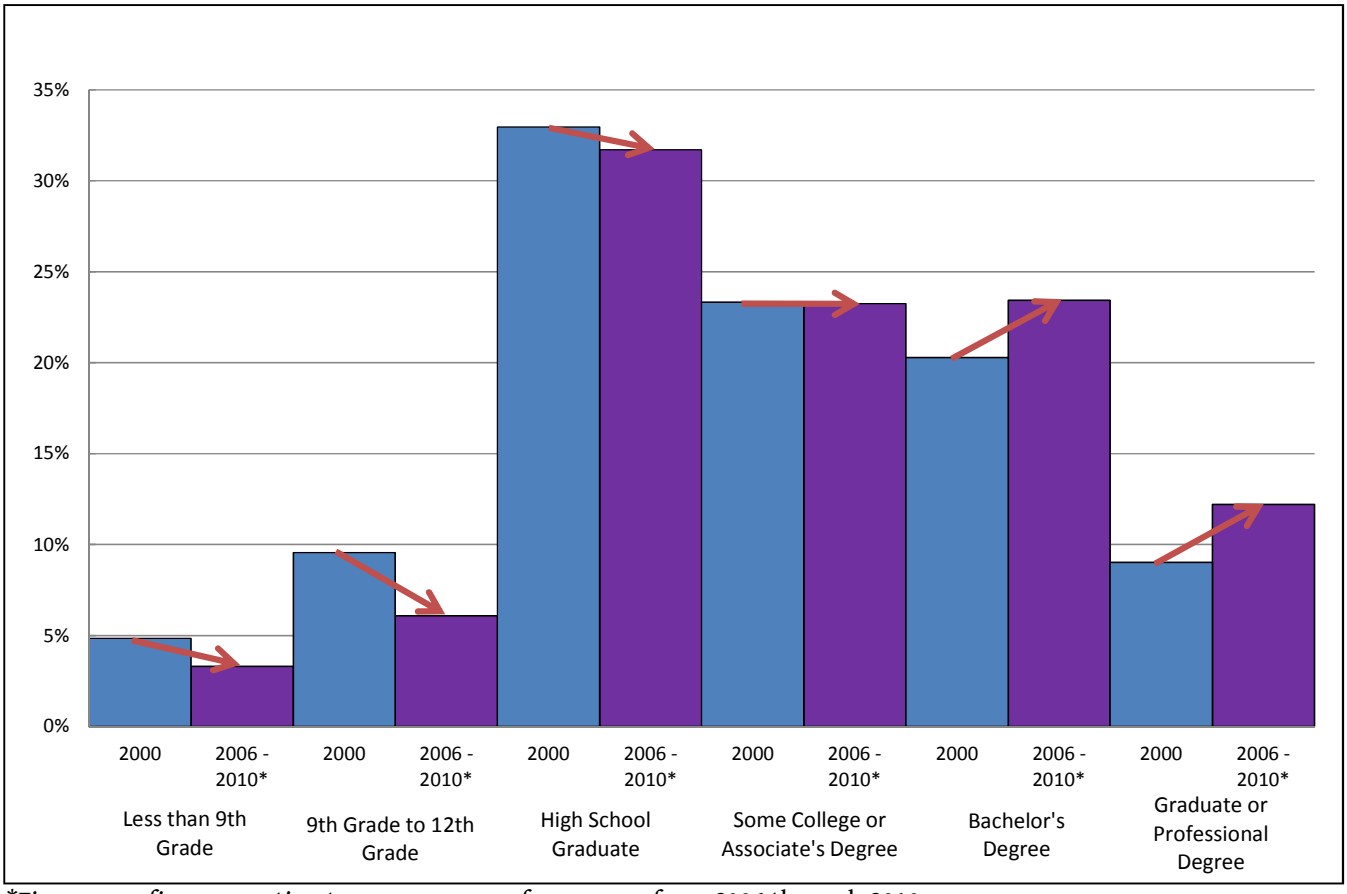
Figure: 1.10: Educational Attainment, Two-County Ranks

2-County Rank (out of 116)	Municipality	% of Pop. 25 Yrs and above w/ HS Diploma		2-County Rank (out of 116)	Municipality	% of Pop. 25 Yrs and above w/ Bach. Degree
32	Salford	97.50%		30	Lower Salford	51.00%
43	Lower Salford	96.90%		51	Telford, Bucks	41.90%
45	Upper Salford	96.80%		54	Franconia	41.20%
48	Franconia	96.50%		59	Upper Salford	38.10%
89	Telford, Bucks	93.40%		69	Salford	33.80%
108	Souderton	92.60%		77	Souderton	31.50%
109	Telford, Montco	88.70%		89	Telford, Montco	27.90%

Source: U.S. Census

This information is particularly useful to understand employment opportunities for the region's residents and for the creation, expansion, or relocation of businesses in or into the region that would be looking to hire people with higher education. These types of jobs are often, but not always, higher paying, longer lasting, and more flexible than jobs which do not require higher education.

*Figure 1.11: Educational Attainment, Indian Valley, 2000 and 2006 through 2010**



*Figures are five year estimates—an average of responses from 2006 through 2010.

Source: U.S. Census

Higher wages and more stable jobs allow people to pay more for homes, increasing home values.

Since the Indian Valley region does not have a school of higher education, and looking back at the age demographics (Figure 1.5) which indicates young adults leave the region, the region must actively work to recruit more educated workers in order to continue to see an expanding economy.

Labor Force

The distribution of the labor force varied throughout the region and the County in the five year period from 2006 to 2010. The industries of manufacturing and educational services, health care, and social assistance made up the largest chunks of the labor force in the Indian Valley. These industries combined to employ 36.9% of the working force 16 years of age and older. Manufacturing was the biggest employer of Indian Valley residents, while the educational services, health care, and social assistance industry was the leading employer for the County labor force. Within the Indian Valley, the largest percentage of the labor force was employed in manufacturing in Salford, Upper Salford, and Telford. The educational services, health care, and social assistance industry was the largest employer in Franconia, Lower Salford, and Souderton.

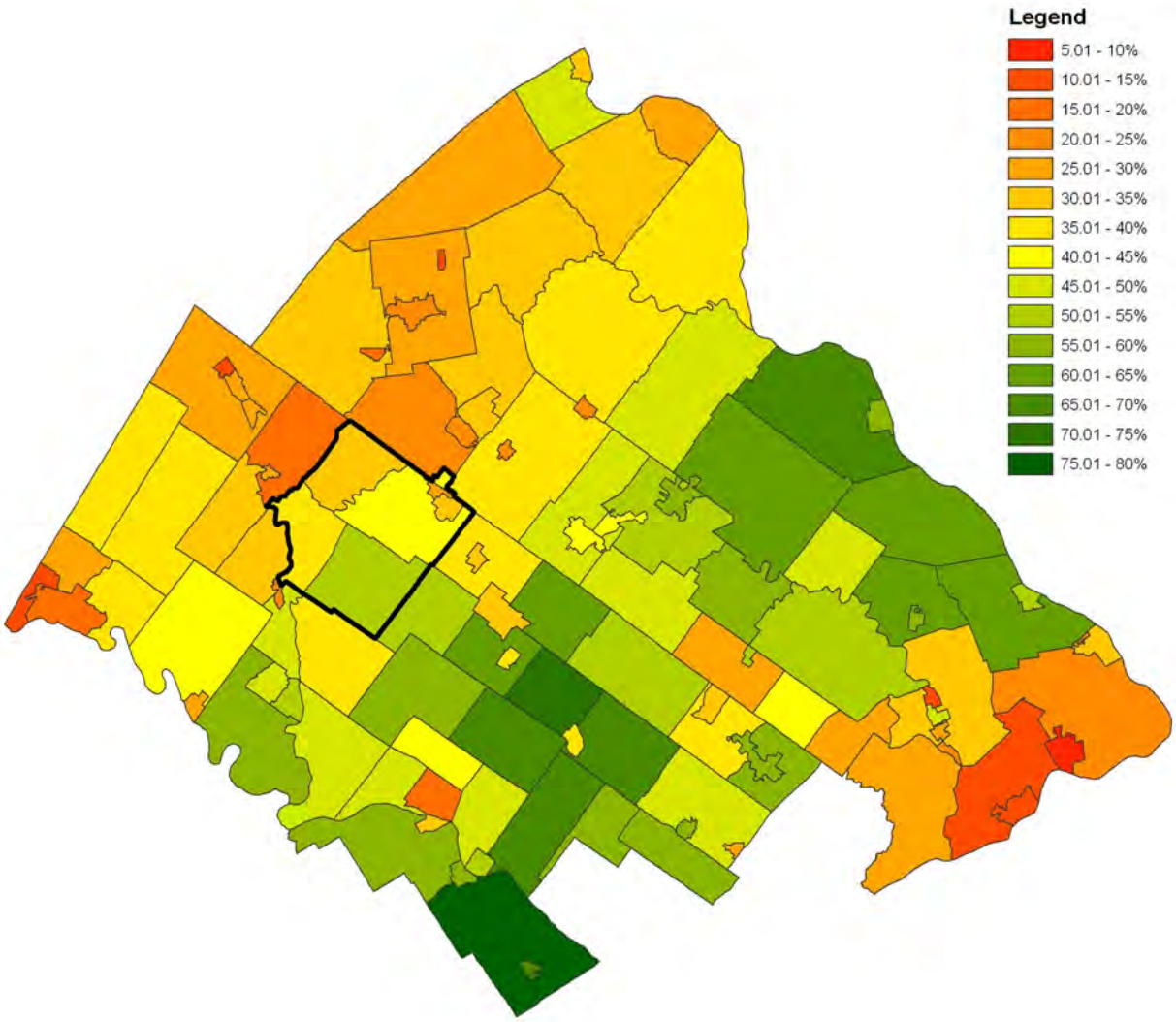
Median Income

The calculated weighted median household income of the Indian Valley Region was slightly higher than the Montgomery County median value (Figure 1.13). The median incomes of the four townships were above the weighted median value of the region as well as the County median value. However, there was a noticeable discrepancy in the two boroughs. In Souderton and Telford, the median incomes were $24,983 and $20,898 less than the weighted regional median, respectively. This is a larger discrepancy than in 2000, when the boroughs were $13,798 and $15,784 below the median of the region. This can be attributed to the fact that incomes in the townships have risen more quickly than incomes in the boroughs over the past 10 years and the boroughs have more one-person households than the townships.

Per Capita Income

Despite the fact that the weighted median of the region is higher than Montgomery County's median household income, all six municipalities have lower per capita incomes than the county as a whole. Per capita income is

Figure 1.12: Educational Attainment, Bachelor Degree or higher, 2006 through 2010*



* Figures are 5 year estimates - an average of responses in 2006 through 2010.

*Figure 1.13: Median Household and Per Capita Income, 2006 through 2010**

Municipality	Median Household Income	Per Capita Income
Franconia Township	$80,533	$34,682
Lower Salford Township	$92,589	$40,869
Upper Salford Township	$89,432	$34,387
Salford Township	$85,602	$36,503
Telford Borough	$57,335	$33,038
Souderton Borough	$53,250	$27,513
Indian Valley	$78,233	$35,580
Montgomery County	$75,448	$38,792

Source: U.S. Census Bureau

* Figures are 5 year estimates - an average of responses in 2006 through 2010.

the total income of a municipality divided by that municipality's total population. Therefore, the lower per capita incomes in the Indian Valley is due to the fact that all four townships in the region have a larger average household size than the county. Since household size in the Indian Valley Region has been falling at a faster rate than Montgomery County as a whole, per capita income should increase in the region as the median household income also continues to increase in the future.

Housing

In what types of housing do the people of the Indian Valley Region live? The character of the housing in the Indian Valley Region is described in the following sections using data and making projections about: Housing Units and Types, Housing Tenure, Housing Vacancy, Median Housing Value and Sales Prices, and Median Gross Rent. In order to gauge each community's contribution to the regional profile, data is presented for each individual community as well as the overall region. To provide a broader context in which to view the data, comparisons to Montgomery County are made where possible.

Housing Units and Types

As the overall population in the Indian Valley region has increased since the early twentieth century, so, too has the housing. Over the last 90 years the region's population and housing, once concentrated in the railroad towns of Telford and Souderton Boroughs, has spread throughout the region.

By 2010, the entire Indian Valley had 16,943 housing units. Figure 1.15 illustrates that single-family detached housing was the most prevalent type of housing structure, followed by single-family attached which consists of townhomes and rowhouses. Regarding Pennsylvania's "fair share" housing requirement, courts have ruled in cases involving Warwick Township, Marshall Township, and Upper Southampton Township that 2.9%, 2.7% and 3.5%, respectively, of land area zoned for high density housing is not considered exclusionary. Data from a 2010 Fair Share Analysis for the Indian

*Figure 1.14: Types of Housing Units, 2006 through 2010**

Municipality	Total Housing Units	Single-Family Detached	Single-Family Attached	2-4 Units	5+ Units	Mobile Homes
Franconia	4,741	2,888	1,105	294	249	192
Lower Salford	5,403	3,439	1,078	337	537	12
Salford	951	905	12	34	0	0
Upper Salford	1,057	993	40	15	0	9
Souderton	2,803	1,112	673	522	496	0
Telford*	1,988	977	328	250	433	0
Indian Valley*	16,943	10,314	3,236	1,452	1,715	213
Montgomery County**	322,452	178,483	63,112	23,829	53,875	3,053

Source: U.S. Census Bureau

Figures are 5 year estimates - an average of responses in 2006 through 2010.

* Includes the portion of Telford in Bucks County.
**Does not include the portion of Telford in Bucks County.

Valley shows that the region has 8.7% of its gross area and 9.8% of its residential area zoned as high density residential, putting Indian Valley well above those townships.

Figure 1.15 shows that the region's housing type distribution is similar to that of the County. The region has a slightly higher percentage of single-family detached housing than the County. Salford and Upper Salford have the highest concentrations of single-family detached housing, while Souderton and Telford have the highest concentrations of multi-family. The two boroughs contain 53.7% of the Indian Valley's multi-family housing, up from 52.9% in 2000.

Housing Tenure

The housing tenure pattern from the 2010 U.S. Census (Figure 1.16) indicates that the majority of residents in the region owned their homes. The percentage of homeowners decreased slightly over the past decade but the Indian Valley's owner-occupied percentage remained slightly higher than the county as a whole. In the Indian Valley 74.8% owned their homes and 25.2% rented, compared to 73.1% who owned and 26.9% who rented in Montgomery County. However, much greater variations occurred within the individual municipalities. Renter occupancy rates ranged from 10.4% to 43.6%. The rates were highest in Souderton and Telford where the renter occupancy rates were above 40%. Owner occupancy rates ranged from 56.4% to 89.6%. Franconia, Salford, and Upper Salford all had owner occupancy rates above 80%. The percentage of owner-occupied homes decreased in all municipalities except Franconia and Upper Salford, which saw 1.7 and 1.2% increases respectively.

Vacancy

Figure 1.16 also shows the number of vacant units in the region. Overall, the Indian Valley had a 3.6% vacancy rate, an increase from 2.3% in 2000. Salford had the lowest vacancy rate at 0.9% and the two boroughs tied for the highest vacancy rate at 4.2%. Every municipality was below the Montgomery County rate of 5.5%.

Median Housing Sales Values

Sales prices in the region varied between the different municipalities over the past decade. In 2000 the region as a whole had a median sales price of $172,200 and by 2011 that had risen to $259,900; a 51% increase. However, prices did not rise linearly over the 11 year period. In 2007 the median sales price was $302,075, a full 14% higher than in 2011. Similar patterns were observed throughout the county, with median sales prices of $158,600, $278,000, and $260,000 in 2000, 2007, and 2011, respectively.

In individual municipalities of the Indian Valley median sales prices ranged from $346,500 (Lower Salford) to $198,000 (Telford). Souderton ($201,250), Upper Salford ($256,000), Salford ($270,000), and Franconia ($273,000) all fell in between those two extremes. The difference between the more affordable boroughs and the more expensive townships is likely due to the presence of more multi-family and single-family attached housing in the boroughs. In the period from 2000 to 2007 Upper Salford saw the greatest increase in median sales prices (90.7%), but also saw the greatest decrease in the period between 2007 and 2011 (29.9%). Overall, Lower Salford saw the greatest appreciation in median sales prices over the eleven year period (78.2%).

Median Gross Rent

Gross rent, which is defined as contract rent plus utilities, varied significantly through the municipalities, the region and the County, according the 2006-2010 five-year estimates from the American Community

Figure 1.15: Housing Type Percentages, 2006 through 2010*

Municipality	Single-Family Detached	Single-Family Attached	Multi-Family	Mobile Homes
Franconia	60.9%	23.3%	11.5%	4.0%
Lower Salford	63.6%	20.0%	16.2%	0.2%
Salford	95.2%	1.3%	3.6%	0.0%
Upper Salford	93.9%	3.8%	1.4%	0.9%
Souderton	39.7%	24.0%	36.3%	0.0%
Telford	49.1%	16.5%	34.4%	0.0%
Indian Valley	60.9%	19.1%	18.7%	1.3%
Montgomery County	55.4%	19.6%	24.1%	0.9%

Source: U.S. Census Bureau

* Figures are 5 year estimates - an average of responses in 2006 through 2010.

*Figure 1.16: Housing Tenure, 2006 through 2010**

Municipality	Occupied		Vacant	Total Housing Units
	Owner	Renter		
Franconia	84.3%	15.7%	0.5%	4,741
Lower Salford	75.5%	24.5%	2.4%	5,403
Salford	93.2%	6.8%	3.8%	951
Upper Salford	87.3%	12.7%	1.3%	1,057
Souderton	62.2%	37.8%	2.5%	2,803
Telford*	64.8%	35.2%	2.5%	1,988
Indian Valley*	76.3%	23.7%	1.9%	16,943
Montgomery County**	74.2%	25.8%	4.9%	322,452

Source: U.S. Census Bureau

Figures are 5 year estimates - an average of responses in 2006 through 2010.

* Includes the portion of Telford in Bucks County.
**Does not include the portion of Telford in Bucks County.

Survey. Within the individual communities, Telford had the lowest median gross rent at $721. Upper Salford had the highest median gross rent with $1,247. Franconia ($1,125) was also higher than the Montgomery County median of $1,028. Lower Salford ($1,018), Salford ($843), and Souderton ($776) all joined Telford, falling below the countywide median of $1,028. Comparing median gross rents to ten years ago, rents in Telford and Souderton actually fell (7.4% and 3.2%, respectively). Rents in the townships all rose, including monumental 49.5% increase in Upper Salford, from $834 in 2000 to the current $1,125. All comparisons are made in 2010 adjusted dollars.

Age Restricted and Assisted Living

Many of the demographic changes in the Indian Valley region have been facilitated by the construction of age restricted housing and assisted living facilities. Over the past decade, and especially in the last few years, a larger percentage of individuals have chosen to "age in place," meaning that they choose to stay in their community after retirement instead of retiring elsewhere. Figures 1.17 and 1.18 show both age-restricted and assisted living facilities that have made it possible for more Indian Valley residents to age in place. Age restricted housing developments within the region are clustered in Franconia and Lower Salford, with one also located in Souderton. Assisted living facilities are located in Lower Salford, Telford, and Souderton. If current demographic trends continue there will be increased demand for such communities in the next few decades.

Figure 1.17: Age Restricted Independent Living Developments, 2012

Municipality	Development Name	Location	Acres	Total Units	SFD[2]	SFA[2]	MF[2]	MH[2]	Year Built	Notes[3]
Franconia	Harrington Village	Leidy Road, north of Cowpath Rd	28.5	120		120			2005-2006	
Franconia	Hidden Springs	Cherry Lane, south of County Line Rd	50.75	208				208	1990	
Franconia	Indian Valley Greenes	Cowpath Rd and Morwood Rd	70.22	96		96			2005-2006	
Franconia	Kingsfield	Cowpath Rd, south of Green St	27	66	66				2000-2002	
Franconia	Lion's Gate 1 and 2	W. Broad St, north of Cowpath Rd	54	156		156			1997-2000	
Franconia	Peter Becker Community	Yoder Rd and Maple Rd	53.5	343		343			1971, 1991, 2007	CCRC
Franconia	Souderton Mennonite Homes	Summit Street and Colonial Drive	27.12	198		31	167		1980	CCRC
Lower Salford	Arbour Square	695 Main Street	20	146			146		2006	
Lower Salford	Parkview at Oakcrest	Oak Drive and Route 113	8.68	100			100		2001	Income Restricted
Lower Salford	Salford Mill	Sumneytown Pike at Ruth Rd	8.6	40		40			2000-2001	
Lower Salford	Valley Manor	350 Broad St	3.21	40			40		1983	Income Restricted
Lower Salford	Wilshyre Village	West Broad St, north of Oak Dr	9.9	40		40			2002-2003	
Souderton	Valley Vista Apartments	36 South County Line Rd	1.35	100			100		1978	Income Restricted

Source: Montgomery County Planning Commission, Montgomery County Board of Assessment Appeals

(1) Age restricted housing includes units in developments where a legal restriction requires either 1) that all residents are 62 years of age or older or 2) at least one person (per household) is age 55 or older lives in at least 80% of the development's occupied units.

(2) Type of housing unit(s) in the development:

SFD (single-family detached) - Housing units which stand alone on a lot and do not share any party walls.

SFA (single-family attached) - Housing units in which two or more units share a vertical party wall but have individual entries into the units, frequently with common open spaces.

MF (multifamily) - Housing developments that consist of one (or more) larger apartment-style buildings, with common entries that serve the buildings' multiple dwelling units.

MH (mobile home) - A movable dwelling designed to be towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation.

(3) Additional information about each development:

CCRC (Continuing Care Retirement Community) - A facility which typically offers a variety of independent living arrangements for residents, together with medical and nursing services, full central dining accommodations, and educational, recreational, and social activities for those who wish to partake of them.

Figure 1.18: Assisted Living Facilities, 2012

Municipality	Facility Name	Location	Capacity	Number of Residents(1)	Type of Operation
Lower Salford	Birches at Arbour Square	691 Main Street Harleysville	85	80	Profit
Lower Salford	Peter Becker Community	800 Maple Avenue Harleysville	47	34	Non-Profit
Souderton	Souderton Mennonite Homes	207 West Summit Street Souderton	154	104	Non-Profit
Telford	Lutheran Community at Telford	12 Lutheran Home Drive Telford	125	63	Non-Profit

Source: Pennsylvania Department of Public Welfare

(1) Latest data available. All data is from 2012.

Conclusions

The following summarizes the major demographic trends presented in this section .

Population

The region had a total population of 45,316 in 2010. This represented a steady increase throughout the 20th century and into the first decade of this century. It is expected that the population of the Indian Valley will reach 52,862 by 2030. Population trends in the region indicate that as the population grows, it is also becoming more decentralized. Trends and projections show that the population will continue to grow at a much slower pace in Telford and Souderton than in the townships.

Age Composition

The 2010 age profile of the region showed that the region's population seems to be aging in place. The 30-39 age grouping, saw a large drop, while the number of residents who are 40+ saw a large increase. Some areas of the region are retaining young people though, most notably Souderton and Telford. This contributed to the slight increase is the 20-29 age grouping over the past decade.

Households and Housing Units.

Changes in household composition have impacted the composition of housing structures. Household size has decreased and is expected to continue to decrease. The average household size has steadily decreased in the region dropping from 3.3 in 1970 to 2.65 in 2010. This is reflected in the available housing stock. Single-family detached housing units have declined as a percentage of total units and single-family attached have risen. Likewise, the percentage of homeowners has dropped as renters have increased. Traditionally, the boroughs have had a greater concentration of renters than other Indian Valley communities. More recently, this has started to change as Lower Salford and Franconia have become further developed with multiple housing types, specifically single-family attached and multi-family housing units.

Education and Labor Force.

The 2000 educational attainment levels in the region corresponded with the agriculture and manufacturing influence of the labor force at that time. 47.4% of the region's population had a high school diploma or less while 43.6% had some college or a degree. By the time the 2006-2010 data was collected, the number of residents 25 years or older with at least some college swelled to 58.9%. These numbers are expected to continue to increase as development of the region continues. In 2000, manufacturing was the biggest employer in the region at 23.0% followed by educational services at 17.3%. The 2006-2010 data show that manufacturing fell to 17.7% and educational services rose to 19.2%. Though still an important part of the Indian Valley economy, manufacturing will likely continue to decrease over the coming decade and beyond.

Income, Housing Value and Gross Rent.

The 2006-2010 regional median of municipal median incomes in the Indian Valley was $83,068 and was higher than that of the County. Souderton and Telford had significantly lower median incomes than the four townships. The regional median housing sales price in 2011 ($259,900) was barely lower than that of the County as a whole, while the values in the boroughs were significantly lower. In addition, there was almost a $100 difference between the regional median of individual municipal gross rents and the County median according to the 2006-2010 data.

CHAPTER 2

EXISTING LAND USE

Introduction

This chapter focuses on the types and amounts of existing land uses within the Indian Valley Region and provides a "snapshot" of the region's existing characteristics. This snapshot of current land use patterns is a reflection of historical economic, social, political, and technological conditions. In addition, these existing land use patterns provide the foundation for future growth and preservation.

In order to develop sound future land use policies, it is necessary to understand and acknowledge the context of existing development. Tracking existing land use changes over time also allows us to understand how the region has changed from a largely rural hinterland to a developing area on the Philadelphia suburban fringe, and how the area will continue to change and evolve over time.

Land Use Categories

For the purposes of this chapter, existing land use was divided into 16 specific categories. These are listed below. A map of existing land use for the Indian Valley is shown in Figure 2.3. The land use category assigned to each property was initially based on the land use classifications used by the Montgomery County Board of Assessments (BOA) which assigns categories for taxing purposes. The BOA classifications, however, were adjusted to be more meaningful for land use planning. For example, a private golf course is a commercial land use for taxing purposes but is considered private open space for land use planning.

As mentioned above, 16 specific existing land use categories were used for planning purposes. These are grouped into three general categories as listed below:

Residential Categories

Country Residence Twin/Duplex Single-Family Attached

Single-Family Detached Dwelling Multi-family Dwelling

Mobile Home Park

Nonresidential and Mixed-Use Categories

Retail Office Utilities

Mixed Use Industrial Institutional

Open Space, Agriculture, and Undeveloped Categories

Public Open Space Private Open Space

Agriculture Undeveloped Land

Land Use Consumption

The existing land use map (Figure 2.3) shows the geographical distribution of existing land uses throughout the region. It is not surprising to see that higher density residential and nonresidential uses are primarily within and around Souderton and Telford Boroughs and Harleysville village. It is also not surprising that farmland, larger residential lots, and vacant properties are located throughout the townships. Agriculture is a dominating category on the overall map of the region.

Figures 2.1, 2.2, 2.4 and 2.5 identify existing land use by acreage as well as by the percent of the region's total area. Figures 2.1 and 2.2 show the three general groupings of existing land use while Figures 2.4 and 2.5 show all 16 categories.

As shown in Figure 2.1, about 44 percent of the land in the Indian Valley is categorized as open space, agriculture, or undeveloped. Together, the six residential uses comprise another 45 percent, or about 13,200 acres, of the land in the region. The largest residential land use is single-family detached dwellings. This land use category consumes the most land of any of the 16 categories at nearly 9,600 acres or 32.49 percent of the region. Finally, about 11 percent of the region is occupied by non-residential uses. The largest non-residential use is institutional, consuming approximately 1600 acres or about five percent of the region.

Figures 2.4 and 2.5 show the acreage and percent breakdown for each of the sixteen land use categories within the region.

The following sections define each of the land use categories and provide a more detailed breakdown of the categories based upon the three use types (residential, nonresidential, and open space)

Figure 2.1 General Characteristics of Existing Land Use

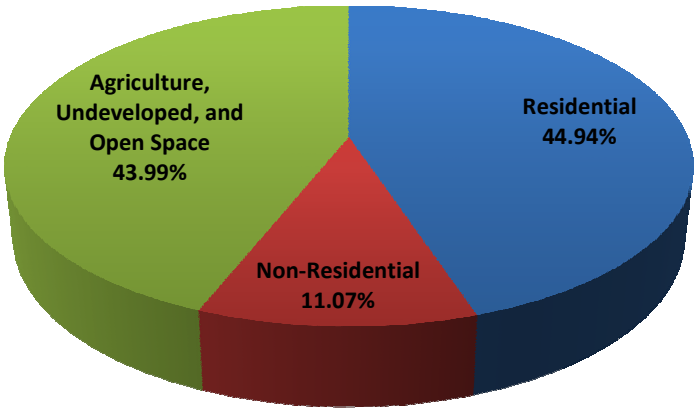


Figure 2.2 General Characteristics of Existing Land Use

Land Use	Acres
Residential	13,224.73
Non-Residential	3,258.82
Agriculture, Undeveloped, and Open Space	12,944.64

Residential Categories

Six residential categories are used. These categories are defined according to the number and arrangement of dwelling units. A dwelling unit is defined as one or more rooms intended to be occupied as separate living quarters with cooking, sleeping, and sanitary facilities in the unit for the exclusive use of a single-family maintaining a household. These categories include all lots that have been developed solely for residential purposes. Lots with both residential and nonresidential uses are covered under mixed-use in the non-residential category. The six residential categories are described as follows.

> ***Single-Family Detached (SFD).*** A single-family detached dwelling is a building designed for and occupied exclusively as a residence for one family and not attached to any other building or dwelling unit.

Figure 2.3 Existing Land Use

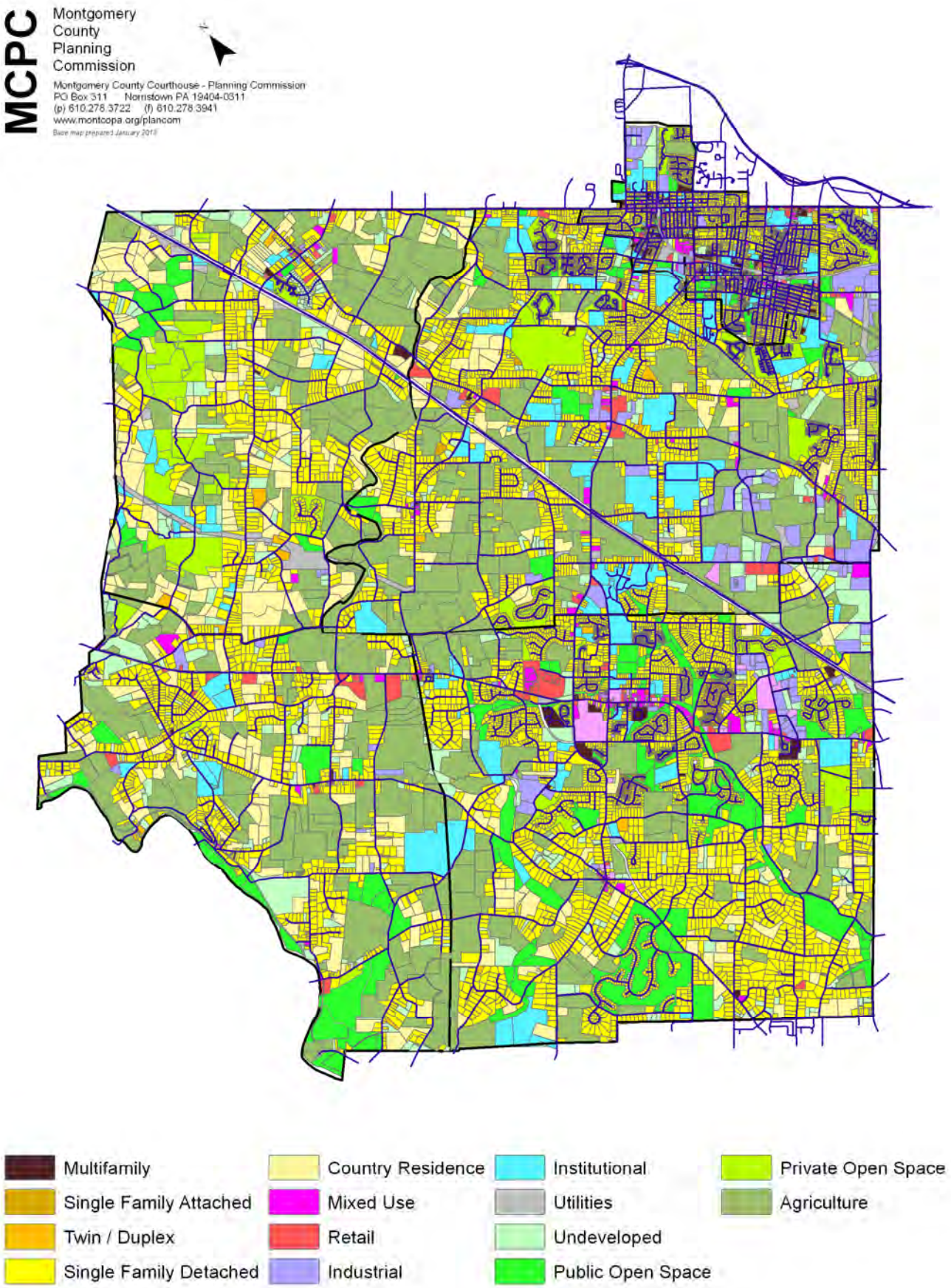
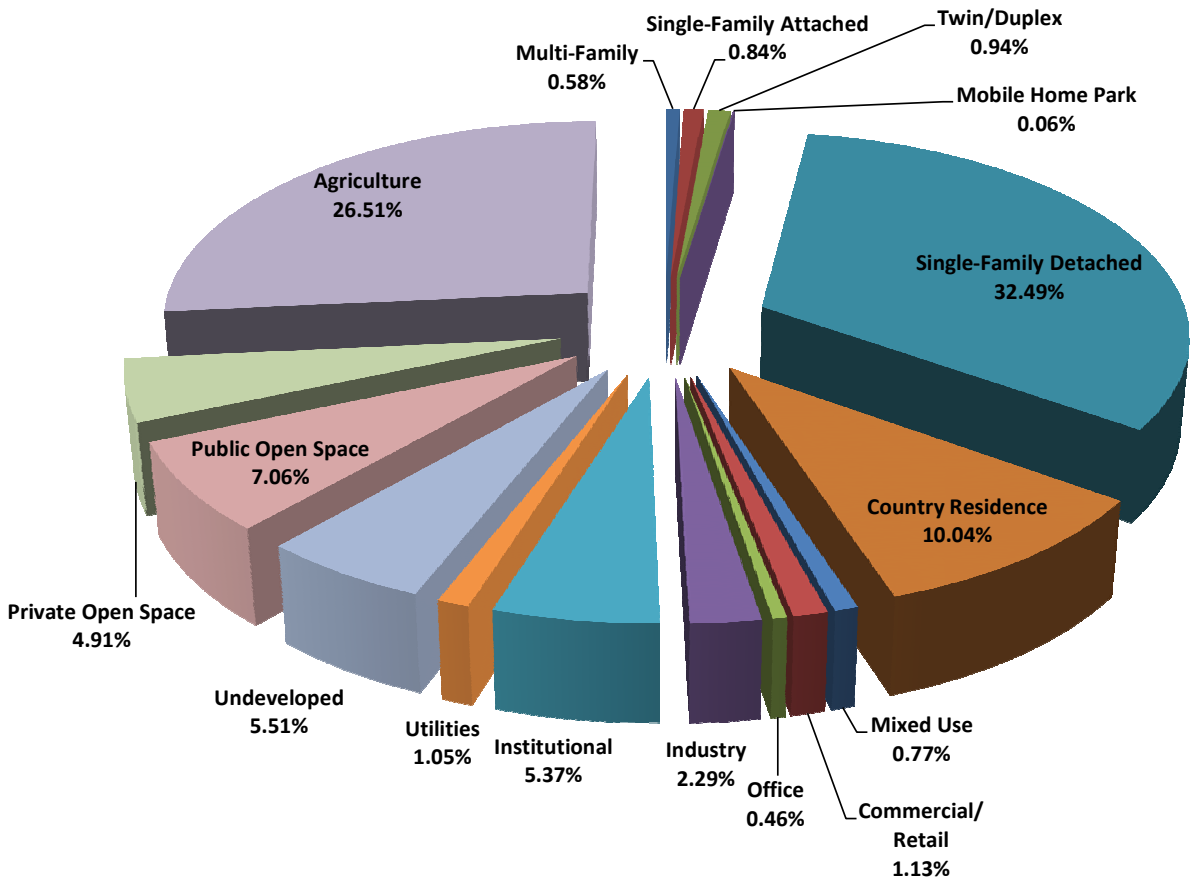


Figure 2.4 Specific Categories of Existing Land Use



There are two categories that describe single family detached dwellings, single-family detached and country residence. For the purposes of this chapter, the single-family detached category refers to a single-family detached dwelling located on a lot of less than 5 acres.

Country Residence. A country residence is the second type of single-family detached. For this chapter, a country residence is defined as single-family detached dwelling located on a lot greater than 5 acres but less than 20 acres.

Twin/Duplex. A twin or duplex is two dwelling units located in one building that is not attached to any other building. A twin has two dwelling units placed side-by-side and joined to each other by a vertical common wall. Duplexes have one dwelling unit placed above the other and share a common horizontal partition (floor/ceiling).

***Single-Family Attached* (SFA).** A single-family attached dwelling is often defined as a dwelling unit with independent outside access with no other dwelling units located directly and totally above or below it. Single-family attached units have party walls in common with at least one but not more than three adjacent similar dwelling

Figure 2.5 Specific Categories of Existing Land Use

Land Use	Acres
Multi-Family	170.75
Single-Family Attached	247.56
Twin/Duplex	275.49
Mobile Home Park	16.55
Single-Family Detached	9560.46
Country Residence	2953.92
Mixed Use	227.17
Commercial/Retail	331.95
Office	135.7
Industry	673.75
Institutional	1581.49
Utilities	308.76
Undeveloped	1621.63
Public Open Space	2077.43
Private Open Space	1444.73
Agriculture	7800.85

units. They also contain at least three dwelling units. Townhouses, row houses, triplexes, and quadruplexes are typical single-family attached dwelling units.

Multi-family. Multi-family residential uses are dwelling units located in a detached residential building containing three or more dwelling units, usually referred to as apartments. Typically, they are located entirely above or below one another, may share outside access and/or internal hallways, lobbies, or similar facilities, and share the lot on which the building is located. Multi-family development is usually under one operating unit as a rental or condominium property and includes garden apartments, flats, and multifamily conversions from single-family detached dwellings.

Mobile Home Park. A mobile home park is a distinct classification identified in the Pennsylvania Municipalities Planning Code. A mobile home park is a parcel of land that contains lots rented under one operating unit for the placement of mobile homes. Typically, residents own their mobile home. When mobile homes are place on lots owned by the mobile home owner, it is considered a single-family detached dwelling.

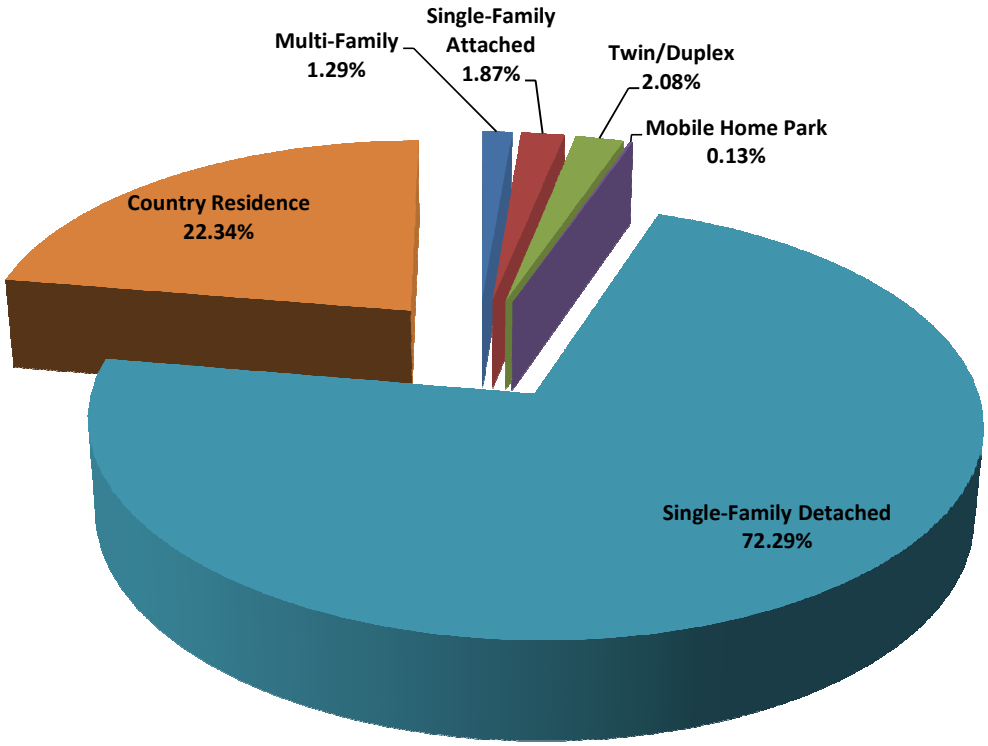
Figure 2.6 shows how the various land uses are distributed within the residential land use category. As expected, single-family detached occupies the most residential land at about 9,560 acres or just over 72 percent of all residential land uses. Country residence is the next highest at about 2,953.92 acres, or approximately 22 percent. None of the other residential uses account for a significant percentage of the total residential land use. Twins and duplexes make up about two percent of the total, and so do single-family attached. Multi-family uses make up about one percent of the total and are clustered mainly in and around the two boroughs and the village of Harleysville. There is almost no land within the region that falls into the mobile home park category, with the only example located in far eastern Franconia near the Bucks County line, just outside of Souderton.

Non-Residential Categories

The existing non-residential and mixed-use lands are categorized as mixed use, retail, office, industrial, institutional, or utilities. The categories are described as follows:

> ***Mixed-Use.*** This category identifies individual properties having more than one land use. The property has one or more nonresidential uses and may or may not include a residential component. Within the boroughs, mixed uses often combine stores and dwellings or stores and offices.

Figure 2.6 Existing Residential Uses



Commercial/Retail. Retail includes stores, restaurants, repair shops and garages, and a variety of other commercial uses that are frequented by the general public. The Shops at Harleysville is among the largest and most recognizable retail development in the region. Many retail businesses in the boroughs are included under the mixed use category because the retail building also includes offices or dwellings.

Office. The office category includes properties that are developed exclusively for office purposes in addition to other miscellaneous uses such as animal hospitals, funeral homes, and banks. Many office businesses in the boroughs are included under the mixed use category because the office building also contains retail uses or dwellings.

Industrial. This category includes large industrial uses and a variety of smaller uses that are scattered throughout the townships and boroughs.

Institutional. Institutional uses include schools, churches, cemeteries, fire companies, and similar uses.

Utilities. Utilities include primarily sewer and water company properties and gas and electric transmission lines. Large sections of the electric companies' transmission lines and water and sewer lines are located within easements on properties shown under other categories and are not counted under utilities.

Figure 2.7 Mixed-Use and Non-Residential Categories

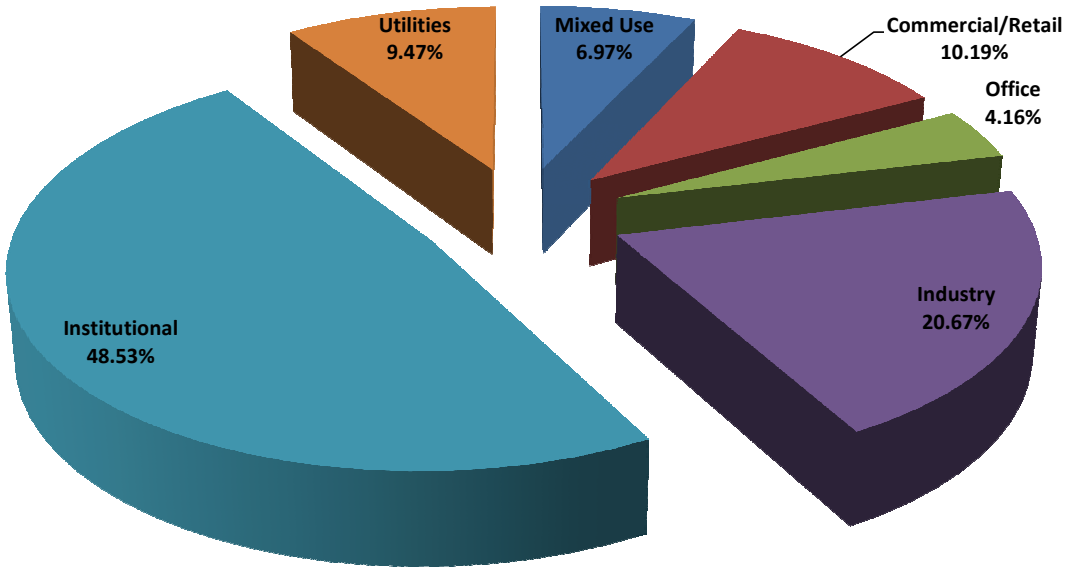


Figure 2.7 depicts how the various land uses are distributed within the mixed-use and non-residential land use category. Institutional is the most common designation, covering about 1,579 acres, or 48 percent of all land in the mixed-use and non-residential category. Industrial land uses are second, comprising about 20 percent, or about 670 acres. Retail is the only other use with more than 10 percent of the total, at about 336 acres.

Open Space, Agriculture, and Undeveloped Categories

The existing land use categories distinguish between public open space and private open space. These two categories as well as agriculture and undeveloped land are defined as follows:

> ***Undeveloped.*** Undeveloped land includes properties designated as vacant land under the Board of Assessment land use classifications. Larger properties may easily be seen as vacant while other smaller properties may appear to be part of adjoining developed properties. Each parcel is assigned an individual tax parcel number, and it is, therefore, possible for a parcel to be transferred to a new owner as a vacant lot. The smaller properties, however, may not be large enough for independent development.
>
> ***Public Open Space.*** Public open space includes park, recreation, and open space parcels owned by Montgomery County or one of the municipalities of the region. Public open space is considered to be permanently preserved open space.

Private Open Space. Private open space includes land owned by golf courses, camps, conservation organizations and similar uses. Unlike public open space, most of the private open space could be sold by its private owners and/or developed as permitted by zoning.

Agriculture. Agriculture includes parcels larger than 20 acres that are covenanted under Act 319, land where development rights were sold to Montgomery County under the County's Farmland Preservation Program, and other farmland identified from aerial photography and input from municipal officials. Most of the parcels contain a house, but agriculture is the dominant use of the land.

Figure 2.8 depicts how the various land uses are distributed within the open space, agriculture, and undeveloped land use category. The largest single land use in the region—agriculture—is, by extension, the largest of the land uses in this category. Just over 60 percent of the total land in this category, or about 7,939 acres, is devoted to agriculture. The next largest land use is public open space, which occupies about 1,960 acres in the region, or about 15 percent of all land in the open space, agriculture, and undeveloped land use category.

Figure 2.8 Agriculture, Open Space, and Undeveloped

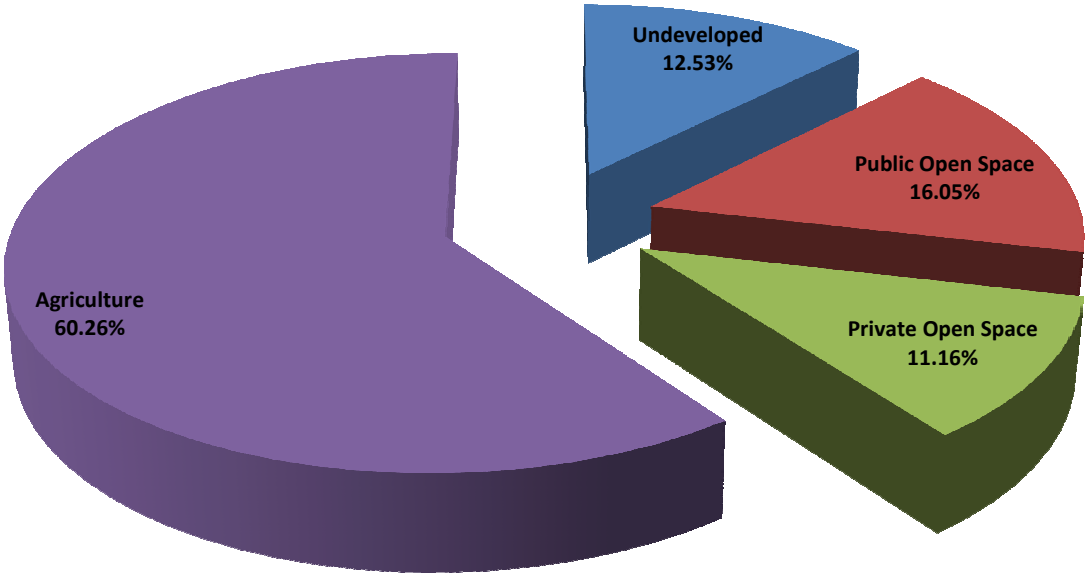
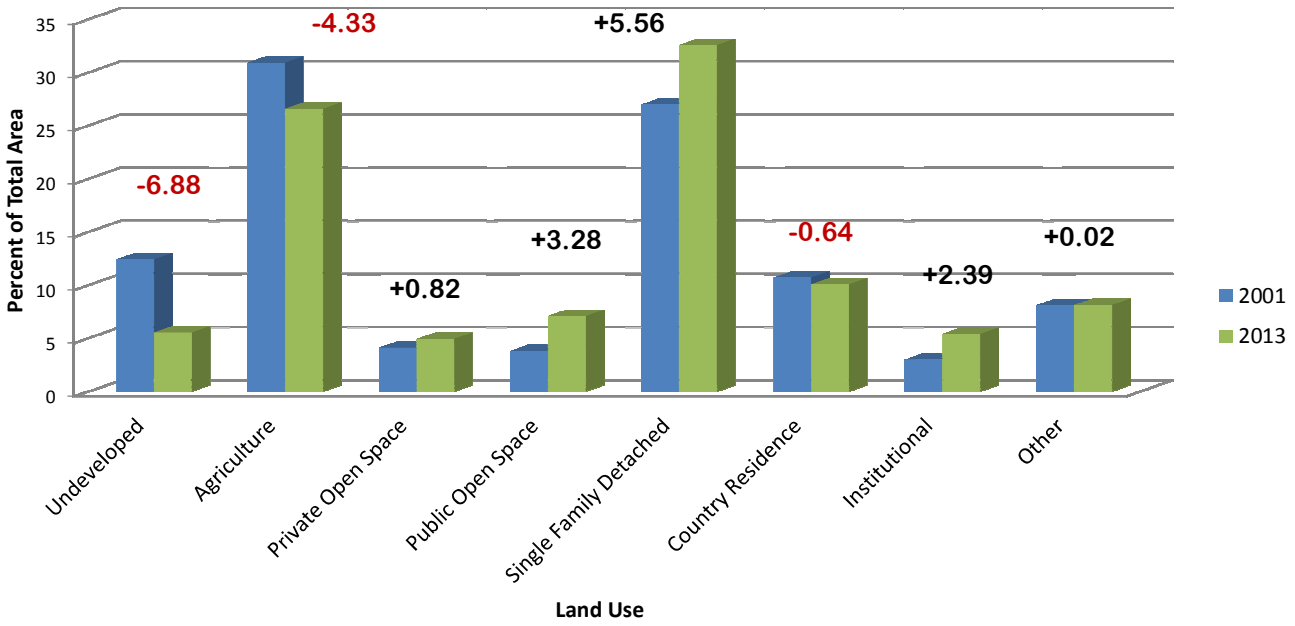


Figure 2.9 Land Use as a Percent of Total Area—2001-2013



*Percentages may not add up to 100 due to rounding and margin of error.

Regional Land Use Changes 2001-2013

Having land use information from 2001 also gives us the opportunity to see how land use has changed over time in the Indian Valley Region. Figure 2.9 shows the major changes in land use between 2001 and 2013. The two largest losses occurred in undeveloped and agricultural land. The region saw its share of undeveloped land decrease from 12.4 percent to 5.52% and its share of agricultural land decrease from 30.9 percent to 26.57 percent. However, not all of this land was converted to residential or non-residential uses. The region increased its share of public open space from 3.8 percent to 7.08 percent and its private open space jumped from 4.1 percent to 4.92 percent. This includes land acquired for municipal open space as well as land preserved through the land development process. Additionally, the portion of the Indian Valley Region devoted to institutional land uses increased from three percent to 5.39 percent. Finally, throughout the region there was a small shift in the size of residential lots, with the portion of land devoted to single family detached increasing from 27 percent to 32.56 percent and the share of "country residence" land use declining slightly from 10.7 percent to 10.06 percent.

Land Use Changes: Individual Municipalities

Each of the six municipalities in the Indian Valley Region saw varying degrees of land use change since 2001. The following sections will outline the changes in each of the municipalities.

Franconia

Franconia saw an increase in land devoted to single family detached housing (from about 26.1 percent to 30.07 percent) and a large decrease in the land devoted to agriculture (from 37.3 percent to 31.85 percent) and the amount of undeveloped land (from 10.8 percent, down to 4.43 percent). This was likely due to development pressure during the end of the last housing boom and prior to the most recent recession. Other significant changes included an increase in institutional land uses (from 3.5 percent to 8.84 percent) and an increase in private open space (from 3.6 percent to 6.22 percent). The increase in institutional uses can be partly attributed to the construction of the new Souderton Area High School in the southern portion of Franconia Township.

Lower Salford

Lower Salford, facing similar development pressure as that seen in Franconia, saw an increase in the percentage of land devoted to single family detached housing as well (from 32.8 percent to 42.45 percent). This was the largest increase in land devoted to single family detached housing of all six municipalities. Likewise, the amount of undeveloped land decreased from 13 percent to 5.41 percent and the amount of land devoted to agriculture decrease from 27.3 percent to 17.65 percent. Another significant change was an increase in public open space from 7 percent to 12.11 percent.

Salford

Salford also saw an increase in single family detached housing, albeit smaller than that seen in Lower Salford (from 20 percent to 23.69 percent). Concurrently, undeveloped land decreased from 14.2 percent to 7.04 percent. Another significant change included an increase in institutional land uses from 0.8 percent to 2.39 percent. The amount of agricultural land in the township did not change significantly, as a percentage of all land uses.

Upper Salford

Like the other townships, Upper Salford saw an increase in the amount of land devoted to single family detached housing, from 22.9 percent to 27.52 percent. As expected, Upper Salford also saw a decrease in undeveloped land, from 12.8 percent to 6.02 percent. Public open space increased from 2.9 percent to 10.17 percent. Like Salford, there was no significant change in the amount of agricultural land in the township, as a percentage of all land uses.

Souderton and Telford

Likely due to their smaller geographic area and mature settlement patterns, there were no significant changes in land use patterns for the boroughs of Souderton and Telford since the adoption of the 2005 Indian Valley Regional Comprehensive Plan. Souderton and Telford had 45.33 percent and 42.03 percent of their area devoted to single family detached, respectively. Neither borough has any country residence land use or mobile home parks. Telford remains the most industrial of the six municipalities, with 10.86 percent of its land use devoted to industrial uses.

CHAPTER 3
GOALS AND OBJECTIVES

The Indian Valley Regional Comprehensive Plan specifically intends to:

- Protect the unique historic and cultural resources of the region.
- Protect the region's natural features and environmental resources.
- Implement effective growth management techniques to provide for orderly and well planned development.
- Ensure new development provides appropriate public infrastructure and community amenities.
- Encourage continued economic development and the creation of high quality jobs.
- Encourage and support the preservation of agriculture as a viable industry.
- Encourage a range of housing options.
- Support new recreation opportunities.
- Direct sewer and water infrastructure improvements to designated growth areas.
- Promote a safe and efficient multi-modal transportation system.
- Encourage the incorporation of sustainable municipal and land use practices that reduce energy consumption.
- Accommodate the needs of the existing and future residents of the Indian Valley.
- Address the specific needs and unique conditions of each municipality.

The goals and objectives of each section of the Comprehensive Plan include the following:

HOUSING GOAL

The Indian Valley Plan intends to accommodate adequate housing opportunities for current and future residents.

Objectives:

A. Concentrate new development within designated growth areas.

B. Encourage new housing developments that create a sense of community and promote a pedestrian friendly environment.

C. Meet "fair-share" requirements as a region.

D. Encourage diversified housing opportunities for a range of life stages.

E. Encourage maintenance and modernization of the existing housing stock to preserve and enhance the region's villages and neighborhoods.

COMMERCIAL/RETAIL GOAL

The Indian Valley Plan intends to encourage economic vitality while meeting the current and future commercial and retail needs of the Indian Valley.

Objectives:

A. Serve the local shopping needs of the Indian Valley and support the "shop-local" movement.

B. Preserve, protect and enhance the environment of the existing main street and village areas in the townships and boroughs for commercial success.

C. Limit the amount of new commercial and retail development outside of established commercial areas.

D. Enhance the tax base within the region.

OFFICE GOAL

The Indian Valley Plan intends to encourage office, and administrative center development in appropriately zoned districts.

Objectives:

A. Provide employment opportunities for residents of the Indian Valley.

B. Provide for office space that meets the needs of a range of users.

C. Encourage high quality office and administrative center development within appropriate areas in coordination with sewer, water and transportation improvements.

D. Enhance the tax base within the region.

INDUSTRIAL/LIGHT MANUFACTURING GOAL

The Indian Valley Plan intends to encourage industrial development in established industrial areas.

Objectives:

A. Provide diverse employment opportunities for residents of the Indian Valley.

B. Encourage job training opportunities for residents of the Indian Valley to retain and recruit high quality jobs.

C. Encourage new industrial, light manufacturing and research lab uses within designated areas in coordination with sewer, water and transportation improvements.

D. Promote clean and environmentally friendly industrial/light manufacturing uses.

E. Enhance the tax base within the region.

PARKS, RECREATION AND TRAILS GOAL

The Indian Valley Plan intends to encourage sufficient recreational opportunities to meet the needs of present and future residents.

Objectives:

A. Coordinate parks, recreational and trail opportunities among the six Indian Valley municipalities.

B. Continue to implement the parks, recreational and trail goals of the municipal Open Space plans.

C. Coordinate planned trail connections between key residential, retail and employment centers and open space and recreational areas within the region.

D. Encourage planned trail connections with adjacent communities outside the region.

E. Develop active and passive recreational opportunities within the region.

NATURAL RESOURCE PROTECTION GOAL

The Indian Valley Plan intends to preserve and protect natural resources for present and future residents.

Objectives:

A. Protect existing groundwater resources.

B. Preserve and protect environmentally sensitive areas and natural resources including woodlands, stream valleys, wetlands, floodplains, watersheds, groundwater recharge areas, steep slopes, scenic vistas, vegetation and wildlife.

C. Implement watershed-based planning to protect municipalities from impacts of improper upstream development.

D. Continue to implement the natural resources goals of the municipal Open Space plans.

E. Implement stormwater best management practices to protect water quality and stream baseflow.

F. Actively pursue resources to preserve and protect open space for present and future residents.

HISTORIC AND CULTURAL RESOURCE PROTECTION GOAL

The Indian Valley Plan intends to preserve and protect historic and cultural resources for present and future residents.

Objectives:

A. Encourage preservation of historic buildings and cultural resources by allowing a wider variety or uses and/or higher intensity uses, particularly in villages.

B. Promote the preservation of historic buildings and cultural resources within the context of their cultural landscape.

C. Continue to implement local Open Space Plans by updating historic and cultural resource inventories.

D. Promote programs that improve facades in historic main street and village areas.

E. Improve coordination and cooperation among local and regional historic societies, state and local government, businesses and property owners.

F. Leverage historic and cultural resources to enhance tourism and economic development.

AGRICULTURE GOAL

The Indian Valley Plan intends to encourage and support the preservation of agriculture as a viable industry.

Objectives:

A. Encourage permanent preservation through participation in County and State agricultural programs.

B. Limit new development within designated agricultural areas.

C. Encourage and support the business of farming by providing opportunities for farmer's markets and community supported agriculture.

D. Encourage use of locally-grown agricultural products.

E. Market the region's agricultural heritage to encourage tourism and farm-related experiences and generate new hospitality uses.

TRANSPORTATION GOAL

The Indian Valley Plan intends to promote a safe and efficient multi-modal transportation system throughout the region.

Objectives:

A. Identify problematic traffic areas and develop mitigation strategies.

B. Encourage land use practices that provide increased connectivity throughout the region.

C. Encourage sidewalks and trails in new development where appropriate.

D. Develop a local and regional trail network.

E. Encourage resumption of commuter train service to the region and explore other appropriate mass transit options.

F. Consider centralized and shared parking facilities in established and new commercial areas.

G. Encourage the development of multi-modal transportation opportunities.

H. Utilize smart transportation techniques to ensure transportation improvements reflect community character, especially within village areas.

COMMUNITY FACILTIES GOAL

The Indian Valley Plan intends to address the needs of current and future residents regarding public sewer and water systems, emergency services, schools, and library facilities.

Objectives:

A. Encourage the sharing of municipal services/facilities.

B. Use public sewer and water systems efficiently by extending these systems only within designated growth areas.

C. Protect surface water quality and ensure sufficient water supply by using public and private sewer and water systems, including on-site systems, effectively.

D. Support existing emergency services and extend and improve their capacities to serve a growing population.

E. Cooperate with the school district and public library to encourage appropriate locations of new or expanded facilities.

F. Effectively manage stormwater systems to protect water resources by maximizing the cost-benefit of improvements.

ENERGY AND SUSTAINABILITY GOAL

The Indian Valley Plan intends to promote energy stewardship and sustainability throughout the region.

Objectives:

A. Encourage all residents and businesses to consider energy-saving practices.

B. Promote alternative energy technologies that reduce the region's energy demand.

C. Provide land use controls that encourage the incorporation of sustainable practices into new development and redevelopment projects.

CHAPTER 4
NATURAL ENVIRONMENT

Introduction

The natural environment affects how we can use the land, and how we use the land affects the natural environment. Therefore, good planning requires knowledge of, and respect for, the various elements that make up the natural environment. These elements form the foundation for the quality of life that residents often seek when choosing a place to live or work. A quality of life founded on clean and accessible waterways, scenic views, farmland, woodlands, and outdoor recreation is particularly important in today's mobile society where people and companies move more often than in the past.

A variety of elements make up the natural environment, including geology, hydrology, soils, vegetation, and wildlife. If we consider these individual natural resources as parts of interrelated functional systems, we can provide better protection for them and enhance their value to the region. Although farmland, in itself, is not a natural resource, it is a significant cultural feature of the region based on natural resources including soil types and slopes.

As growth continues in the region, it will be increasingly important to use techniques that help to preserve natural resources and the quality of the natural environment. By directing growth to certain limited areas, large, valuable areas of natural resources and farmland may be preserved.

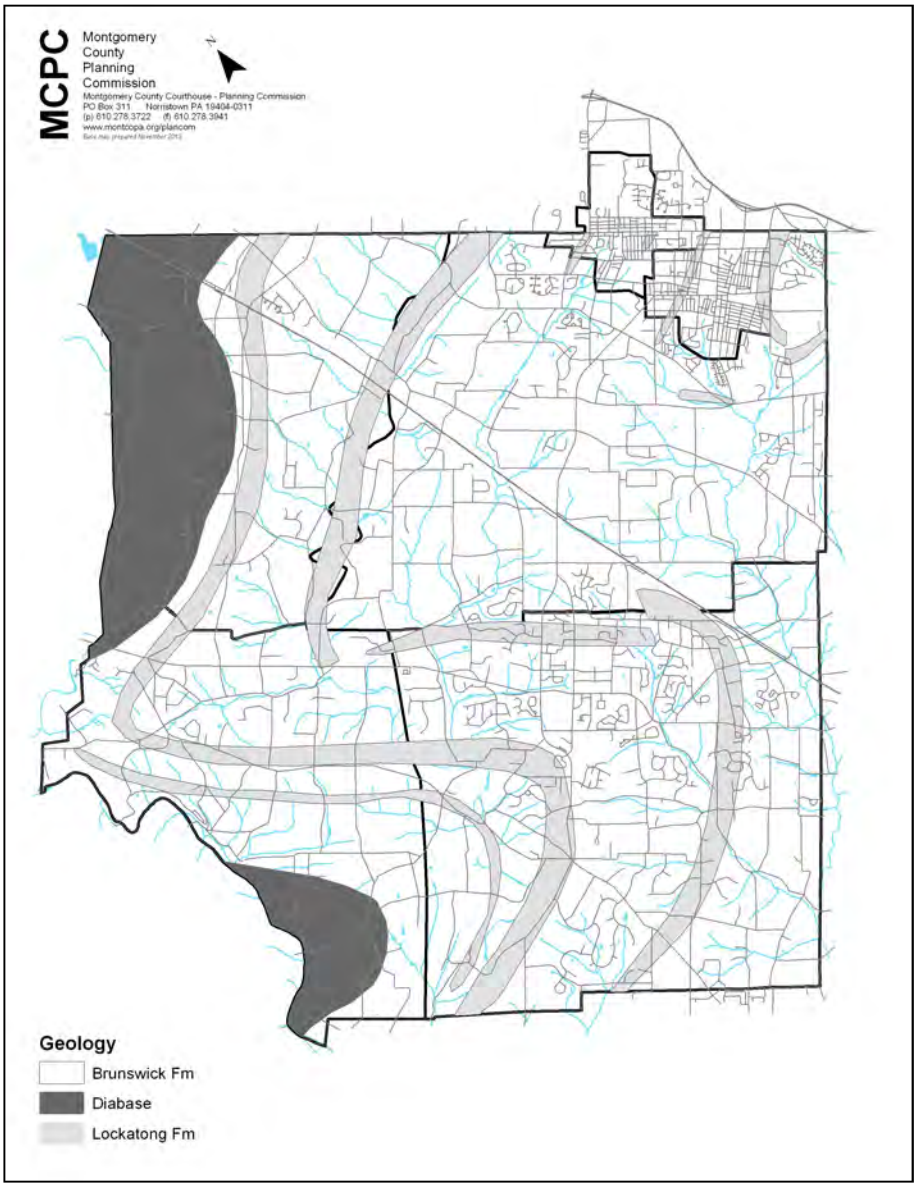
This chapter identifies and describes various natural features of the Indian Valley and how they relate to one another. In the Future Land Use Plan chapter, the comprehensive plan must balance other factors with protection of natural resources, including previously established land uses, growth pressures, legal requirements, and water, sewer, and road systems. However, every effort should be made to protect the natural resources that have made the Indian Valley a desirable location to live and work.

Geology

Natural landscapes are the result of the interplay of the region's geology, climate, hydrology, slopes, soils, vegetation, and wildlife. Geology, however, is the basis for all other natural features. Elevation changes, steep slopes, and watercourse locations are a result of geology and the long-term effects of wind, water, gravity, and chemical activity on the geologic formations. Geology also influences soil types and groundwater yields.

Four types of rock formations are found in the Indian Valley. These include Brunswick shale, diabase, hornfels, and Lockatong. The major geologic formations are described below and shown in Figure 4.1.

Figure 4.1 Geology



Brunswick Shale

Brunswick shale is the predominant geology of the Indian Valley. This bedrock is typically reddish brown shale, mudstone, and siltstone and is moderately resistant to weathering. The topography of the formation is typically characterized by rolling hills. Although the weathered zone can be excavated with heavy power equipment, unweathered rock requires blasting. It is considered to be a good to fair source for road material and fill, and part of the formation can be an excellent source of lightweight aggregate and material for common brick.

Diabase

Diabase is an igneous rock that was forced into large cracks in the surrounding Brunswick formation. Often referred to as Ablack granite," it is usually black, dense, and very fine grained. The molten diabase intrusions transformed adjacent areas of Brunswick shale into a hard black or gray slate known as hornfels. In many areas, the diabase intrusions are less than a half mile wide, and in some cases only several feet in width. The intrusions are highly resistant to weathering, water infiltration, and groundwater movement. Areas of diabase are often steeply sloped and wooded, with numerous surface outcrops and boulders. Soils on steep slopes within this formation tend to be shallower and have a thin surface layer, making them highly susceptible to erosion, especially when vegetation is removed. Given these factors, this formation poses severe development limitations and, combined with the high mineral content of igneous rocks, creates an extremely unique natural environment. Excavation requires considerable blasting and large boulders present special problems.

Lockatong

The Lockatong formation is primarily composed of thick-bedded dark gray to black argillite (hard claystone or siltstone) with occasional zones of thin-bedded dark shale, impure limestone, and limy argillite. Lockatong is resistant to weathering and the formations usually protrude from the ground in ridge like fashion.

Hornfels

Hornfels are intrusions in the Brunswick shale similar to diabase. However, hornfels intrusions are metamorphic rather than igneous rock. The hornfels are also more resistant to weathering and almost impenetrable for excavation purposes. Water yields for hornfels are similar to those yields found with Lockatong formations.

Significant beds of diabase can be found along the western half of Salford Township as well as along the western edge of Upper Salford Township. Within the Indian Valley, these diabase formations tend to follow the Perkiomen Creek and the Ridge Valley Creek. Salford Township has unique fields of diabase formations protruding above ground which are locally known as "the boulderfields."

Within the Indian Valley there are two formations of Lockatong that have formed significant ridge areas. The most significant ridge area is located in Salford Township extending in an "s" fashion into Upper Salford Township. This Lockatong formation, which is lined with hornfels, is known as "the ridge." The ridge essentially splits Salford Township in half. Because the ridge is underlined with Lockatong bedrock, water yields and soil quality are poor. Consequently, land uses on the ridge have always been limited to livestock farming and scattered estates. The ridge is known throughout the Indian Valley for its scenic views.

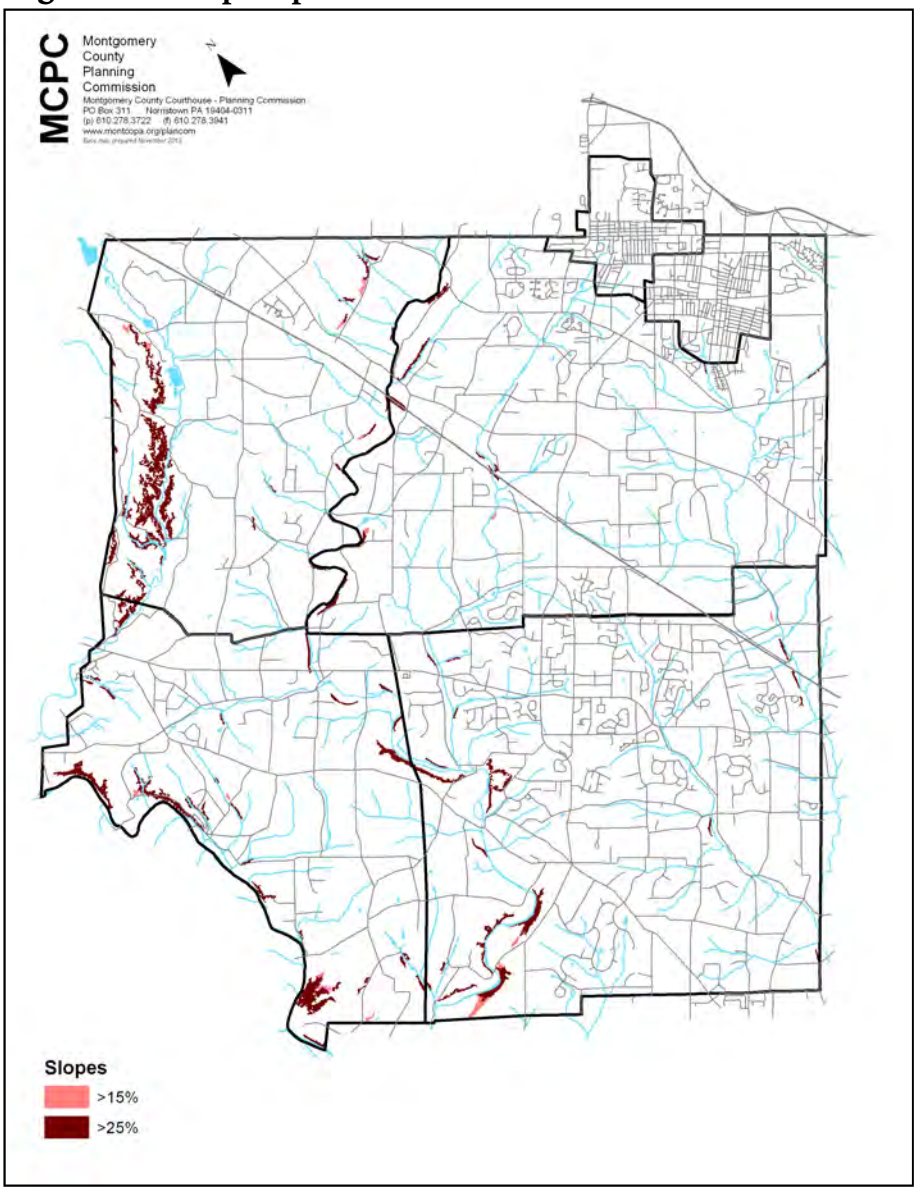
The second ridge extends along the East Branch of the Perkiomen Creek at the border of Salford and Franconia Townships. This ridge extends southward in a "s" fashion through the southern reaches of Franconia and into Lower Salford. This particular ridge is not as defined as the Salford ridge. However, it provides additional scenic views of the Indian Valley.

The Indian Valley also has significant fields of hornfels intrusions that surround the diabase and Lockatong formations. These intrusions are especially evident in Salford Township and to lesser degree in Upper Salford Township.

Slopes

Steep slopes, a result of geology, hydrology, and climate, create dramatic landscapes that define community character and limit development. Land with a slope of 15 percent or more is typically considered steeply sloped (see Figure 4.2). Steep slopes, which are often easily eroded, are environmentally sensitive areas. Generally, as slope increases the depth of topsoil and the ability of the soil to support structures decreases. This

Figure 4.2 Steep Slopes



means that areas having steeper slopes are often only suitable for low-intensity uses or for open space and natural resource preservation. This also means susceptibility to erosion and mass movement of soil may be greater than on nearby less-sloping areas.

When steep slopes are disturbed, runoff and sedimentation increase. Erosion potential is greater when vegetation is removed. As runoff and sedimentation increase, so does public expenditure for flood control and stormwater management. Additionally, disturbance destroys steep slope environments that support unique plants and wildlife.

Among the steepest slopes in the region are those found near the Ridge Valley Creek in Salford Township. Found on diabase with outcrops, these slopes are greater than 50 percent. Steep slopes continue along the length of the Ridge Valley Creek through Upper Salford Township. Steep slopes are also evident along the Perkiomen Creek and at Spring Mountain. Other relatively narrow bands of steeply sloped land are found along watercourses of various sizes throughout the Indian Valley.

The extent of development and clearing of vegetation should be restricted on steep slopes to avoid erosion. It is not necessary to use steeply sloped areas for farming or residential development because there is sufficient land available with gentle to moderate slopes (0% to 15%) . Regulations adopted to protect steeply sloped lands should identify performance principles to protect this natural resource. The regulations can be enacted as part of the zoning ordinance.

Hydrology

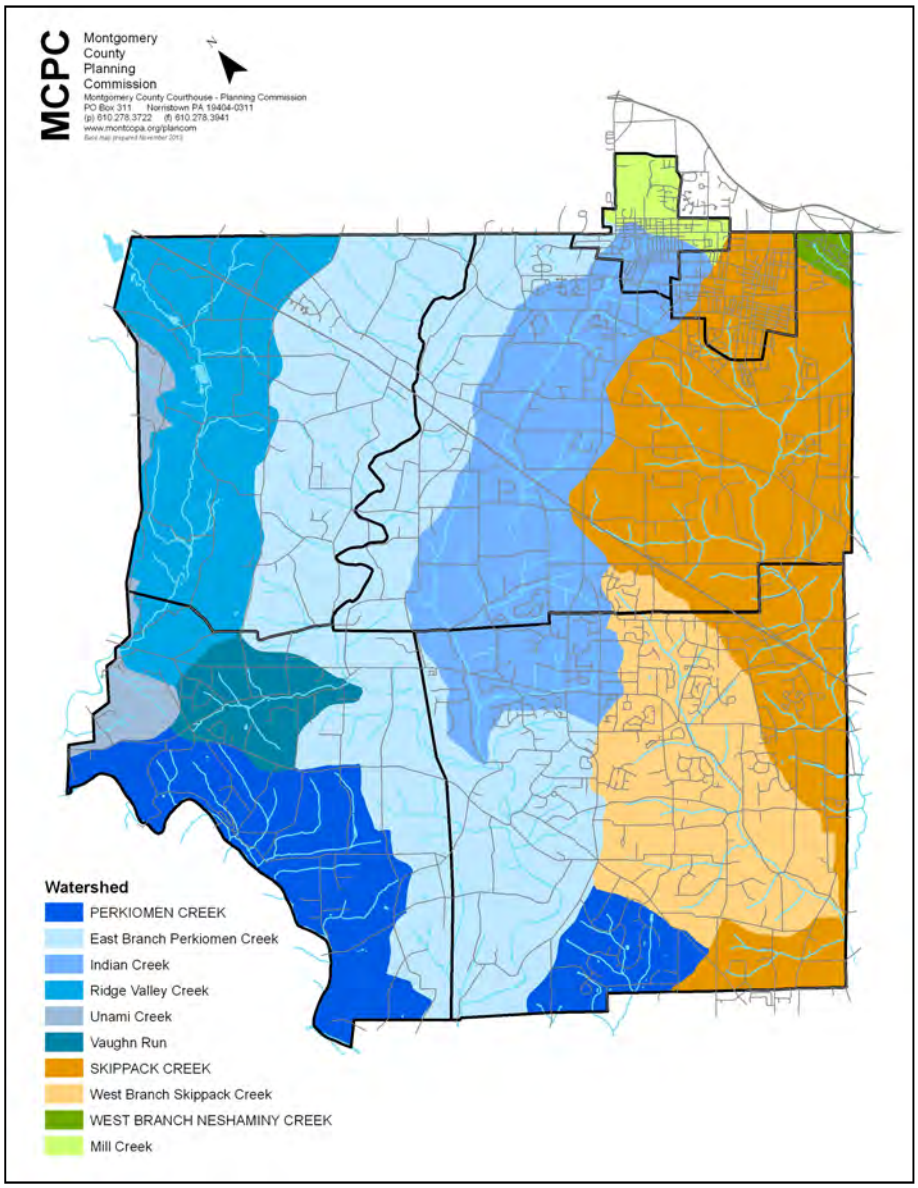
Hydrology is the scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere. The region's hydrology is evident in its annual rainfall,

waterways, and groundwater supplies. Of the average 47 inches of annual precipitation in the region, about 25 percent becomes direct surface runoff, 50 percent evaporates or is transpired by plants, and 25 percent replenishes groundwater. The distribution and effects of water influence the region's landforms, soils, vegetation, and wildlife.

Surface Water

The most visible components of the region's hydrology are the streams and creeks that drain the landscape. The watersheds or basins of the Indian Valley include the Perkiomen Creek Basin, the Skippack Creek Basin, the East Branch Basin and a small part of the Neshaminy Creek Basin. The Indian Creek is a subasin of the East Branch Basin. The Ridge Valley Creek is a subasin of the Unami Creek Basin (see Figure 4.3).

Figure 4.3 Watersheds



Streams are fed by two natural sources, direct runoff and groundwater. Effluent from sewage treatment plants also contributes to stream flow.

Each stream has received a water quality designation that relates to the different water uses. The designation indicates the stream's value in protecting and propagating aquatic life. Because each protected use has chemical and biological characteristics and other stream conditions that need to be maintained, the designations also indicate stream quality. As of May 1999, the Unami Creek Basin is designated a high quality basin, the second highest designation. A high quality designation refers to surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water. The Neshaminy Creek is designated as Warm Water Fishes. Warm Water Fishes possess a level of quality that supports fish species, flora, and fauna that are indigenous to a warm water habitat. The remaining streams are designated as Trout Stocking Fishery. These are higher-quality streams that support stocked trout, other fish species, and additional flora and fauna that are indigenous to cold-water habitat.

An Act 167 Stormwater management Plan has been prepared by Bucks County for both the Neshaminy Creek and East Branch Perkiomen Creek. The Plans require the implementation of specific stormwater best management practices and regulations for the portions of municipalities within the applicable drainage basin. In addition, NPDES Phase II requirements were instituted in 2003, requiring all Municipal Separate Storm Sewer Systems (MS4s) located in urbanized areas to obtain a permit for their system. This requirement from the Clean Water Act of 1990, affected every municipality in Montgomery County. The permit requires each municipality to comply with six pre-established minimum control measures to satisfy the permit. A revised MS4 permit, requiring municipalities to identify more specific compliance measurables and demonstrated progress, went into effect in 2013. The full implications of the revised MS4 permit are still being evaluated as municipalities begin implementing the permit and the Pennsylvania Department of Environmental Protection clarifies expectations and enforcement.

A further layer of regulation, also established by the Clean Water Act, involves protection of existing use designations for all waterways. All streams that do not maintain the use designation are identified as "impaired." Impaired streams must be further studied so that a Total Maximum Daily Load (TMDL) can be established for the contaminants responsible for the impairment. Currently, the Skippack Creek Watershed and Indian Creek Watershed have had TMDLs established. In general, the contaminants identified include phosphorus for the creek's point source discharges and sediment for the non-point sources. These TMDLs must be integrated into applicable NPDES permits.

As discussed under the soils section, wetlands are identified by the presence of hydric soils, surface water, and wetland vegetation. The National Wetlands Inventory (NWI), prepared by the U.S. Department of the Interior, Fish and Wildlife Service, identifies wetlands of one acre in size and larger within Montgomery County. Although certain wetlands can be mitigated to allow for development, it is often a costly practice. Furthermore, it disturbs wildlife and can prove to be a maintenance problem for potential stakeholders.

Floodplain protection is also important since development of the floodplain reduces the carrying capacity of a stream, increasing the height and destructive ability of floodwater, and prevents groundwater recharge. Preservation of stream corridors in a natural state is essential to flood protection efforts. Preserved floodplains also offer opportunities for trails and other forms of recreation.

Wetland and floodplains deter most kinds of development. These resources are additionally protected by law and frequently by local ordinance. Permanent protection of these resources is needed, however, because increased development pressure, new technology, and changes to legal interpretations can facilitate the destruction of these resources. Tools to protect wetlands and floodplains include zoning and subdivision and land development regulations.

Groundwater Supply

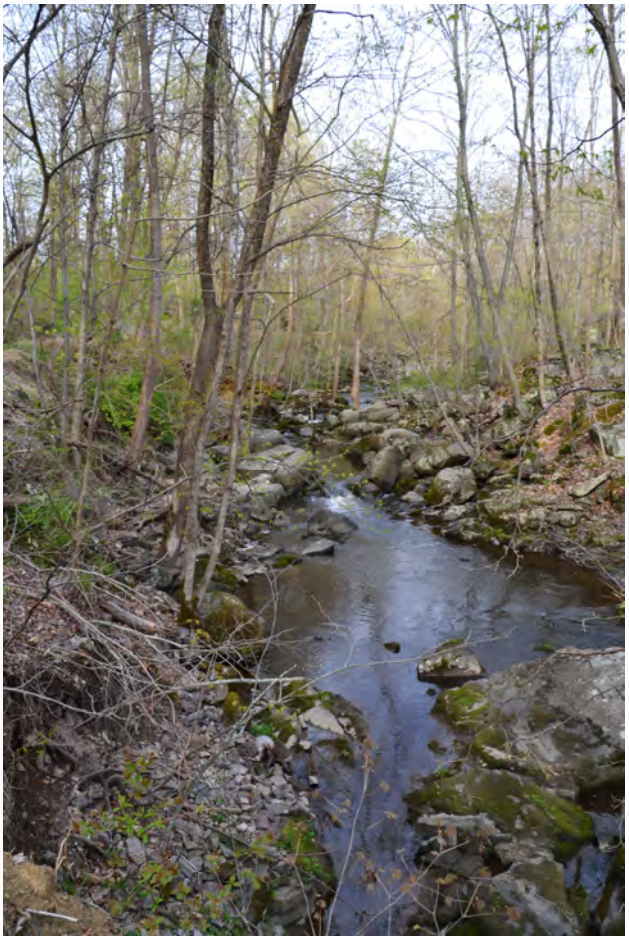
Groundwater behaves much like surface water, flowing like a stream, only much slower. The quantity and quality of groundwater yields depends on the type of bedrock formation. The groundwater characteristics of each geology type is listed below:

Brunswick Formation. This is a relatively porous formation that is considered a reliable source of small to moderate quantities of groundwater. Brunswick shale has been reported to yield 100 gallons of water per minute from wells drilled more than 200 feet deep. Nonetheless, groundwater yields from this formation are highly variable. Secondary openings such as joints and fractures are key to adequate groundwater flow.

Diabase Formation. Diabase has some fractures near the surface that allows minimal absorption of water. Groundwater movement within diabase is slow and the formation is notorious for low well yields, commonly supplying ten gallons or less per minute. However, fracture zones, sometimes represented by stream valleys or gullies, provide the best locations for wells supplied by diabase aquifers.

Lockatong Formation. This is a poor aquifer due to its low porosity and permeability rates. Lockatong yields smaller water supplies for domestic use, 5 to 15 gallons per minute. The water from Lockatong can be highly mineralized and hard. Lockatong also has very poor septic absorption capacity.

Hornfels Formation. Adjacent to the diabase intrusives, the shales of the Brunswick formation have been altered by contact metamorphism into dark, hard hornfels. As would be expected, the groundwater reserves are small, sometimes less than diabase or Lockatong.



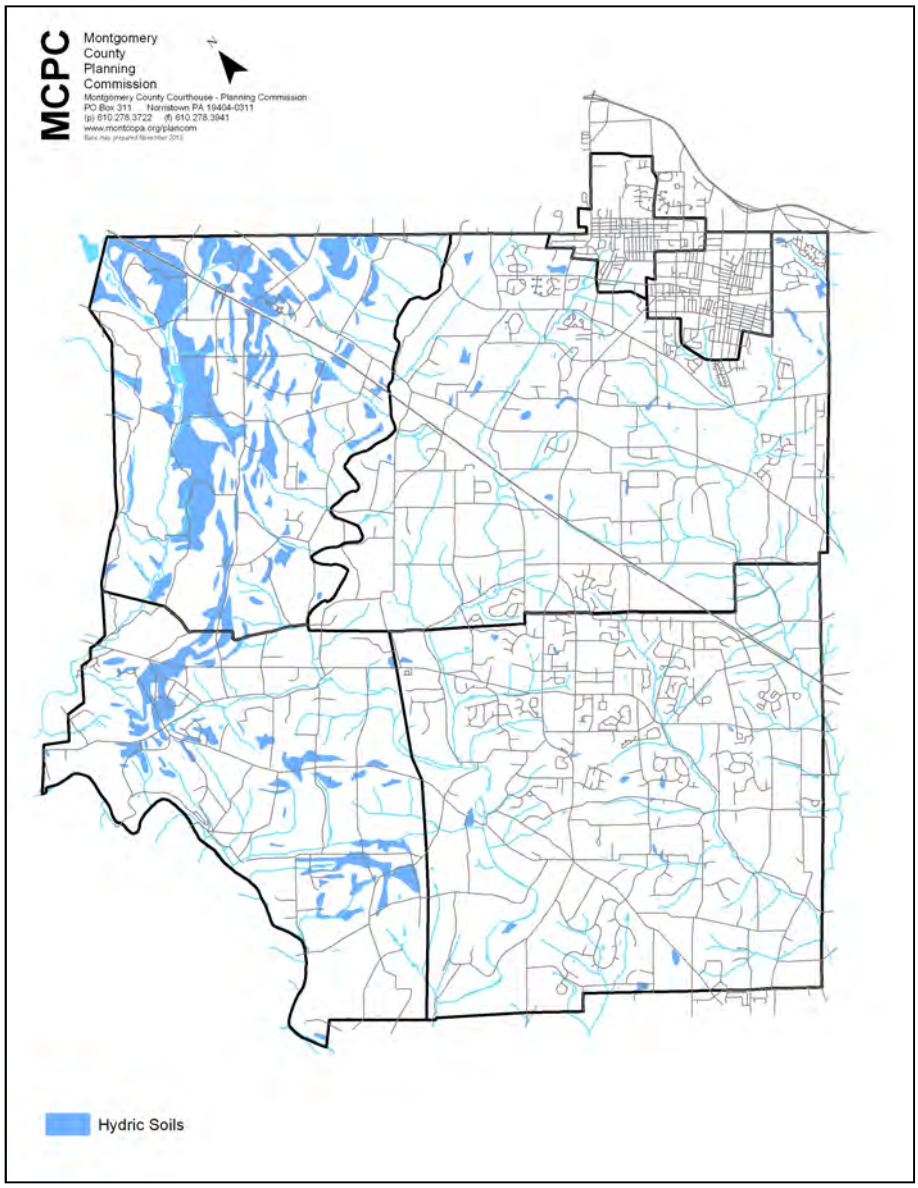
Groundwater is tapped as a source of drinking water and for industrial purposes when surface water is unavailable. Replenishment of groundwater occurs slowly as precipitation and stream water seep through the soil. Undeveloped, undisturbed land is essential to groundwater recharge. Vegetation slows runoff and retains precipitation where it falls, allowing it to soak into the soil rather than run off the surface. Impervious surfaces, such as roads, parking lots, and buildings, prevent infiltration of precipitation and can reduce the amount of groundwater that replenishes streams during dry weather. Excessive impervious surface also creates flooding hazards because stormwater is concentrated. It can also cause dry wells and insufficient aquifer recharge.

Groundwater Replenishment

It is vital to continually replenish the groundwater supply so that water will remain available. The

locations of prime aquifer recharge should be identified, such as faults and seeps in the bedrock. This way measure can be taken to preserve these sites in their natural state, or at least minimize the intrusion of impervious surface coverage. In many cases, these areas may be heavily wooded, located in areas of undevelopable soils (hydric and/or alluvial, explained later in this chapter) or on slopes that constrain development. The more natural constraints located in the recharge areas, the more likely these areas can be preserved through ordinances or innovative development techniques. Aquifer recharge is a regional process. Recharge areas in one community often supply groundwater to another community. Therefore, regional cooperation is needed to ensure maximum protection of recharge areas. The region's aquifers should be studied and identification of recharge areas should be identified.

Figure 4.3 Hydric Soils



Soils

Soils are produced by the continual interactions of weathering, underlying geology, and organisms over long periods of time. They are one of the most influential natural resources of a community. Because soils affect the use of land in various ways, they should be considered in preparing a comprehensive plan. For example, suitability for productive agriculture and for on -lot sewage disposal are major considerations in rural areas. In all areas, development limitations caused by alluvial, hydric, and other frequently wet soils need to be considered when development occurs, along with such factors as shallow depth to bedrock.

Hydric Soils

Other soils limit construction because of their poor drainage, shallow high water table, and slow rates of permeability and runoff. These soils prohibit on-lot sewage disposal because of their wet characteristics but may be otherwise developable with appropriate site engineering and construction practices. It is better to avoid development on these soils because of the additional costs and efforts required and because of the increased potential for environmental degradation. These soils include those in the following series:

Abbottstown, Beltsville, Chalfont, Glenville, Lawrenceville, Lehigh, Mount Lucas, Raritan, Readington, Reaville, and Rowland and are shown in Figure 4.3.

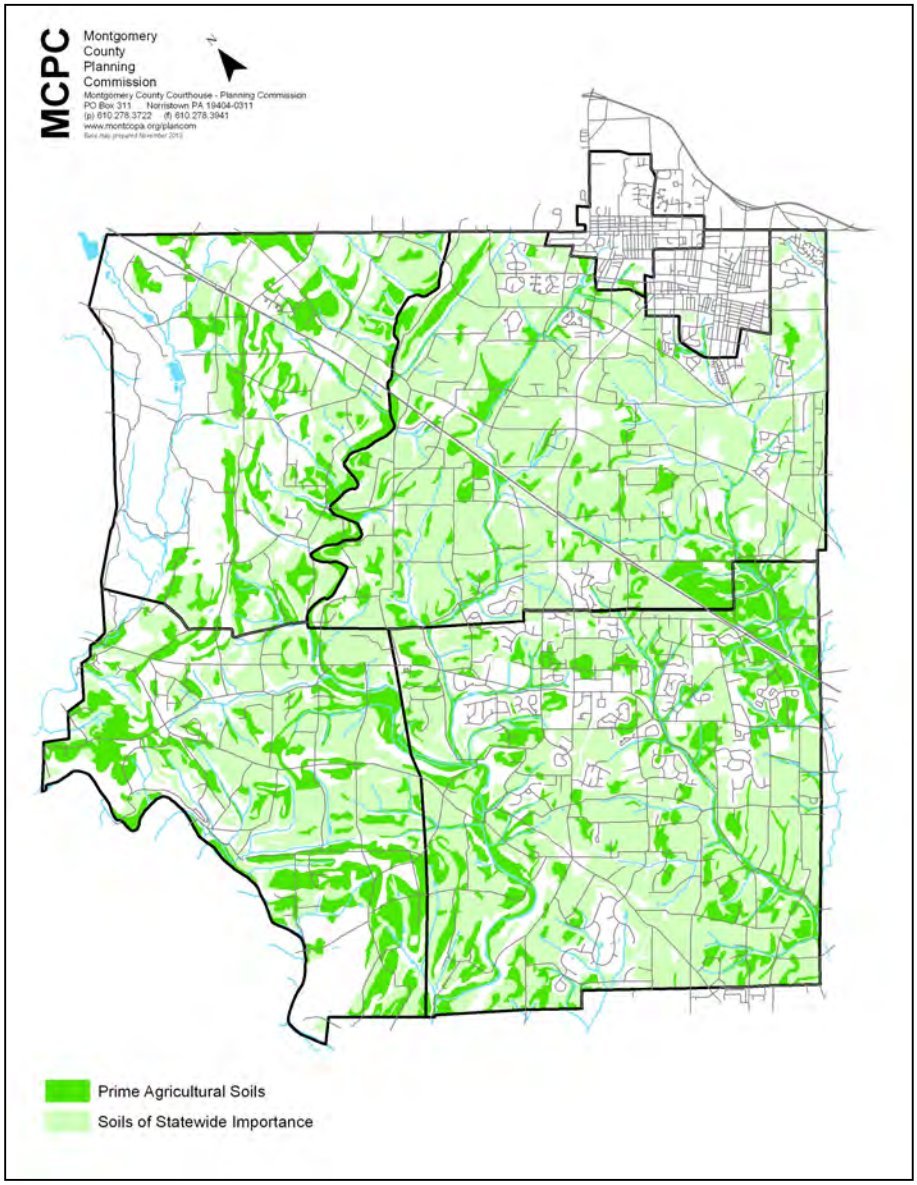
Soil Suitability for Sewage Disposal

Soils that provide very limited potential or no potential for on-lot sewage disposal are found in all areas of the region. They range in extent from small pockets to broad swaths. Among the soil characteristics that will affect on-site disposal are depth to a limiting zone (groundwater or bedrock) and the ability of the soil to percolate water. Since suitable and unsuitable soils are scattered throughout the region, they provide little guidance for choosing where to direct growth. From a public health perspective, it would seem desirable to provide municipal centralized sewage facilities for development on all of these restrictive soil types. All sewage would be treated, disposed, and maintained by a municipal sewer authority, the county's health department, and the state's department of environmental resources. However, it would not be practical, economical, or realistic to serve the entire region by central sewage facilities. The costs would require development to be permitted at densities that developers consider economically feasible. These densities would project growth far beyond the levels anticipated by this comprehensive plan. Instead, municipal central sewage facilities should be used throughout growth areas for medium- and high-density development to protect water quality and public health for the largest concentrations of new development. Alternative methods of sewage treatment should be used outside the growth areas to protect water quality and to keep development levels in line with the goals of this comprehensive plan. These methods are explained in the "Community Facilities" chapter.

In areas not served by municipal sewer systems, restrictions caused by the soil types are expected to result in low-density development served by on-lot systems or by various forms of community disposal systems. Sewage disposal systems in these areas should consist primarily of types that help to recharge the groundwater supply. These include spray irrigation, sand mounds, and traditional in-ground systems. When package sewage treatment plants are used in these areas, their purpose should be to protect water quality and encourage groundwater recharge. They should not be used to justify an increase above the density proposed in the land use plan. This would include package plants with stream discharge or with spray irrigation of treated effluent.

Development regulations that encourage shared and/or community systems for sewage disposal in areas not served by municipal sewer systems are desirable to further help protect water quality and public health. Cluster regulations can be used with community sand mound systems and spray discharge of treated effluent as a significant tool to preserve open space and replenish the groundwater supply.

Figure 4.4 Agricultural Soils



Agricultural Soils

Soils in Montgomery County are classified as prime agricultural soils, soils of statewide importance, and other land. These classifications are based on the soil fertility, depth to bedrock or groundwater, texture, erodibility, slope and amount of large stones. Prime farmland includes deep, well-drained, and mildly sloped soils that can support high yields of crops with little management. Farmland of statewide importance includes soils that support cultivation but require careful crop management. Agricultural use of the "other" soils is generally limited to pasture, and woodlands. Figure 4.4 shows the extent and locations of prime agricultural soils and soils of statewide importance, with the residual areas being "other" land.

High priority should be given to continuing farming on prime agricultural soils and soils of statewide importance. It must be noted that these soils are found not only in rural parts of the region but also close to the boroughs and near other concentrations of development. Also, the best farmlands have gentle to moderate slopes. This makes them easier to develop than some of the "other" lands, which often contain steep slopes or shallow bedrock with rock outcrops. Although it is inevitable that some farmlands will be developed, strong efforts should be made to continue farming the better-quality farmlands in the non-growth areas of the region.

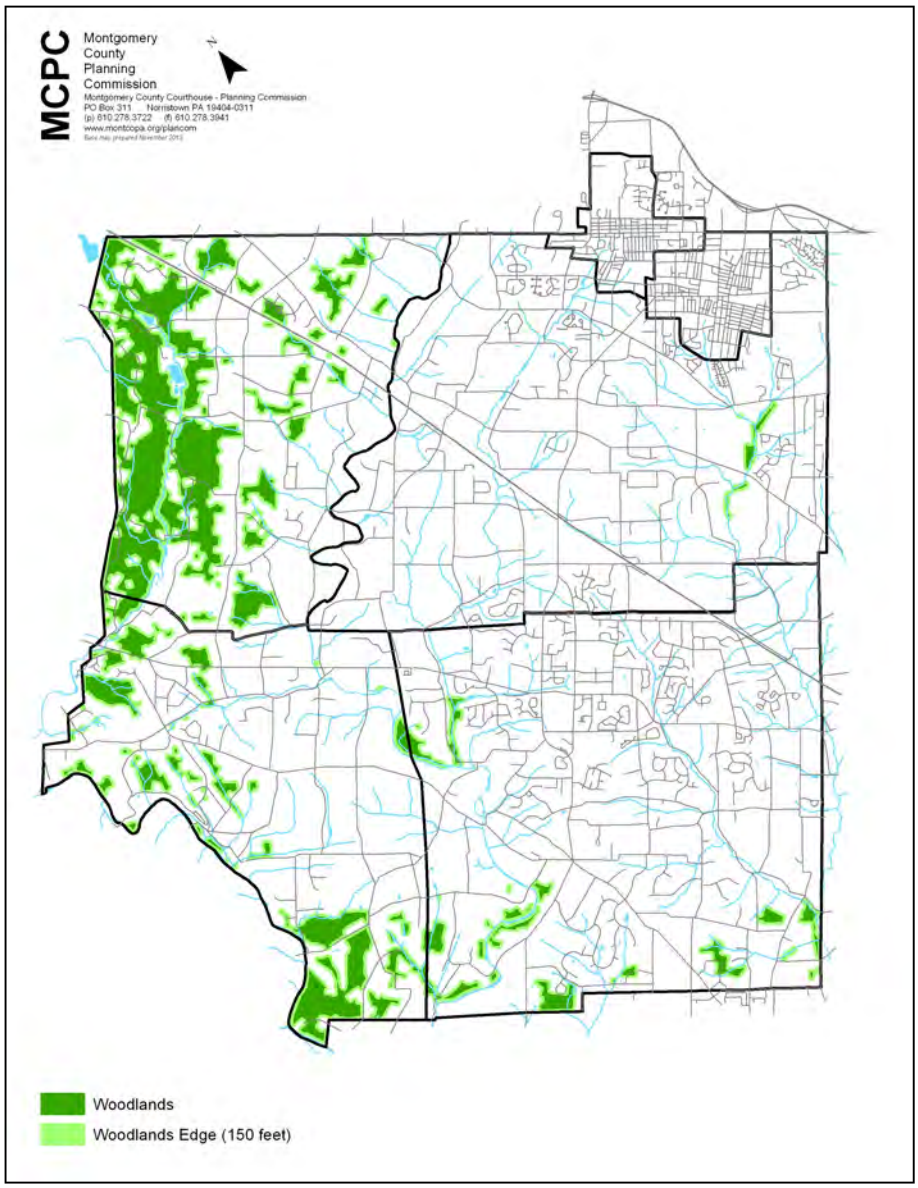
Zoning regulations can be enacted to encourage retention of farming as a viable alternative. Cluster standards, such as Montgomery County's model Land Preservation District, which requires preservation of 75 percent of a tract as open space, can be used to retain farmland in conjunction with some new residential lotting. In addition, Pennsylvania law permits municipalities to enact restrictive agricultural zoning requirements to discourage undesirable development of farmlands. Agricultural zoning is most suitable in areas where farming is a strong and healthy industry and

farmers have made a firm commitment to continuing agricultural activities.

Although good soils are important for farming, there are many factors involved in farmland preservation. Support from the farmers, other residents, and the county, through its farmland preservation program, is necessary. If an agricultural advisory group is formed of farmers, bankers, lawyers, realtors, and/or other interested citizens, then methods of keeping farming viable in the region could be explored, and a program could be developed for these purposes.

Hundreds of acres of farmlands in the region are already part of municipal agricultural security districts. These districts are regulated by state law which protects farming activities from being restricted by local nuisance ordinances and complaints from neighbors who may be offended by noise, odors, dust, or other routine farming characteristics. Farmers in agricultural security districts are also eligible to sell their development rights. The development rights from many farms in all four of the region's townships have already been sold to Montgomery County under the County's farmland preservation program.

Figure 4.5 Significant Woodlands and 150' Woodland Edge



Woodlands

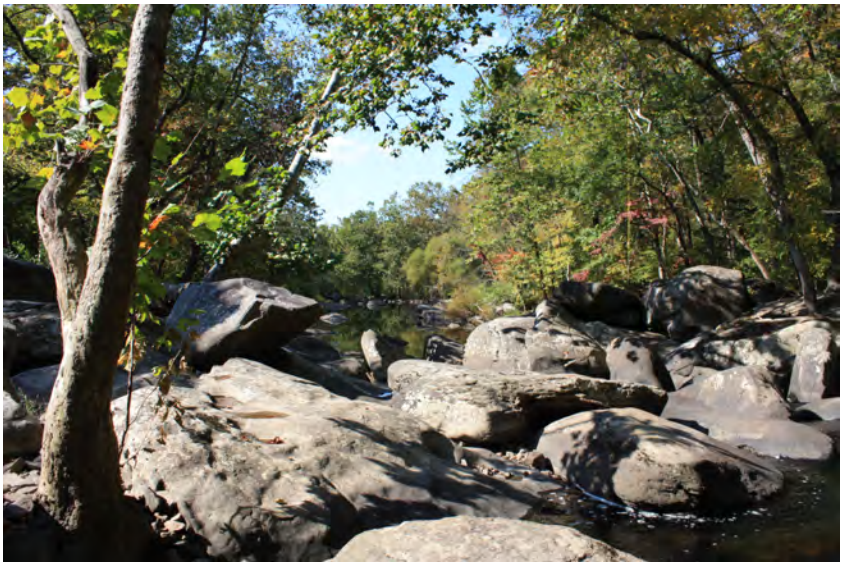
The types of soils found in the region influence the various vegetative communities because different types of plants grow well in different types of soils. Appropriate vegetation along streams and ponds improves water quality by filtering stormwater runoff pollution before it reaches the water bodies. It also provides unique habitats for specific types of vegetation and unique wildlife habitats. The types

and quantities of wildlife in an area vary with the types of vegetation and the habitats provided by landforms, hydrology, soils, and vegetation.

The types of woodlands found in the Indian Valley result from the long-range effects of many other natural resources. Locations of remaining woodlands are affected by cultural reasons as well. Early settlement and growth of the boroughs diminished original woodland areas, new growth often removes woodland as well. The fact that farmers will not farm on less viable lands which are too steep, too rocky, or too wet has left concentrations of woodlands in these areas. Figure 4.5 shows the regions significant woodlands, differentiating between a 150-foot woodland edge and interior forest land.

Soils, slopes, and solar orientation influence the type of species associations found within woodlands. The soils on north-facing slopes tend to be cooler and more moist than south facing slopes due to less exposure to sunlight. They also tend to have more softwoods (pines, hemlocks) mixed with some hardwoods such as beech and black walnut. The warmer, drier southern slopes tend to have more hardwoods (tulip poplar, ash, and oak).

Woodlands, particularly large contiguous tracts, are both functional and aesthetic. Generally, woodlands prevent soil erosion, particularly in areas of steep slopes and shallow soils. This reduces siltation and minimizes nonpoint source pollution, provides natural buffer areas around surface water features, and provides habitats for wildlife. This not only benefits the wildlife but also offers recreational and educational opportunities for residents. In addition, woodlands create a scenic quality that cannot be quantified. They have an intrinsic value that enhances the character of the community.



Woodlands also contribute by providing "corridors" that supply cover for wildlife movement and migration. These include hedgerows and larger woodland connections such as those found along stream valleys. These areas also provide important shelter and foraging opportunities for wildlife. Woodland corridors, in particular hedgerows, also add to the scenic rural character and reduce soil erosion by slowing wind and water. These areas are often found along roads, property lines, and separating fields within a property. In the Indian Valley, preserving these types of woodlands will help to maintain rural quality.

Large and small remnants of woodlands are scattered throughout the Indian Valley as a result of development and agricultural practices on a landscape that was once entirely forested. Concentrations of woodlands remain in areas that are too steep, too rocky, or too wet for farming. The largest wooded area within the Indian Valley is found along the diabase geology and

steep slopes of the Ridge Valley Creek. Including the western portions of Salford and Upper Salford Townships, this forest is unique. It is part of the largest contiguous forest in southeastern Pennsylvania.

Appropriate vegetation along surface water features improves water quality by filtering pollutants in stormwater runoff before they reach the waterbody. In woodlands, the understory and herbaceous cover is important in decreasing erosion and sedimentation and stabilizing the soil around shallow-rooted trees.

Regional Conservation Landscapes

The Indian Valley is rich with a variety of significant natural resources, including unique geology, prime farmland, a concentration of interior forest, and significant floodplain habitat. Based upon the unique concentration of these natural resources, and a county-wide Natural Areas Inventory (2008), three significant landscape have been identified and within the region (see Figure 4.6). These three landscapes are discussed in greater detail below, including a summary of critical features, core areas, management strategies.

Unami Creek/Ridge Valley Creek

The central feature of the Unami Creek/Ridge Valley Creek Conservation Landscape is a large block of unbroken forest bordering the Unami and Ridge Valley Creeks and covering the ridge that separates the two streams. This landscape is an important source area for birds and helps to maintain bird diversity elsewhere in the county. It is also supports six state listed species of plants and an extremely scenic landscape centered around the boulder-strewn Unami Creek.

Description

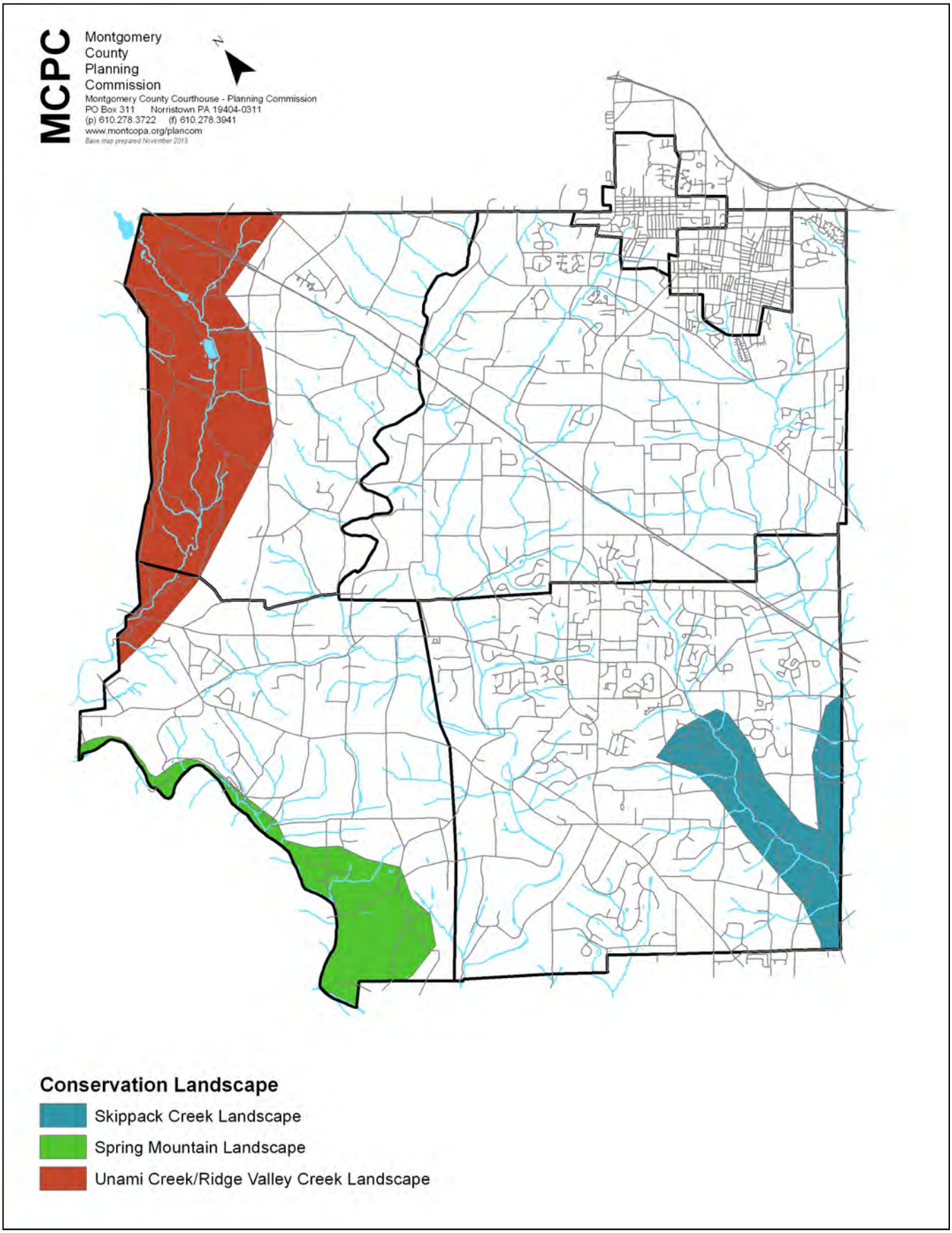
The Unami Creek/Ridge Valley Creek Conservation Landscape occupies a broad swath of land extending northeast from the mouth of the Unami Creek to the Bucks County boundary. Containing 9,196 acres, it includes parts of Salford, and Upper Salford Townships in the Indian Valley Regional Planning Area and Marlborough Township in the Upper Perkiomen Valley Regional Planning Area. . The valleys of the Unami and Ridge Valley Creeks and the diabase ridge that separates them are the major landscape features.

The landscape adjoins the Spring Mountain, Mill Hill/Deep Creek, and Upper Perkiomen Creek/Green Lane Reservoir Conservation Landscapes to the west. The Unami Creek/Ridge Valley Creek Conservation Landscape is part of the larger 16,000-acre Unami Forest, which extends into Bucks County, and the even larger Schuylkill Highlands landscape. The Schuylkill Highlands Landscape in nearly one million acres in size and contains the largest unbroken forest between Washington D.C. and New York City.

Geology

The landscape of the Unami and Ridge Valley Creek valleys is shaped by the broad zones of the Boyertown diabase sheet that encircle Red Hill, Green Lane, and Pennsburg and extend into Bucks and Lehigh Counties. Weathered, exposed diabase is responsible for the boulder-choked course of

Figure 4.6 Conservation Landscapes



the Unami Creek and the ringing rocks boulder field along Ridge Valley Creek. The northwestern one-third of the Unami/Ridge Valley Creek Conservation Landscape includes a second, narrower diabase dike and an area underlain by Brunswick Formation shales and sandstones.

The landscape includes an active quarry located on the north side of the Unami Creek near its confluence with the Perkiomen Creek where metamorphosed shale known as hornfels, is being extracted and crushed for use in road building.

Forest Cover

Overall the area remains 67 percent forested, due to the unsuitability of the rugged, rocky hills for agriculture. It is one of few forested tracts of this size remaining in southeastern Pennsylvania, exceeded in size only by the Hopewell Big Woods area that straddles the Berks/Chester County boundary. An important characteristic is the presence of 3,738 acres of forest interior. The large blocks of unbroken forest and extensive areas of riparian forest habitat along the creeks constitute prime bird habitat.

Hydrology

The landscape includes the Unami and Ridge Valley Creeks from the Bucks County border to their mouths. It also includes the lower portion of the Macoby Creek, a tributary that enters the Perkiomen Creek at Green Lane. The Unami Creek basin in Montgomery County (which includes Ridge Valley Creek), is designated HQ-TSF (high quality, trout stocked fishery). The Macoby Creek designation is TSF (trout stocked fishery).

The Unami Creek is dammed at two locations within the landscape, forming Lake Delmont and Long Lake in the Musser Scout Reservation. In addition the remains of a mill dam can still be seen closer to Sumneytown. Ridge Valley Creek is dammed to form Whites Mill Pond. Skymount Lake, another impoundment, is located on an unnamed tributary of Ridge Valley Creek.

The National Wetlands Inventory lists only 18.1 acres of wetlands within the landscape; most within the floodplains of the Unami and Ridge Valley Creeks or associated with the lakes at Camp Skymount and Whites Mill.

Critical Features

Extensive areas of interior forest habitat are the most important feature of this landscape. In addition, three high priority sites identified in the 1995 Natural Areas Inventory are included: Ridge Valley Site, Whites Mill Meadow, and Whites Mill Swamp.

Plant diversity - The presence of six PNHP-listed plant species was confirmed during 2006—2007 : prairie phlox, Indian paintbrush, showy goldenrod, pinelands pimpernel, Mead's sedge, and goldenseal.

Birds - One hundred and seventy-six (176) species of birds have been recorded in the Unami Creek Valley throughout the year in habitats ranging from interior forest, riparian forest, floodplains, and grasslands to emergent wetlands and ponds. At least 30 species of concern have been noted.

Past Uses

The streams of the Unami and Ridge Valley Creeks powered gristmills, saw mills, fulling mills, (linseed) oil mills and (gun and blasting) powder mills. The forested hills were the source of timber for building material, fuel, and charcoal making. Charcoal was hauled to Green Lane to power the iron forge that was operated there from about 1733 until 1812 by the Maybury family and later by William Schall. Charcoal was also an ingredient in the manufacture of gun powder, a local industry that was centered in the vicinity of Sumneytown during the 1800s.

Protection Status and Other Designations

The 1,250-acre Musser Scout Reservation is protected under a conservation easement held by the Natural Lands Trust. In addition, an agreement has recently been reached to protect the 150-acre Diversified Community Services Camp located along the Unami Creek between Camp Hart and Camp Delmont. The Natural Lands Trust also owns the 324-acre Fulshaw Craeg Preserve, with lands in Marlborough, Salford and Upper Salford Township, and holds easements on 1,368.5 acres in the Ridge Valley Creek/Unami Creek area.

Publicly owned land includes 156 acres owned by Salford Township.

The Unami Hills area of Montgomery and Bucks Counties has been designated as one of the critical treasures of the Pennsylvania portion of the Highlands Region by the Highlands Coalition.

The Coalition Webpage describes the area as:

The Unami Hills region of northern Montgomery County is part of a diabase rock formation that stretches across Bucks and Montgomery Counties. These rocky, wooded ridges form a conspicuous band of forest two to three miles wide from the Delaware River to central Montgomery County, including the Unami Creek Valley and that of the adjacent Ridge Valley Creek. The diabase zone constitutes the largest contiguous tract of forest remaining in these two counties, and provides important habitat for forest interior birds such as pileated woodpeckers, songbirds and other species that require large blocks of unfragmented forest.

In addition, Audubon Pennsylvania has designated a 9,945-acre area, which extends into Bucks County as the Unami Creek Valley Important Bird Area, citing the presence of breeding populations of many forest interior and riparian corridor species as a major factor.

A landscape conservation plan prepared by The Natural Lands Trust mapped habitat conservation networks and established landscape conservation priorities for sustaining the ecological and cultural integrity of the area.

Core areas within the Indian Valley

Fulshaw Craeg Preserve

The 324-acre Fulshaw Craeg Preserve, consisting of 201.7 acres in Salford Township, 103.8 acres in Marlborough Township, and 18.6 acres in Upper Salford Township, is owned by The Natural Lands Trust, which also holds

conservation easements on many private properties within the Unami/ Ridge Valley Creeks Conservation Landscape. Fulshaw Craeg ("Ridge Valley Site" of the 1995 Natural Areas Inventory) has long been a mecca for local botanists because of the diversity of species it supports in habitats ranging from deciduous forests to wet meadows, floodplain wetlands, and exposed rocks. It also contains a boulder field of diabase rocks that ring when tapped with a hammer, which is known locally as the "Potato Patch."

Plant diversity – A plant list for Fulshaw Craeg containing 401 species, was compiled by Dr. Roger E. Latham from several published and unpublished sources. Several species listed by the Pennsylvania Natural Heritage Program are present including showy goldenrod, stiff goldenrod, and Indian paintbrush,

Plant communities – The Fulshaw Craeg Preserve includes **red oak – mixed hardwood forest** on the rocky slopes along Ridge Valley Creek. Several **wet meadows**, which are maintained by mowing and burning, are also present.

Lichens – An inventory of the lichens of the Fulshaw Craeg Preserve was conducted by James Lendemer of the Academy of Natural Sciences of Philadelphia, as part of a study of the lichens associated with diabase geology. Fifty species were documented, many from the boulder field.

Reptiles and amphibians – A survey of reptiles and amphibians, conducted at Fulshaw Craeg in 2004 by Dr. Harry M. Tiebout III of West Chester University, documented 15 species in the preserve, five salamanders, five frogs and toads, two turtles, and three snakes. Surveys by Marlin Corn in 2006—2007 added one additional salamander species and one snake for a total of 17 species.

Invasive species – Japanese barberry, winged euonymus, garlic mustard, and low smartweed are scattered throughout the forested areas at Fulshaw Craeg. Oriental bittersweet, Japanese honeysuckle, multiflora rose, and orange daylily are present along edges and roadsides. Wet meadows and other open areas have been invaded by Japanese stiltgrass and arthraxon grass.

Whites Mill Preserve

Salford Township's Whites Mill Preserve, which includes Whites Mill Swamp and Whites Mill Meadow (both cited as high priority sites in the 1995 Natural Areas Inventory), lies along Ridge Valley Creek just downstream from Camp Skymount. It includes a 6.1-acre millpond created by a dam on Ridge Valley Creek along with associated wetlands. The 137-acre site also includes a wet meadow along the creek downstream from the dam, successional red maple forest on lowlands, and forested diabase slopes.

Plant diversity- Four hundred (400) species of plants have been documented on this property including two PNDI-listed plants: Mead's sedge and showy bur-marigold. Non-native species accounted for only 16 percent of the flora (64 species). This list represents an update of information included in a report prepared for the Salford Township Supervisors in 2003 by Drs. Ann Rhoads and Timothy Block.

Plant communities - Eight distinct plant communities have been identified at the Whites Mill Preserve.

Reptiles and amphibians – The pond and surrounding wetlands provide excellent habitat for reptiles and amphibians. Surveys during 2006-2007 documented 15 species.

Deer status – Like other sites in the Unami/Ridge Valley Creek Conservation Landscape, forested areas of the Whites Mill Preserve have been over browsed by deer. The result is reduced diversity of herbaceous flora, and lack of shrubs and sapling trees.

Invasive species - Several invasive plants threaten the integrity of natural communities present at this site. Callery pear is abundant in a young successional forest at the corner of Whites Mill and Reller Roads. Patches of Japanese knotweed are present on the pond margin, and Chinese wisteria and tree-of-heaven have invaded the forest edge along Hill Road. In addition Japanese stiltgrass and arthraxon grass are abundant in wet meadows, roadsides, and open woods.

Core areas outside the Indian Valley

Musser Scout Reservation

Musser Scout Reservation is the site of three Boy Scout camps: Camp Hart, Camp Delmont, and Camp Garrison. The reservation occupies 1,250 acres along both sides of the Unami Creek. Acquired by the Boy Scouts beginning in 1918, the land remains primarily forested. Camp facilities are concentrated on the west side between the creek and Camp Road.

Past uses – The boulder-strewn streambed and steep rocky slopes of the Unami Creek valley limited agricultural use to small plots. However, the creek provided good sites for mills; 9 or 10 mills of various types operated along the Unami Creek in what is now the Musser Reservation during the 1700s and 1800s.

While never cleared for agriculture, the forested slopes along the Unami were cut repeatedly for timber and the manufacture of charcoal. The forests of today are the result of regrowth. Timber harvesting continues; in the winter of 2005-2006 two tracts totaling approximately 200 acres were cut in the areas bounded by Swamp Creek Road, Scott Road, and Sutch Road, and Swamp Creek Road, Boucher Road and the power line right-of-way.

Plant diversity - Populations of four plants listed by the Pennsylvania Natural Heritage Program including goldenseal, prairie phlox, pineland pimpernel, and showy goldenrod are known to be present in the reservation. Two others, Indian paintbrush and Mead's sedge grow nearby. Four others are known from historical records, but have not been documented recently: puttyroot orchid, spring ladies'-tresses, horse-gentian, and few-flowered nutrush.

Plant communities - The forests of the Reservation are successional forests of various ages that have regenerated following repeated timber harvesting. Common species include white oak, red oak, black oak, sugar maple, black birch, white ash and tuliptree with an occasional patch of hemlock. Remaining stumps revealed that trees 60—120 years of age had been cut in

the previous year (ash - 66 years, white oak - 120 years, black oak - 80 years, tuliptree - 60 years). Timber management appears to be directed at removal of red maple and black birch as many trees of these species had been cut and left to rot on the ground. American beech was notably absent, perhaps the result of previous "stand improvement" efforts. Plantations of Norway spruce and white pine are present in scattered locations.

Floodplain forests, characterized by a mosaic of sycamore – (river birch) - box-elder floodplain forest and silver maple floodplain forest, are located along the Unami Creek. Wetlands are limited to 18.1 acres, and mostly confined to the floodplain.

Reptiles and amphibians - Surveys by Marlin Corn during 2006-07 documented the nine common species of reptiles and amphibians within the Musser Scout Reservation.

Birds - Bird diversity is discussed for the Unami Creek/Ridge Valley Creek Conservation Area as a whole; see introductory section above.

Deer status – Like most areas of Montgomery County, the Unami Creek Valley is being over browsed by deer. Seedlings and saplings of any species except sugar maple are rare. Those that reach sapling stage are often damaged during the rut by male deer rubbing their antlers on the trunks to remove velvet. Browsing may slow tree regeneration in areas of recent timber harvests. It remains to be seen if the combination of the amount of land harvested and the protection afforded by residual brush left behind allows trees to outgrow the reach of deer. A January 2007 walk of the harvest area, revealed few young oak trees; those that were present were less than 18 inches tall and had been browsed repeatedly.

Invasive plants – The forest of the Musser Reservation is relatively free of invasive species except for forest edges and recent harvest zones. Openings in the forest canopy caused by tree harvests allows species such as multiflora rose to flourish, as there is a constant "rain" of these bird-dispersed seeds. Japanese stilt grass is another species that follows disturbance such as timbering. The seeds were likely introduced on the tires of logging trucks as within the first year post harvest, stiltgrass appeared in the haul roads. Other species we noted include a large colony of tree-of-heaven in the power line right-of-way between Camp Road and Upper Ridge Road, Japanese spiraea spreading along the woods edge on Camp Road, and a major infestation of European water chestnut in Lake Delmont. Arthraxon grass, a non-native grass similar to Japanese stilt grass, has invaded open areas along the stream banks and moist meadows throughout.

Camp Skymount

The former Camp Skymount, just inside the Montgomery County line, has been acquired by Marlborough Township. The 41.8-acre property includes a 15.8-acre lake formed by a dam on a small tributary of Ridge Valley Creek. The property also includes areas of tussock sedge marsh below the dam. In addition, wet meadow habitat is present along the west side of the lake.

Skymount Lake provides habitat for four species of frogs and toads: American toad, bullfrog, green frog, and pickerel frog.

Recommendations

Connectivity and Land Protection Priorities

Protection and expansion of forest interior areas is the focus of recommendations contained in the Conservation Plan for the Unami Creek Valley Important Bird Area and the Unami Creek Valleys Landscape Conservation Plan. The goal is to secure a 10,000-acre expanse of forest.

Consistent with this emphasis, our major recommendation is to focus on extending preservation/protection to existing in holdings, and targeting large parcels that can connect and extend existing protected areas. In addition, a program to enlist voluntary action by private landowners to manage their land in accordance with this goal is needed. Several specific sites for which protection should be sought are listed below:

- The Ridge Valley Creek corridor between Camp Skymount and Whites Mill Preserve.
- The Souderton-Harleysville Gun Club along the Ridge Valley Creek between the Whites Mill and Fulshaw Craeg Preserves.
- The Camp Green Lane property along Ridge Valley Creek.

Forested slopes on the south side of Unami Creek just above Sumneytown.

Management Priorities

Reduce deer density; a reduction in the number of deer present is desperately needed to protect the high diversity of plant species recorded in the Unami/Ridge Valley Creek landscape. The area should be opened to hunters to the maximum extent possible.

Control invasive species; a good initial target would be the population of European water chestnut in Lake Delmont. Other invasive species that should receive immediate attention are the patches of Japanese knotweed at Whites Mill Pond and the infestation of callery pear at Whites Mill and Reller Roads.

Initiate a forest-monitoring project to document the condition of the habitat vis-à-vis deer browse.

Monitor the impact of the recent timber harvest on the Musser Scout Reservation to determine the impact on the forest community and bird diversity.

Spring Mountain Conservation Landscape

The central feature of this conservation landscape is Spring Mountain which in in Upper Salford Township and raises about 350 feet above the surrounding lands. The landscape has sections that are forested, but also has sections that are canopied forest and support an exceptionally high diversity of species of birds and plants including several rare species, especially on Spring Mountain. The Spring Mountain Woods, part of the Spring Mountain Landscape, is the highest priority site in the 1995 Montgomery County Natural Areas Inventory.

Description

Location

The Spring Mountain Conservation Landscape in the located in north central part of Montgomery County. Containing approximately 3,338 acres it is anchored around Spring Mountain located primarily in Upper Salford Township and also includes parts of Lower Fredrick Township, Upper Fredrick Township, Perkiomen Township, Marlborough Township and Schwenksville Borough. The landscape extends from the southern end connecting the Middle Perkiomen Creek Corridor through Spring Mountain northwest along the Perkiomen Creek from Schwenksville to Perkiomenville, connecting to the Mill Hill/Deep Creek Conservation Landscape. The landscape also continues along the Unami Creek to include the Rogers/Heister Preserve in Upper Salford Township. The Spring Mountain Landscape includes 4.85 miles of the Perkiomen Creek and 4.9 miles of the Perkiomen Trail.

Geology

The Spring Mountain Conservation Landscape lies on an arm of the Boyertown diabase sheet that extends south-southeast from Perkiomenville to Schwenksville, making a swing to the west at Spring Mountain. As in other diabase landscapes, forest cover remains high due to difficulty of clearing the rocky land for farming. The rocky slopes of Spring Mountain were identified as "unimproved woodland" on the 1893 Atlas of Montgomery County reflecting the fact that the land remained forested at that time.

Not all of the landscape is underlain by diabase however; red shales of the Brunswick Formation occupy an area along the Perkiomen from above Spring Mountain to the mouth of the Unami Creek. Outcrops are visible on steep slopes along the west side of the trail above the Salford Station Road bridge connecting Upper Salford to Lower Frederick. A narrow band of Lockatong Formation argillite to the east helps to create the steep slopes in this area.

Forest Cover

The landscape is 51 percent forested (1,705 acres of forest) as compared to 20% forest cover for Montgomery County as a whole. When a 50-meter (165 feet) buffer is applied along all forest edges, the Spring Mountain landscape is found to contain 703 acres that qualify as forest interior habitat. The single largest area of forest interior in the landscape is located on Spring Mountain which is now protected open space in large part to efforts by Upper Salford Township, Schwenksville Borough, Lower Frederick Township, Perkiomen Township and Montgomery County with each entity working together with their neighbors to purchase portions of the Mountain for preservation.

Hydrology

The National Wetlands Inventory lists 9.6 acres of wetlands within the landscape, most of which is within the floodplain of the Perkiomen Creek. While the National Wetlands Inventory serves as a good starting point, it only utilizes aerial photo interpretation and many more acres of wetlands areas are likely to be found as site-by-site more detailed wetland studies are completed.

Critical Features

Spring Mountain Woods, the highest priority site from the 1995 Natural Areas Inventory, lies within the landscape. Pennsylvania Natural Heritage Program-listed plants documented during 2006 field studies include ginseng, nodding trillium, and Wister's coralroot.

Protection Status and Other Designations

Spring Mountain is included in the Highlands Region and has been designated as a critical treasure by the Highlands Coalition.

Upper Salford Township along with Schwenksville Borough joined together to purchase and preserve the west side of the Mountain, the former site of the Spring Mountain House a luxury resort in the 1900's. A great example of a Pubic Private Partnership to preserve open space if the purchase of the former Spring Mount Ski Area for conservation - Upper Salford Township spending $600,000 of local government township tax payer money and Montgomery County utilizing $500,000 of Pennsylvania Department of Community Development funds and $100,000 of Montgomery County Open Space money, purchased the former Spring Mount Ski Area – each acquiring 82 acres of the mountain for conservation preservation. In addition to the 164 combined acres preserved by Upper Salford and Montgomery County, a private entity, Spring Mountain Adventures, purchased the 20 acres of commercial facilities at the base of the mountain to operate ski and other recreational activities on the preserved lands by signing a 40 year lease with Upper Salford Township which owns the ski slope areas of the protected open space.

Upper Salford Township then worked with Lower Fredrick, Schwenksville to purchase the remaining lands of Spring Mountain. Finally, Perkiomen Township purchase 6.5 acres of Spring Mountain in their township to complete the total preservation of Spring Mountain.

Furthermore, Upper Salford Township owns several parcels totaling around 62 acres along the Perkiomen Creek and Perkiomen Trail while Lower Fredrick owns 6.71 acres (Foy Park) along the creek at the Spring Mount Road Bridge.

Core Area

Spring Mountain

Spring Mountain 480 feet above mean sea level is the prominent feature along the Spring Mountain Landscape. It lies along the east side of the Perkiomen Creek opposite the mouth of the Swamp Creek. The north side contains the Spring Mountain Ski Area leased to a private operator. The

Perkiomen Trail a national rail to trail traverses the lower slope of the west side of the mountain.

Bounded by the Perkiomen Creek, Spring Mount Road and Schwenksville Road, Spring Mountain covers 401 acres. Spring Mountain Woods was identified as the highest priority site in the 1995 Montgomery County Natural Areas Inventory. Spring Mountain Meadows, which consists of two successional seepage areas of the lower south slope, were listed as locally significant. A total of 243 acres is currently in public ownership.

Past uses – Spring Mountain, with the Perkiomen Creek curving around its western edge, has long been a recreation area drawing people from near and far. Spring Mountain House, a resort hotel, occupied a site on the south slope from 1883 to the late 1940's. Operated later as a retirement home, the building was torn down in 1990 following vandalism. Foundations, access drives, and many non-native plants are remainders of earlier use. A spring midway up the slope behind the old hotel site may be the feature for which the mountain was named. The Perkiomen Inn, located of the west slope included a golf course. It ceased operation after a fire in 1951; for a time the property was operated as a YMCA camp. Woodside Inn located of the east slope was recently renovated in 2012 and is now operated as a restaurant and Bed and Breakfast. In addition, to the hotels, a railroad station and adjacent amusement park were located at the west end of the mountain near the village of Spring Mount. The amusement park, including an observatory of the west end of the property ceased operation in 1901.

The geology of Spring Mountain supported quarrying for paving stones known as Belgian Blocks that were shipped by rail to Philadelphia to be used to construct streets. In fact, an earlier name of the mountain was Stone Hill. Although quarrying ceased about 1920, split rocks and drill holes visible in the woods provide enduring evidence of surface quarrying of the large diabase boulders.

Plant diversity – Many local amateur and professional botanists have scrutinized the flora of Spring Mountain over the years including Ann Newbold, Val Udell, Jack Holt, Janet Ebert, Peter Small, Marcia Clouser, and the authors of this report. The result is a checklist of 534 species of which 137 (26%) are non-native. This represents exceptionally high diversity for an area of only 400 acres. Three species classified by the Pennsylvania Natural Diversity Inventory are known to be present: Wistar's coralroot, nodding trillium, and ginseng.

Plant communities – Data were collected from three 100-meter transects in order to quantify the species composition of the forest. Upper slope forests were dominated by tuliptree and chestnut oak, with shagbark hickory, pignut hickory, white oak, white ash, black oak, sugar maple, bitternut hickory, and red maple in decreasing order of importance. The most abundant species in the understory were Norway maple, sugar maple, and white ash. The only canopy species detected in the seedling layer was white ash. The prominence of tuliptree reflects the successional nature of this forest. The abundance of Norway maple and sugar maple in the understory is an indication of future changes in composition of the canopy unless steps are taken to control the invasive species and reduce deer density.

Mid-slope forests on the north side of the mountain were dominated by red oak, chestnut oak, and tuliptree. Associated species included sugar maple, American basswood, white ash, and bitternut hickory. However, oak was missing from the understory and seedling layers where the dominant species were white ash, red maple, and sugar maple.

The lower slope forest on the northeast side was dominated by sugar maple, tuliptree, and black oak. Associated species included bitternut hickory, white ash, white oak, beech, chestnut oak, basswood, and red maple. Sugar maple and white ash dominated the understory and seedling layers.

All three areas sampled fall into the **sugar maple – basswood forest** type; the composition of the herbaceous layer was an important factor in this determination. Overall trends were consistent throughout; sugar maple is increasing in importance and oaks are declining. Although this may be partly due to the greater shade tolerance of sugar maple, over browsing by deer is also indicated. Shrub and ground layer plants have been browsed repeatedly leaving stunted stems and stubby branches. In addition, many sapling trees have been killed or seriously damaged by bucks rubbing the velvet from their antlers. Oaks, which are particularly vulnerable to deer damage, were missing from the lower levels of the forest.

Reptiles and amphibians – Eleven species of reptiles and amphibians were documented on Spring Mountain during 2006-07. The list includes redbelly turtle, a PNHP-listed species, which was observed in the Perkiomen Creek at the base of Spring Mountain.

Birds - A bird list compiled between May 1988 and June 2007 by Marcia Clouser, resident of Spring Mountain, includes 163 Species of which 82 were determined to be breeding locally. Seven forest interior species were recorded: Acadian Flycatcher, Red-eyed Vireo, Blue-gray Gnatcatcher, American Redstart, Black-and-white Warbler, Ovenbird, and Scarlet Tanager. Black Vultures were listed as nesting among rocks at the top of the mountain.

Butterflies – A survey of the butterflies of Spring Mountain lists 51 species including 4 considered rare or uncommon in the Philadelphia region.

Deer status – Like most areas of Montgomery County, Spring Mountain is being overbrowsed by deer. Data from transects indicates that oaks are missing from the sapling and seedling layers and that sugar maple, which is less preferred by deer, is increasing. In addition, we observed that lower slopes on the west side along the bicycle trail lack sapling, shrub, or herb layers due to heavy browsing by deer. Similarly upper slopes on the south side have very thin or non-existent shrub and herb layers.

The wet meadow/seepage areas on south side in the area below the former hotel that are referred to as "Spring Mountain Meadows" are also heavily browsed. Ironically, without the influence of deer these areas would probably be a dense successional thicket. This should not be interpreted as a reason not to reduce deer density. The significance of Spring Mountain Meadows as habitat for butterflies or other flora or fauna should be evaluated and a management plan prepared. If open habitat is required, mowing or burning can be used to retard succession.

Invasive plants – Past uses of Spring Mountain created opportunities for the establishment of non-native, invasive plants. The site of the former hotel is choked with invasives including trumpet creeper, Japanese honeysuckle, multiflora rose, tree-of-heaven, autumn olive, and forsythia. Norway maple, winged euonymus, and Japanese barberry are abundant along the ridge top.

Floodplain areas along Perkiomen Creek contain abundant Morrow's honeysuckle, multiflora rose, obtuse-leaved privet, Japanese barberry, orange daylily, garlic mustard, star-of-Bethlehem, Japanese honeysuckle, lesser celandine, and Japanese stiltgrass.

Other Protected Open Space

Other publicly owned open space in the Spring Mountain Landscape includes several tracts lying along the Perkiomen Creek between Spring Mount and the mouth of Unami Creek.

Lower Frederick Township's 6.17-acre Foy Park is located along the Perkiomen Creek at the Spring Mount Road bridge; it includes the section of the Perkiomen Trail that is located on the west side of the creek. On the east side just above the former railroad bridge that carries the trail across the creek, the former Camp Rainbow property, now owned by Montgomery County, occupies 17.56 acres between the trail and the creek.

Upper Salford Township owns nearly 40 acres on the east side of the Perkiomen Creek that includes approximately 5,000 feet of creek frontage along Salford Station Road. Most of the land is floodplain, and is almost an island due to a back channel/old millrace that parallels the road.

The lower one-third of this floodplain area is mowed regularly except for a narrow band of forest on the creek bank. However, the upstream end contains mature floodplain forest dominated by river birch, sycamore, basswood, elm, black walnut, bitternut hickory, and a half dozen or more immense hackberry trees up to 80 feet tall and 30 inches in diameter at breast height (dbh). A dense layer of spicebush is also present. As is true of floodplains throughout Montgomery County, the ground layer is dominated by non-native species including lesser celandine, dame's-rocket, ground ivy, and Japanese stiltgrass.

The water-filled back channels provide habitat for birds, including Great Blue Heron, and are also important breeding habitat for amphibians. The 70 -acre Godshall property where the Philadelphia Folk Festival is held is adjacent to township lands in this area.

Additional Sites Requiring Protection

A steep forested slope along the west side of Perkiomen Creek provides a very scenic backdrop for the Upper Salford Township open space. This land, which features numerous rock outcrops, is an important buffer along the creek corridor; it is currently in private ownership.

Upstream most of the land adjacent to the creek is also privately owned with the exception of a 22.4-acre tract at the northwestern corner of Upper Salford Township.

Management Priorities

Connectivity and Land Protection Priorities

- Spring Mountain occupies an area of just over 400 acres, of which 158 acres of mostly wooded land remain in private ownership. All unprotected parcels within the area bounded by the Perkiomen Creek, Spring Mountain Road, and Schwenksville Road should be a high priority for protection.

- Fields on both sides of Heflin Road on the eastern slope of Spring Mountain, which are used by grassland birds including Northern Harrier, Kestrel, and American Tree Sparrow, should be targeted for protection.

- Unprotected areas along Perkiomen Creek should be targeted for protection in order to secure a continuous riparian corridor on both sides of the creek. Specific parcels include:

- Floodplain areas lying between the trail corridor and the creek in the vicinity of Hendricks Floodplain areas lying between the mouth of Swamp Creek and Foy Park.

Land Management Priorities

- Spring Mountain should be designated as a biodiversity preserve because of the exceptionally high diversity of both plants and birds known to be present.
- Reduction in deer density is desperately needed to protect the high diversity of plant species recorded at Spring Mountain and to allow forest regeneration to proceed normally. Reduction of the deer population, does in particular, through any of the available options, is critical to the health of this landscape.

- Bicycle and equestrian access to the mountain should be limited to the Perkiomen Trail. Footpaths that go up the mountain are too narrow and erodible to withstand use by bicycles or horses.

- Invasive species control efforts should focus on girdling Norway maples on the ridge top in the Spring Mountain Woods area and removing winged euonymus in the same area. Norway maple should also be targeted for control in other areas such as the lower slope along the Perkiomen Creek. Tree-of-heaven should also be targeted for control.

- Activities at the ski slope should be monitored to minimize intrusions into the adjacent forest.

- A management plan should be developed for Spring Mountain Meadows.

- Reforestation should be initiated on floodplain areas owned by Upper Salford Township that are currently being mowed regularly. This would be an excellent site for establishment of a forested riparian buffer through a program such as TreeVitalize (www.treevitalize.net).

Skippack Creek Conservation Landscape

Evansburg State Park makes up the major portion of the Skippack Creek Conservation Landscape. The landscape contains extensive, mostly forested, floodplains along the creek that serve an important ecological role in reducing flood damage throughout the region. Forested slopes along the creek also provide habitat for a diversity of plant and animal species including riparian specialists.

Description

Location

The landscape extends along both sides of Skippack Creek for almost 7 miles from its confluence with the Perkiomen Creek to just below Sumneytown Pike. It covers 10,221.3 acres and includes parts of Lower Providence, Skippack, Worcester, Towamencin, and Lower Salford Townships. The landscape includes Evansburg State Park, the largest protected parcel of open space in Montgomery County.

At its southern end, the Skippack Creek Conservation Landscape connects with the Middle Schuylkill River Conservation Landscape.

Hydrology

The entire landscape is within the Skippack Creek watershed, a sub-basin of the Perkiomen Creek Watershed. In addition to the main stem of the Skippack Creek, the landscape also includes the lower portions of several tributaries including Zacharias Creek, Towamencin Creek, and the West Branch of the Skippack Creek. The Skippack Creek and its tributaries are classified as TSF (trout stocked fishery).

The landscape contains 880.7 acres of floodplains along Skippack Creek and its tributaries of which 606.5 (69 percent) are forested. In addition to supporting five distinct plant associations and a variety of plant and animal species, floodplains perform vital ecosystem functions including flood control, filtration, and ground water recharge.

Geology

Reddish-brown shales, siltstones, and sandstones of the Brunswick Formation underlie the northern two-thirds of the landscape. To the south, several bands of Lockatong Formation shales and argillites are present. A small diabase dike along the east side of the creek just south of Stump Hall Road undoubtedly is responsible for the steep northwest-facing slope at this location.

Forest Cover

Forests cover 3,779.8 acres of this landscape, 37 percent of the land surface; 1,823.2 acres meet the criteria for interior forest.

Critical Features

Two small populations of early buttercup (Pennsylvania endangered) persist at sites in Evansburg State Park. Although one population appears to be fairly stable, the smaller one is being out-competed by invasive species. Canada yew, a watchlist species, was also present in the park at a site referred to as "Green Hill Woods" in the 1995 Natural Areas Inventory, but its future is in doubt due to severe browsing by deer. Redbelly turtle, a threatened species in Pennsylvania, was found in Skippack Creek in 2006.

The 1995 Montgomery County Natural Areas Inventory also identified Eagleville Woods as a locally significant site dominated by beech and various oak species. Unfortunately this site, which is located on a tributary of Skippack Creek, has been subdivided and construction of new homes is imminent.

Birds - Data from the 2004—2008 Breeding Bird Atlas for the Skippack Creek Conservation Landscape, as defined in this report, include a total of 54 species. Several, including Belted Kingfisher, Wood Duck, and Louisiana Waterthrush are riparian specialists. Forest interior species, another group of interest, are represented by Scarlet Tanager, Barred Owl, Blue-gray Gnatcatcher, and Wood Thrush.

Past uses

European immigrants arrived in the Skippack Creek landscape beginning in 1702. The land was cleared for farming with the result that by 1756 one-third of the land was under cultivation. By the late 1800s, remnant forests persisted only on steep slopes and floodplains. Of the seven mills that once operated along the banks of Skippack Creek, only one remains today.

The Skippack Creek Landscape was still mainly agrarian in the 1960s when the Commonwealth of Pennsylvania purchased land with the goal of creating a 1,200-acre impoundment for water supply and recreation. Local opposition to the plan to flood the valley and demolish over 200 historic buildings stalled the dam project, but creation of a multiuse park proceeded. Many historic buildings remain in the park, some in badly deteriorated condition.

Preservation Status and Other Designations

Twenty-six (26) percent of the land in this landscape is already preserved, including the 3,349 acres in Evansburg State Park and township-owned parcels along the lower Skippack Creek and several of its tributaries.

The Evansburg Historical District was placed on the National Register of Historic Places in 1972.

Core Areas

Evansburg State Park

Covering 3,349 acres, Evansburg State Park accounts for most of the Skippack Creek Conservation Landscape. Furthermore, it is the largest parcel of protected open space in Montgomery County.

Plant diversity - A vegetation inventory of the park conducted by Morris Arboretum personnel in 2004 resulted in a list of 545 species of vascular plants of which 45% were non-native. This is a high percentage of non-native species and reflects the presence in the park of many former farms and homesteads. Two native plants were found that are of conservation concern, early buttercup (PA threatened) and Canada yew (watchlist).

Plant communities - Sixteen natural community types were identified in Evansburg State Park; seven types were sampled using the point quarter methodology to quantify canopy composition and nested plots for understory and shrub composition. Much of the park contains successional habitat, which has developed in the past 50 years on abandoned farmland; however, mature floodplain forest borders Skippack Creek. Steep slopes along the creek support mature red oak – mixed hardwood forests, or in one case a dry hemlock - oak association. Sugar maple was prominent in six of the 11 transects studied.

Reptiles and amphibians - Ten species of reptiles and amphibians have been documented in Evansburg State Park as part of this study. Most are common species. Only the redbelly turtle has conservation status.

Birds - See bird data for the Skippack Creek Conservation Landscape as a whole above.

Deer status - Although much of the park is open for hunting, evidence of over browsing by deer was detected in studies of understory and herbaceous layers throughout (Khan 2005). In general there was a paucity of tree saplings, which indicates a failure of canopy species to regenerate. Highly preferred species such as oaks and hemlock were noticeably absent from the understory. Oaks were present in the canopy in six transects, and co-dominant in 3, but in only one transect was there oak in lower layers of the forest. Ash and tuliptree were also noticeably scarce in the understory. There was no evidence of hemlock regeneration at all. On the other hand, sugar maple, which is less preferred by deer, was the most abundant tree in the understory in all six transects where it was a constituent of the canopy. American beech, because of its ability to form root shoots, maintained a presence in the understory where mature trees were part of the canopy.

The shrub layer also showed signs of browsing impact. Spicebush, a native plant that deer do not prefer, and various invasive, non-native species including multiflora rose, Amur honeysuckle, autumn olive, obtuse-leaved privet, and winged euonymus dominated the shrub layer. Canada yew, which was once abundant on a steep, northwest-facing slope along the Skippack Creek, had been nearly eliminated by over browsing. The herbaceous layer, too, was characterized by a low diversity of native species and an abundance of non-natives such as garlic mustard, Japanese stiltgrass, and lesser celandine.

Invasive plants - Invasive plants are well established in the Skippack Creek landscape, mainly because of past disturbance and earlier eradication of natural forest cover. A high proportion (45 percent) of plant species identified in Evansburg State Park were non-native, introduced species. While not all non-native plants are invasive, the park contains established populations of many non-native species that are capable of affecting native habitats and altering successional patterns.

In successional areas multiflora rose, Autumn olive, and Amur honeysuckle have formed dense thickets that retard the development of a tree canopy. In the early spring, floodplains and lower slopes are carpeted with lesser celandine to the extent that native spring ephemerals such as trout-lily and spring-beauty are hard to find. Over browsing by deer, described above, aggravates the problem as deer feed preferentially on native plants, leaving non-natives to grow and spread.

Several non-natives, such as porcelain berry, purple loosestrife, Japanese angelica-tree, five-leaf akebia, Callery pear, black swallow-wort, Japanese knotweed, and common reed appear to be in the early stages of invasion in the park. Control efforts should target these plants now before they spread more widely.

Other Protected Open Space

A narrow strip of land owned by Lower Providence Township along the west side of Skippack Creek extends from Evansburg State Park to the Perkiomen Creek and could provide a trail connection if a river crossing can be achieved.

Lower Salford Township owns several parcels of open space along the West Branch of the Skippack Creek totaling 185.6 acres. Worcester Township has acquired several small parcels along Zacharias Creek and seeks to create a continuous greenway downstream from the Peter Wentz Farmstead. Similarly Towamencin Township has preserved most of the riparian area along Towamencin Creek with the exception of a few small gaps.

Recommendations

Land Protection and Connectivity

- Protect forested slopes on the east side of Skippack Creek at the southern end of Evansburg State Park to maintain a forested corridor along the creek.
- Complete the planned trail connection between Evansburg State Park and the Perkiomen Trail, perhaps by continuing the trail upstream along the east side of the Perkiomen Creek to the bridge at Arcola.
- Complete protection of a continuous riparian corridor along Zacharias Creek connecting the Peter Wentz Farmstead historic site to Evansburg State Park.
- Complete protection of the riparian corridor along Towamencin Creek.

Land Management

- Reduce deer density throughout.
- Focus control efforts on invasive species at Evansburg State Park that are still limited in distribution and abundance as identified by Nancy Khan in her 2005 report to the Bureau of State Parks. Species include porcelain berry, purple loosestrife, Japanese angelica-tree, five-leaf akebia, Callery pear, black swallow-wort, Japanese knotweed, and common reed.

Interpretation and Education

- Develop environmental education programs at Evansburg State Park focused on the problems of deer overabundance and invasive species.

- A deer exclosure, placed in an area where park visitors would see it could be part of an environmental education program.

Policies for Natural Resource Protection

The following actions can help achieve the plan's goals for natural resource protection:

1. Direct growth to areas with lower ecological impacts, such as previously developed areas and areas served by existing infrastructure.
2. Review existing floodplain and erosion control ordinances to ensure that they are as "strict" and environmentally sensitive as possible.
3. Encourage the preservation of farmland and other lands through state, county, and nonprofit organization efforts.
4. Enact steep slope ordinance regulations.
5. Enact natural features conservation regulations.
6. Designate scenic roads throughout the region, along with applicable development standards or preservation techniques to preserve the scenic quality of the area.
7. Enact clustering or other zoning regulations intended to preserve significant land areas.
8. Explore innovative preservation techniques such as the transfer of development rights, agricultural zoning, and performance zoning.
9. Ensure the timing of development is related to the logical extension or improvement to existing infrastructure and other projected capital improvements.
10. Explore the feasibility of wellhead and aquifer recharge protection, woodland preservation, and open space ordinances.
11. Enact wetlands, groundwater protection, and water conservation ordinances.
12. Form an environmental council to consider environmental policies and make recommendations.

CHAPTER 5

OPEN SPACE

Introduction

The preservation of open space and rural character is one of the associated benefits of directing new development into designated growth areas. However, active preservation of open space is essential for the provision of recreational opportunities, the protection of significant natural features, and the creation of connections between larger areas of open space. This chapter identifies and describes the open space, parkland, and recreation areas of the Indian Valley, how they relate to one another, and recommendations for increasing the amount, function and value of open space. The Indian Valley, as a region, has the opportunity to create a wealth of recreational opportunities, including trails and parkland for active and passive recreation, as well as considerable natural resource protection.

Existing Conditions

Municipal Core Parks and Greenway Parks

Municipally-owned open space in the region can be separated into two basic categories: core parks and greenway parks. The region's "core parks" consist of those parks that meet the community's basic active recreation needs. Core parks all contain some element of active recreation, which may include playgrounds, hard surface courts for basketball or tennis, playing fields for baseball, football, soccer, or lacrosse, picnic areas and pavilions, or walking paths. Greenway parks provide passive recreation opportunities, such as hiking, and provide protection for significant natural resources. Typically larger in size than core park land, greenway parks are often associated with larger woodlands and stream valleys, creating or contributing to interconnected swaths of open space or "greenways." Figures 5.1 through 5.7 detail the municipal, county, and state-owned core parks and greenway parks.

County Parkland Conservation Lands

In addition to the parkland owned by the region's six municipalities, there is a considerable amount of land preserved in the Indian Valley by Montgomery County, the Natural Lands Trust, and via the State's Agricultural Preservation Program (see Figure 5.8). Montgomery County, through the state's agricultural land preservation program, has preserved over 1,700 acres of farmland—as detailed in Figure 5.9. The majority of the farms are located in Franconia and Salford Townships, but all four townships are represented. All preserved farms remain under private ownership and are actively farmed.

Figure 5.1 Franconia Parks

Name	Type	Acres
Branchwood Park	Core	25.16
Forrest Meadow Park	Core	26.59
Franconia Community Park	Core	53.15
Hunter's Green Tot Lot	Core	0.42
Laurel Lane Park	Core	7.62
Orchard Hill Tot Lot	Core	0.44
Pear Tree Village Tot Lot	Core	0.59
Anders Tract	Greenway	63.00
Greaser Tract	Greenway	16.60
Harrington Village Open Space	Greenway	18.00
Leidy's Woods	Greenway	8.00
Lion's Gate Open Space	Greenway	8.10
Banbury Open Space	Greenway	47.37
Chestnut Grove Park	Greenway	9.62
Enos Godshall Park	Greenway	10.30
Kingscote	Greenway	25.26
Moyer Tract	Greenway	57.00
Nyugen	Greenway	13.47
Ochard Hill Open Space	Greenway	5.07
Pear Tree Village Open Space	Greenway	5.14
TOTAL		400.90

Figure 5.2 Salford Parks

Name	Type	Acres
Township Building	Core	2.50
Pin Oak Drive	Core	0.98
Copper Mine Creek Preserve	Greenway	19.65
Morwood Road Natural Area	Greenway	12.28
Whites Mill Preserve	Greenway	136.84
Branchwood Park	Core	NA*
TOTAL		172.25

* Acreage in Franconia Township

Figure 5.3 Telford Parks

Name	Type	Acres
Centennial Park	Core	6.32
Franconia Avenue Park	Core	1.71
Jacob & Mary Stover Park	Core	5.99
Telford Borough Community Center	Core	0.42
Telford Borough Municipal Park	Core	6.80
Summit Avenue Park	Core	0.41
TOTAL		21.65

Figure 5.4 Lower Salford Parks

Name	Type	Acres
Alvin C Alderfer Park	Core	38.47
Charles L Reed Memorial Park	Core	42.13
Dan Roth Park	Core	1.86
Harleysville Community Center	Core	37.77
Heckler Plains Farmstead	Core	134.60
Landis Road Pocket Park	Core	0.05
Lederach Golf Club	Core	225.97
Robert Clemens Bucher Park	Core	1.71
Beechwood	Greenway	21.78
Bergey Park	Greenway	144.30
Bryarwyck Park	Greenway	49.77
Buckingham Circle Open Space	Greenway	9.52
Groff's Mill Park	Greenway	56.90
Homestead	Greenway	10.62
Jacob Reiff Park	Greenway	102.12
Lucon Road Open Space	Greenway	38.60
Manor Run Open Space	Greenway	2.32
Maple Avenue Open Space	Greenway	1.72
Morris Road Open Space	Greenway	17.43
Pioneer Circle Open Space	Greenway	3.14
Robins Glen	Greenway	6.61
Robison	Greenway	1.87
Salford Lea	Greenway	22.59
Samuel Harley Park	Greenway	65.25
Schlosser Road Open Space	Greenway	32.80
Summerwind 2	Greenway	6.05
Ted Dannerth Memorial Park	Greenway	16.27
The Heathers	Greenway	3.53
Wawa Park	Greenway	36.29
Westrum Open Space	Greenway	11.19
Evansburg State Park**	Greenway	33.17
TOTAL		1176.42

*** indicates state-owned park*

Figure 5.4 Souderton Parks

Name	Type	Acres
Holly's Hill Park	Core	4.13
Boys & Girls Club/Lawn Avenue Park	Core	5.00
Souderton Borough Park	Core	11.38
West Street Park	Core	7.09
Wile Avenue Playground	Core	1.76
TOTAL		29.36

Figure 5.5 Upper Salford Parks

Name	Type	Acres
Rahmer Park	Core	31.25
Spring Mountain	Core	120.43
Upper Salford Park	Core	79.98
Camp Rainbow*	Core	18.23
Heister-Rogers Conservation Preserve	Greenway	65.23
Moyer-Marks Park	Greenway	6.16
Municipal Open Space	Greenway	46.11
Old Skippack Road Open Space	Greenway	7.92
Orchard Park	Greenway	21.37
Central Perkiomen Valley Park*	Greenway	28.93
Hendricks Station Road Open Space*	Greenway	19.53
Spring Mountain Natural Area*	Greenway	76.78
TOTAL		521.93

** indicates county-owned park*

Figure 5.6 Indian Valley Parks by Type

Type	Acres
Core	900.91
Greenway	1421.59
TOTAL	**2322.51**

Figure 5.7 Indian Valley Parks by Municipality

Municipality	Acres
Franconia	400.90
Lower Salford	1176.42
Salford	172.25
Upper Salford	521.93
Souderton	29.36
Telford	21.65
TOTAL	**2322.51**

Figure 5.8 Indian Valley Open Space

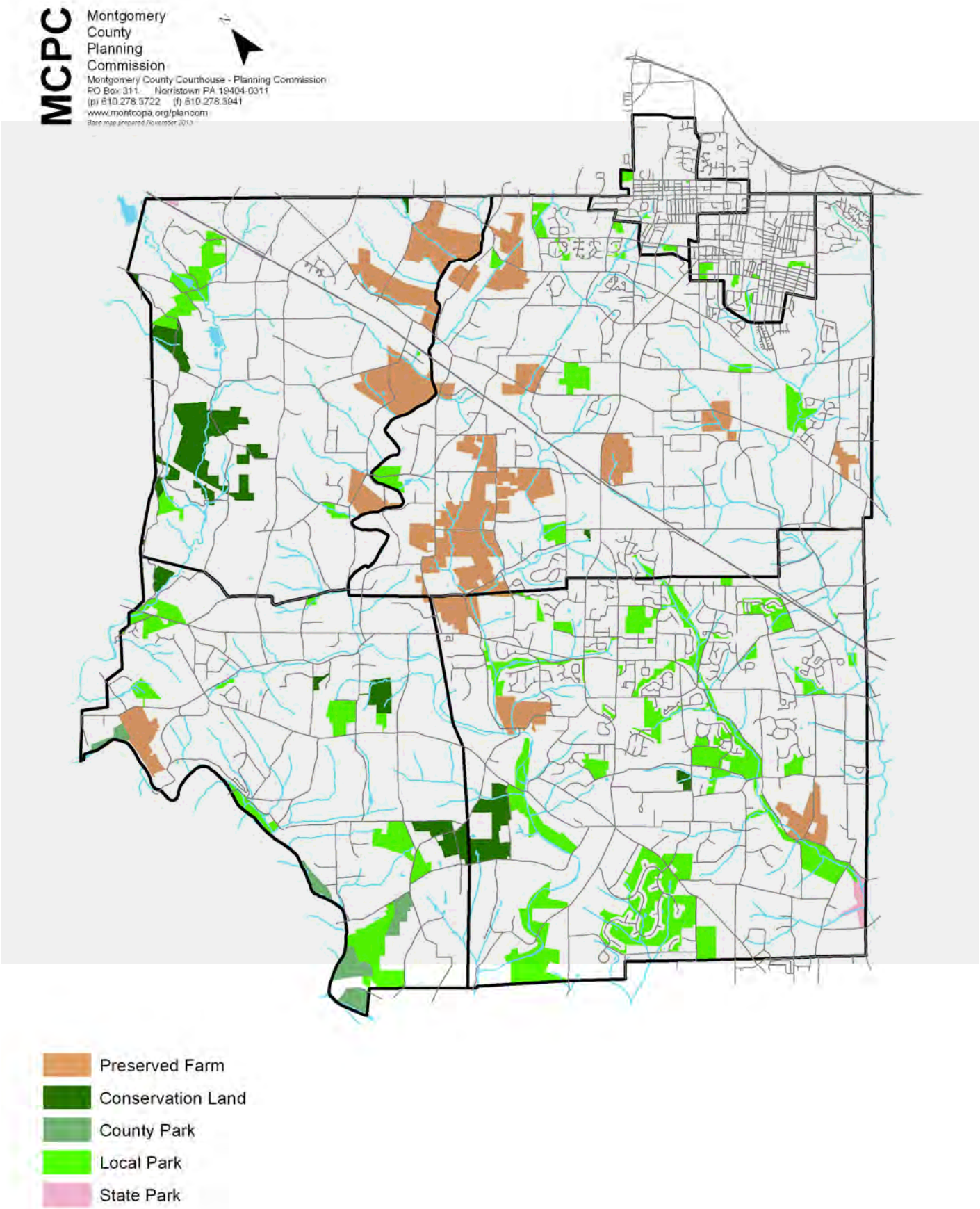


Figure 5.9 Indian Valley Preserved Farms

Name	Municipality	Acreage
Detweiler	Franconia	16.9
Frankenfield	Franconia	25.5
Halteman	Franconia	51.9
Hendricks	Franconia	31.0
Hunsicker	Franconia	54.5
Landis	Franconia	55.2
Marcho, #1	Franconia	39.6
Marcho, #2	Franconia	69.3
Moyer	Franconia	12.0
Moyer	Franconia	40.1
Moyer	Franconia	15.8
Nice	Franconia	78.1
Nyce	Franconia	56.5
Rittenhouse	Franconia	52.3
Schuler	Franconia	48.1
Souder #1	Franconia	55.0
Souder #2	Franconia	43.9
Souder #3	Franconia	28.6
Yoder #1	Franconia	44.6
Yoder #2	Franconia	12.4
Yoder #3	Franconia	18.8
Freed	Franconia/Lower Salford	25.3
Clemens & S. Six	Lower Salford	90.0
Knechel	Lower Salford	45.8
Knechel	Lower Salford	37.5
Ziegler	Lower Salford	56.0
Barndt #1	Salford	71.1
Barndt #2	Salford	93.7
DeHaven	Salford	58.5
Jones	Salford	22.1
Mosher #1	Salford	74.7
Mosher #2	Salford	68.4
Mosher #3	Salford	32.4
Moyer	Salford	18.3
Rose	Salford	26.2
Styer	Salford	67.4
McConnell	Upper Salford	67.4
McConnell	Upper Salford	16.5
TOTAL		1721.3

Open Space Planning

Evaluating Needs

Historically, open space needs have been calculated using a 1983 guide, Recreation, Park and Open Space Standards and Guidelines, developed by the National Recreation and Park Association (NRPA). The 1983 guidelines suggested a municipal park system include 6.25 to 10.5 acres of land per 1,000 people. Using the high-end of the standard, at 10.5 acres per 1,000 people, the cumulative open space needs of Indian Valley communities based upon the region's projected 2030 population (52,862) would be approximately 555 acres . With total open space over 2,000 acres, the region exceed the necessary open space by about 318% (1,826 acres). Basing open space needs solely on acreage, however, does not necessarily mean the proper mix of open space and recreation opportunities exist within each municipality. Given this deficiency of the standards, the NRPAs 1983 publication has been replaced to recognize the expanded role parks and open space play in local communities.

The newer publication, Park, Recreation, Open Space and Greenway Guidelines, was developed by the National Recreation and Park Association and the American Academy for Park and Recreation Administration. The new title, without the word "standards," is indicative of the shift toward a new way of looking at open space. The philosophy of the more recent publication is to provide guidance only, ultimately allowing the amount of park, recreation, and open space to be defined by individual communities. The publication also emphasizes a systems approach to park, recreation, open space, and greenway planning that focuses on local values and needs rather than strict formulas.

This new systems approach looks at the level of service provided to the users of the facilities rather than the size of the facilities based upon population. This method reflects, in part, the dual function of municipal parkland: providing recreation opportunities (passive and active) and protecting important natural features. Municipal parks often contain a significant amount of environmentally sensitive land that prevents much of the acreage from being utilized for active recreation. Under these guidelines a 5-acre, fully developed municipal park that contains few significant natural features may afford the same level of service as a 35-acre park that provides active recreation and also provides protection for important woodlands, wetlands, or other environmental amenities. Therefore, acreage needs for each municipality will hinge upon their individual goals and not an arbitrary per capita acreage figure.

The Indian Valley as a region feels strongly about natural resource protection and preservation of open space. Therefore, each community has individually established park and open space plans that balance their desire to provide recreation opportunities while protecting the region's natural resources. This philosophy also complements the objective to establish trail

connections between open space and recreational areas since many of these connections are often viewed as "linear parks" and can be provided in association with greenway protection.

The goal and recommendations from the community open space plans are outlined below.

Open Space Goals

Each of the municipalities in the Indian Valley set forth goals in their Open Space Plans that are designed to direct municipal policies regarding open space and recreation. The overarching themes that were seen in all of the open space plans were the need to provide more and better recreation, the need to preserve farmland, and the need to maintain the rural character of the Indian Valley region. The following is a summary of the goals that each municipality aspires to. For more information on specific objectives designed to meet the goals listed here, each municipality's current open space plan should be consulted.

Lower Salford

Lower Salford's Open Space Plan, published in 2006, outlines three primary goals complemented by a set of interrelated secondary goals. The goals are as follows:

- Protect and Maintain Remaining Rural Character
    - Preserve farmland, scenic views and roads, historic sites and landscapes
    - Preserve the identity and character of existing villages
    - Protect rural character using regional planning concepts
- Protect Sensitive Natural Features
    - Protect steep slopes
    - Protect stream corridors, floodplains, and wetlands
    - Protect woodlands
- Maintain and Enhance Recreation Opportunities
    - Optimize use of existing parklands
    - Continue to expand the trail network

Franconia

Franconia's Open Space Plan, published in 2005, includes four goals. Additionally, the Open Space Plan takes a look at the goals that the township established in their 1995 Open Space Audit and discusses the successes that the township has had in meeting those goals. The four goals laid out in the 2005 Open Space Plan are below.

- Make farmland preservation a high priority

- Maintain the rural character of the Indian and Perkiomen Creek stream valleys
- Create a greenbelt around the primary growth areas of the township
- Save more open space for recreation

Upper Salford

The Upper Salford Open Space Plan, published in 2004, includes goals from their 1996 Open Space and Environmental Resource Protection Plan. In addition to the goals from 1996, the Open Space Plan presents a new list of updated and revised goals. The updated and revised goals are listed here.

- Protect and enhance the township's village areas
- Maintain and protect the township's rural character
- Protect the township's vulnerable ecological resources
- Explore active recreation opportunities
- Establish links or corridors between significant destinations
- Preserve significant farmland and farming as a business
- Identify, seek to preserve, and enhance scenic areas throughout the township
- Identify and preserve historic resources within the municipality
- Support adoption and implementation of the Indian Valley Regional Comprehensive Plan

Salford

The Salford Open Space Plan was enacted in 2005 and also includes goals from their 1995 Open Space and Environmental Resource Protection Plan. Just like Upper Salford, Salford was able to evaluate and revise the goals from the previous plan. The updated and revised goals from the 2005 Open Space Plan are as follows:

- Identify, preserve, and protect in perpetuity those unique resources which define Salford Township
- Develop green infrastructure and open space network
- Protect historic resources
- Educate community about open space

Souderton

Similar to the other municipalities, Souderton's 2006 Open Space Plan also lists the goals from the previous plan—published in 1995. Using the 1995 goals as a starting point, Souderton developed the following goals for the 2006 Open Space Plan.

- Maintain and enhance Souderton's community character

- Protect, preserve, and enhance Souderton's natural resources
- Protect, preserve, and enhance historic amenities
- Provide and enhance community facilities and services
- Provide and enhance recreation and open space areas
- Enhance the borough's streetscapes
- Create gateways to the borough and new pocket parks
- Establish trail/sidewalk connections
- Consider long-term implications of high school site closing

Telford

Telford developed the goals in its 2006 Open Space Plan using the goals that were laid out in a previous Open Space Plan published in 1996 as a starting point. The goals from the 2006 Open Space Plan are:

- Implement the Telford Borough Park Plan
- Enhance amenities at municipal parks
- Create a coordinated open space network
- Maximize open space on existing abandoned and underutilized properties
- Preserve significant resources
- Establish a green town image

Implementation

As already mentioned, the individual open space plans for each municipality contain a host of objectives and policy proposals that will help the municipalities achieve their individual and collective goals. In addition to the techniques listed in the open space plans, this section summarizes a menu of strategies that municipalities in the Indian Valley may wish to employ to meet the region's open space goals.

Update Municipal Open Space Plans

The municipal open space plans may be selectively updated where necessary to reflect new conditions. Currently, the open space plans were all completed in the middle of the 2000s. Since then there has been another census which provides planners with new data that will be helpful in future open space planning. In addition to incorporating the 2010 Census data, the plans may include acquisitions completed since adoption of the open space plans, and an analysis of current open space needs. The updated open space plans can also revisit properties recommended for acquisition and possible trail alignment to determine if the recommendations are still suitable and/or have changed priority. Finally, the open space plans should integrate the policy recommendations within this regional comprehensive plan. In-

creased focus upon inter-municipal connections and cooperation will greatly enhance the value of existing open space and permit consideration of future acquisitions within a regional context.

Methods to Preserve Rural Character

Every municipality in the Indian Valley has expressed a commitment to protecting the region's rural character. The preservation of the Indian Valley's rural character will involve protecting the region's natural environment, as well as the historic character of the Boroughs and existing villages, and promoting farmland and agricultural protection measures. This policy can be achieved by the municipalities through the implementation of acquisition (both fee simple and development rights purchase) and nonacquisition methods. Acquisition can involve preservation of significant natural features, including woodlands, stream valleys, and steep slopes, land for parks and open space, and agricultural lands. However, the limited availability of resources to purchase open space and the existing amount of rural area to be preserved makes it impossible to rely completely upon acquisition to preserve rural character. Therefore, each of the municipalities may implement various nonacquisition methods to ensure that when development or redevelopment does occur it is done so in a way that protects and enhances the rural character. Below is a summary of zoning and other techniques that might be considered to preserve and protect the rural character of the Indian Valley.

Agricultural Zoning

Agricultural zoning lowers the possible development density in rural areas by allowing only agricultural uses or a few large residential lots. The minimum lot size needs to be large enough to support profitable farm operations (for example 10-40 acres). Ten acres is generally used as a minimum farm size and is consistent with Act 319 and other state and federal criteria. This type of restrictive minimum lot size lessens the amount of residential development to a large degree.

An alternative to the above approach is to have a density calculation based on one home per 10-40 acres but allow homes to be placed on smaller lots of 1 or 2 acres. This will limit agricultural density but allow small lots to be subdivided so that a farmer can subdivide off residential lots and still retain the character of the agricultural area.

Another possibility is basing agricultural zoning on the soil type. For example, an area with prime agricultural soil would have one home per 10 acres or up to 40 acres (depending upon the community's ideals). Areas with other soil types could have homes on smaller lots (such as one home per 1 to 2 acres).

The zoning techniques discussed above require that a municipality have a limited amount of rural residential development with a strong, agricultural community. The intent of this type of zoning is to protect agricultural areas (rather than just rural character). Further zoning techniques relating to the

preservation of agricultural soils would enhance any agricultural zoning designation.

Agricultural Security Area and Sale of Development Rights

Agricultural security districts can be created through state law. Groups of farmers, with municipal approval, can form these districts. The districts must be at least 500 acres in size (although farms do not have to be contiguous). If a municipality is unable to meet the acreage requirement, it can join another municipality's district. While there are no obligations with this program, landowners receive these benefits:

- Farms in agricultural security areas are protected from new ordinances that restrict normal farming operations or define farms as nuisances. (Although farm operations must use acceptable farming practices).
- Condemning land in agricultural security areas becomes more difficult. Land condemnation by the Commonwealth or municipal authorities, school boards, and governing bodies, must be reviewed by and approved by a state agricultural board prior to any action.
- Farms in agricultural security areas can apply to sell their development rights to the county and the state. Farmers receive the difference between the development value of their property and the farm value of their property when development rights are sold. A conservation easement is then placed on the property, which permanently restricts the property from any nonfarm development on the property.

Performance Zoning

With performance zoning, the minimum lot size is directly related to the natural features of the site. The lot size corresponds to such features as: high water table soils, floodplains, and steep slopes. When many of these features exist on a site, the minimum lot size must be increased. If these features are not present, the minimum lot size can be smaller, such as 1 acre. These provisions are placed in the zoning ordinance.

An example of performance zoning is where the environmental constraints of a lot are subtracted from the net lot area. If the zoning district allowed a minimum of 1-acre lots and the applicant proposed a 2-acre lot and the lot contained 1.5 acres of floodplain, then the application would not be permitted because the net area would be 0.5 acres.

Performance zoning ordinances can also apply ratios to a wide range of environmental constraints such as floodplains, wetlands, steep slopes, soils, geology, woodlands, etc. The ratio is multiplied by the constrained portion of the lot. This is then subtracted from the lot area to yield the net lot area. For example for a 5-acre lot with a ratio of 100 percent for floodplains and 50 percent for steep slopes that contains 1 acre of floodplains and 1.5 acres of steep slopes:

1.5 (acres of steep slopes) x .5 = .75 acre

1 (acre of floodplain) x 1 = 1 acre

1 (floodplain) + .75 (steep slopes) = 1.75

5 – 1.75 = 3.25 net acres

Conservation Subdivision

One method to preserve open space is to cluster homes within one portion of a development and reserve the rest for permanent open space. The overall density of the site is about the same, while the homes are on smaller lots. The open space area might preserve the views, or historic landscapes, farmland, woodlands, steep slopes, wetlands, etc. The open space may then be dedicated to the township or borough as parkland.

Through clustering, significant portions of the site can be preserved as much as 75 or 80 percent. The open space may be in the developed portion of the site so that the homes have neighborhood open space. While this type of development preserves natural resources, it also benefits the developer by lowering infrastructure costs (reducing road length and utility lines).

Transferable Development Rights

Transferable Development Rights (TDR) is a zoning tool that can be enacted by Montgomery County municipalities to help save natural areas, farmlands, and watersheds from unsuitable development. TDR is authorized by the Pennsylvania Municipalities Planning Code (MPC) and enables landowners to legally sever and sell development rights allocated through municipal zoning ordinances.

TDRs are normally sold by a landowner to a developer for use in an area suitably planned to receive them – known as the receiving area – in order to save important natural areas – known as the sending area. Both the sending and receiving areas would ideally have zoning provisions in place to enable the successful exchange. Land from which TDRs are severed is permanently protected through use of a conservation easement or other permanent restriction.

Incentive Zoning

Communities can encourage developers through incentive zoning to provide open space, recreation facilities, trails, and parkland. The incentives are placed in specific zoning districts, and might allow a developer to get a higher density than permitted, or a smaller lot size. The ordinances should be crafted so that the cost for providing the amenity does not exceed the benefit received from the incentive.

Natural Resource Protection Ordinances

The ordinances discussed below protect natural features such as floodplains, stream corridors, wetlands, groundwater, steep slopes, and woodlands.

Floodplains – Floodplain ordinances (which exist in Montgomery County municipalities) restrict or prohibit development within floodplains, especially development within the 100-year floodplain. There are typically three types of floodplain restrictions in the county. One type, often common in the boroughs, allows development within the floodplain provided that buildings are floodproofed. Many ordinances do not allow building within the floodplain. This type of ordinance protects properties from flood damage, protects the environment within the floodplain, and also reduces the possibility of raising the flood level. A third type of ordinance not only restricts development within the floodplain but also requires a minimum setback from the edge of the floodplain. This type of ordinance protects the unique wooded habitat, or riparian woodlands, of the floodplain.

Stream Corridors – Stream corridor protection ordinances go beyond floodplain ordinances to protect the water quality of the stream in addition to plant and animal habitats. These ordinances have a minimum setback requirement from the stream bank where no development can occur. A minimum setback of 75 feet from the stream bank, for example, will help stabilize the stream bank, control sediment, remove nutrients that would pollute the stream, moderate stream temperature, and preserve wildlife habitat. The area within the setback should be left in its natural state.

Wetlands – In addition to federal and state governments, municipalities can regulate development that occurs on wetlands. Municipalities can prohibit development on wetlands and require wetlands to be shown on development plans. While developers can locate homes right next to wetlands (after receiving all the federal and state permits needed), such location might lead to future problems. Homeowners might decide to fill in the wet areas behind their home to have a more usable back yard. To prevent this, local municipalities can require a minimum building setback from wetlands. While federal and state regulations address only the filling of wetland and not the destruction of vegetation within the wetlands, municipalities can take the extra step and require the replacement of destroyed wetlands vegetation.

Groundwater – Wellhead protection ordinances can help protect groundwater quality. Stormwater ordinances which include provisions for groundwater recharge also help protect groundwater quality.

Stormwater management ordinances help protect surface and groundwater and ensure that adequate stormwater management takes place with development. Such ordinances maintain existing pre-development water balance within watersheds, groundwater recharge, and runoff volumes. Furthermore stormwater management ordinances can help minimize non-point source pollution and the impact on stream temperatures.

Wellhead protection areas are identified by a number of methods, such as a hydrogeologic survey. Wellhead protection ordinances can restrict certain uses such as gas stations, limit the intensity of development (such as limiting the density of single-family detached homes with individual septic sys-

tems), and/or by controlling how a land use activity occurs (such as farming with specific types of pesticides and other chemicals) within wellhead protection areas. A municipality can also impose design standards that would not allow, for example, hazardous materials containment structures or large impervious areas such as parking to limit potential groundwater pollution.

Steep Slopes – Development on steep slopes, which are typically slopes of 15 percent or more, can be restricted or prohibited through steep slope ordinances. Development often is permitted on slopes of 15 percent to 25 percent if the minimum lot size is increased and/or the percent of the lot disturbed is limited. Some steep slope ordinances prohibit all development, although typically development is prohibited on extremely steep slopes such as 25 percent or more.

Woodlands – Protection of existing trees and woodlands can be accomplished with woodland preservation ordinances. Some ordinances provide minimum standards that must be followed during construction for trees that will remain. Other ordinances, when existing trees are preserved, allow developers to put up fewer street trees, buffers, or individual lot trees. Tree replacement is another requirement of some ordinances.

Donations of Properties for Permanent Open Space

Landowners can preserve their land by donating the full title of their property or by donating their development rights to a nonprofit land conservation group. These two methods permanently preserve open space.

Landowners who donate development rights receive tax benefits and their land must be permanently restricted from future development. Land conservation groups that operate within Montgomery County and who receive donations include: the Natural Lands Trust, the Heritage Conservancy, the Brandywine Conservancy, the Nature Conservancy, and the Wissahickon Watershed Association.

Some land conservation groups can also help local landowners to develop some of their land while keeping the majority of the land open and deed-restricted. This approach ensures that land is developed in a sensitive manner yielding the landowner some monetary compensation, while also preserving the most important environmental amenities on the site.

Requiring Open Space in Developments or a Fee in Lieu of Open Space

Municipalities can require developers to provide open space through their zoning and/or the subdivision ordinance.

An open space requirement when placed in the zoning ordinance must be located in specific zoning districts (for example the high-density residential district). The zoning ordinance can specify the percentage of required open space, for example between 15 and 20 percent, and other criteria relevant to the maintenance of common open space. The municipality can not require the open space to be dedicated or open to the public or to include specific

recreational facilities. However, the community can require that the land meet specific standards such as being flat, open land suitable for playing fields.

The subdivision ordinance can also require developers to provide open space but it also allows further provisions. The ordinance can require the land to be dedicated to the township or borough. If a developer does not want to provide the land, the ordinance can require fees in lieu of land. An adopted recreation plan must be in existence in order to have this requirement and must follow the provisions within the Pennsylvania Municipalities Planning Code. A community needs to make a decision of whether fees in lieu of should be accepted so as to create larger central parks for a number of neighborhoods or if there should be smaller scale open space within developments. Requiring developments to provide open space allows municipalities to meet the needs of new residents without building additional municipal parks. The provision of requiring open space or a fee in lieu of allows for a community to have flexibility in establishing their open space priorities.

Historic Preservation Ordinances

While not directly related to open space preservation, historic preservation ordinances help save historic properties that add to the character of an area. There are a number of techniques that communities can use for historic preservation.

One possibility is that communities can amend their building codes to require a review before demolition permits are issued. This method delays demolition and allows for community input. Communities can also amend their zoning ordinance to encourage historic preservation. One way of encouraging historic preservation is the creation of a village ordinance that gives development bonuses for preserving buildings or restricts the uses within the district. Incompatible uses with historic areas, such as gas stations, are not permitted in these districts. The zoning ordinance can also encourage historic preservation by allowing historic buildings to have more uses than normally permitted in a particular district. For example, apartments, bed and breakfast establishments, or offices might be permitted in historic homes located in a single-family detached residential district.

A third possibility is that communities can create historic districts with approval of the Pennsylvania Museum Commission. This approach is more restrictive than the previous approaches discussed. Once a historic district is created, townships or boroughs have stringent control over design and preservation of facades. A township or borough architectural review board is required to be created to review all proposed changes to historic buildings.

CHAPTER 6
COMMUNITY FACILITIES

Introduction

The community facilities serving the Indian Valley include public sewer and water systems, municipal stormwater systems, emergency services, educational institutions, libraries and museums, and solid waste services. This chapter describes the existing status of these systems and establishes future policy for the continued provision of these essential services.

Water Facilities

A clean, reliable water supply is essential to protecting the health of Indian Valley residents as well as the continued economic and social vitality of the region. Currently, a majority of the Valley's residential population is served by one of two public water supply purveyors within Telford and Souderton Boroughs and Lower Salford and Franconia Townships. The majority residents of Salford Township and all the residents of Upper Salford Township rely upon groundwater via individual and community water supply systems.

Existing Water Facilities

The following is a summary of the water supply purveyors and a discussion regarding the use of individual on-lot wells for water supply

North Penn Water Authority

The North Penn Water Authority (NPWA) serves the majority of residents in Souderton Borough, and Franconia and Lower Salford Townships. Figure 6.1 below indicates the types and number of connections served by NPWA. This not include the more recent service extension to the Village of Tylersport in Salford Township to serve the Country View development.

Figure 6.1 North Penn Water Authority Connections

Municipality	Residential Connections	Estimated Residential Water Use (GPD)	Non-residential Connections	Estimated Non-residential Water Use (GPD)	Total Connections	Estimated Water Use (GPD)
Franconia	3,108	603,978	137	222,483	3,245	826,461
Lower Salford	3,375	655,864	186	234,954	3,561	890,818
Souderton	2,019	392,352	170	104,716	2,189	497,068
Telford/Salford	3	583	0	0	3	583
Total	**8,505**	**1,652,777**	**493**	**562,153**	**8,998**	**2,214,930**

Source: 2010 Annual Water Supply Report

Based upon average daily use per type of connection, approximately 2,214,930 gallons per day are utilized by these connections. Roughly 1,652,777 gallons per day are utilized by the residential connections with the remaining 562,153 gallons per day being used by the non-residential connections.

The NPWA provides water to Indian Valley consumers from several sources. First, the Authority jointly operates the Forest Park Water Treatment Plant with the North Wales Water Authority (NWWA). This facility treats water that is diverted from the Delaware River and transported to the facility via lakes and streams. The treatment plant has a capacity of twenty million gallons of water per day and NPWA and NWWA currently utilize over seven million and eight million gallons per day, respectively.

NPWA also operates six public water supply wells within the Indian Valley. These wells, shown in Figure 6.2, have a combined average daily withdrawal of 333,360 gallons per day with a combined permitted withdrawal of 1,303,000 gallons per day. Prior to the opening of the Forest Park Treatment Plant in 1996 most of these wells operated closer to the permitted withdrawal. Continued use of these wells helps to supplement water to the distribution system and increases the reliability of the water system by providing an alternative to the surface water should processing or mechanical problems arise.

Telford Borough Authority

The Telford Borough Authority serves all of Telford Borough as well as Hilltown and West Rockhill Townships in Bucks County and 67 connections in Franconia Township and 25 connections in Souderton Borough. Overall, Telford Borough Water Authority has 2,889 service connections, consisting of 2,636 residential connections and 253 non-residential connections. The average daily use of the system for all connections is 567,222 gallons per day. The Authority operates using six water supply wells, of which only one is within Montgomery County (see Figure 6.2). The total permitted withdrawal limit from these six wells is 2,506,680 gallons per day. An interconnection with the Hilltown Township Water and Sewer Authority supplements their supply and, while the Authority does not operate a surface water treatment facility, an emergency interconnection with NPWA provides it with access to surface water, helping to solidify the reliability of the system.

Areas Not Served by Public Water

The residents and businesses of Upper Salford Township, and most of Salford Township, rely completely upon groundwater for their water supply. This is also true for the more rural residents of Lower Salford and Franconia Townships as well as larger commercial, industrial and institutional uses throughout the region. Over 40 wells requiring a permit from the Delaware River Basin Commission operate within the Valley, with multiple wells operated by individual companies. Some of the larger non-residential water users consist of Moyer Packing, Mainland Country Club, and Indian Valley Country Club.

Figure 6.2 Public Water Franchise Areas and Wells

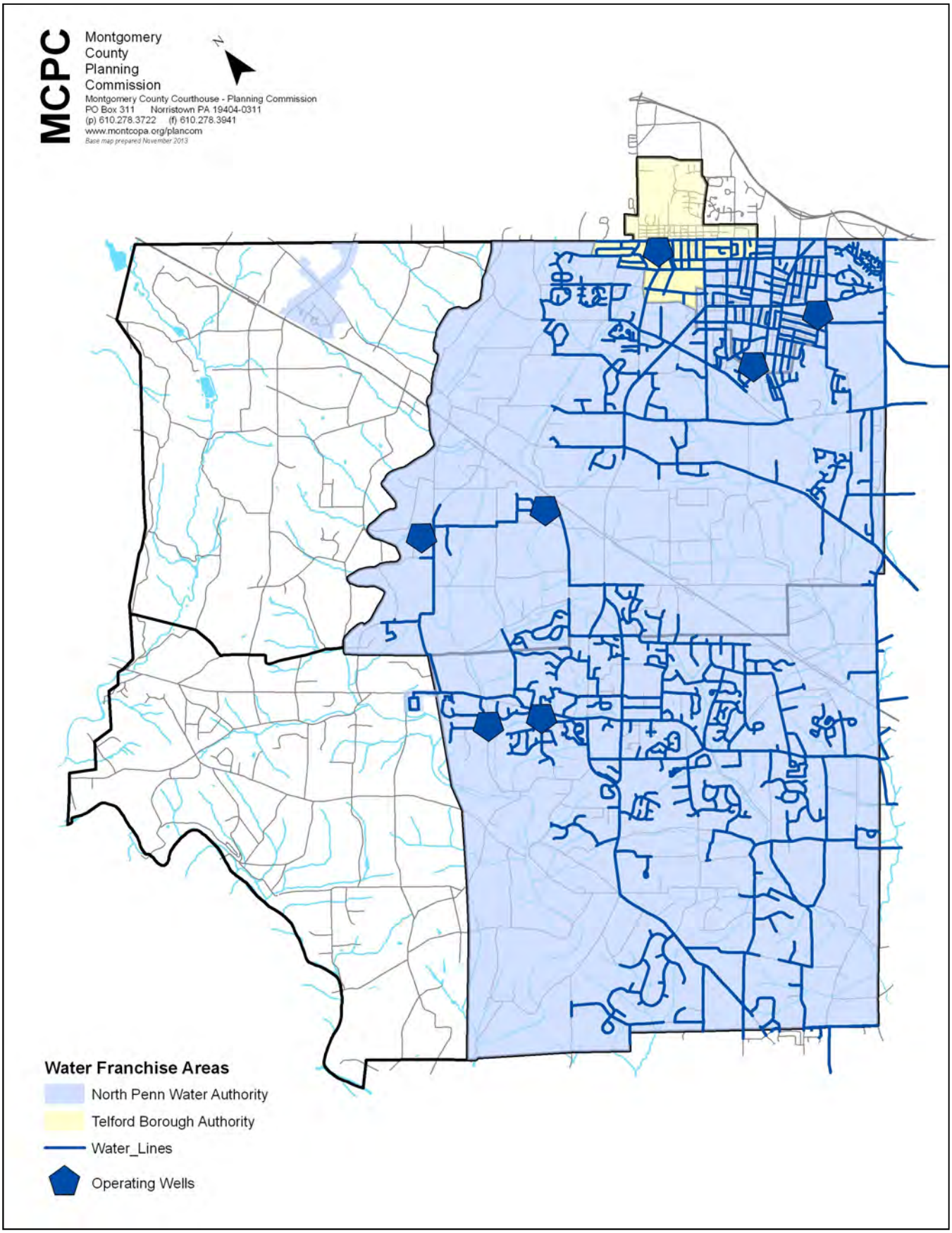
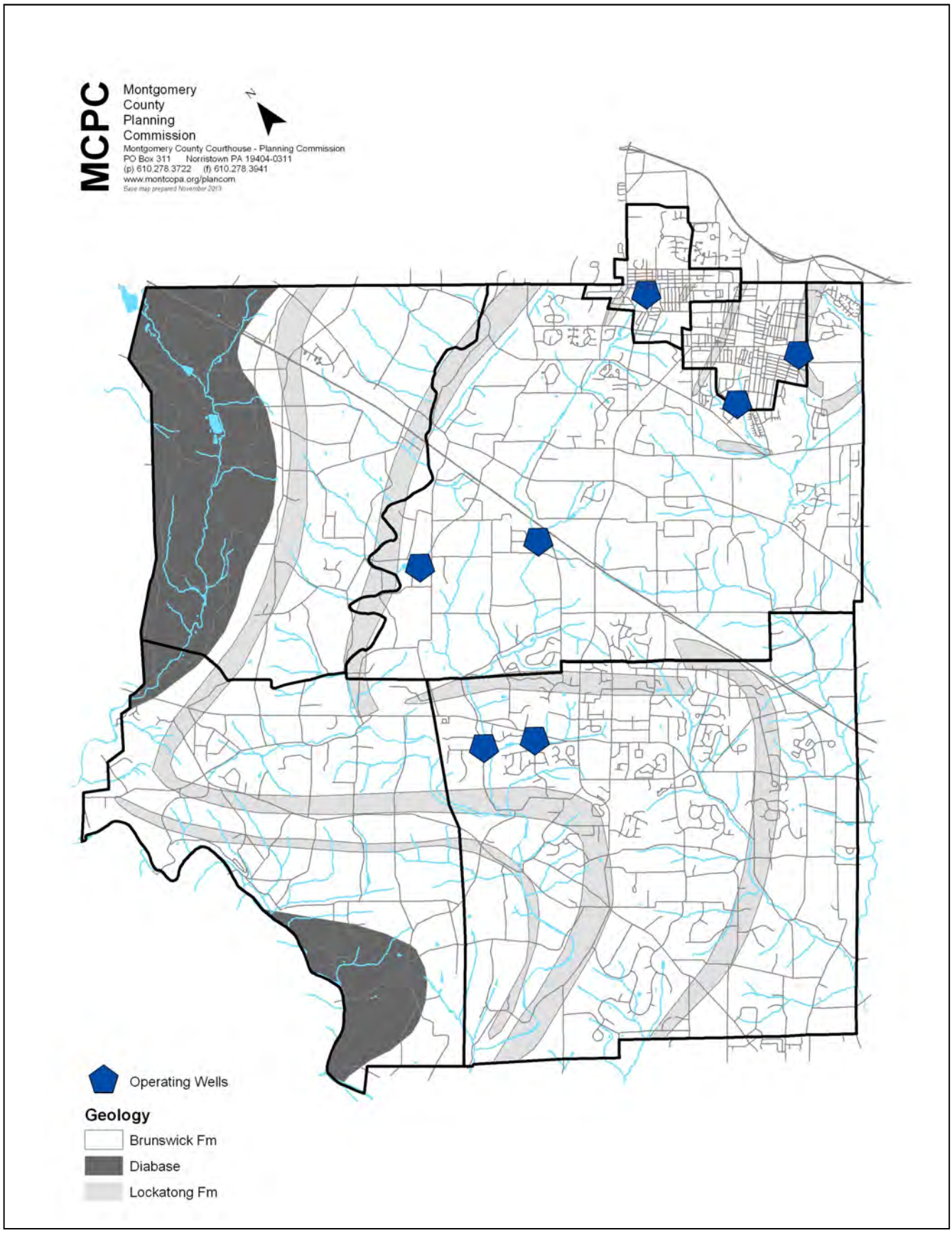


Figure 6.3 Geology and Water Supply Wells



Individual on-lot wells are directly affected by a community's natural features and the intensity of surrounding development. This is especially important given the geology of the Indian Valley. Figure 6.3 depicts the bedrock geology in relation to the methods of water supply for the Indian Valley. Of the three formations underlying the Indian Valley, the Brunswick Formation covers the most area and consists of reddish brown shale, mudstone, and siltstone. The remaining two formations, Diabase and Lockatong, are igneous and sedimentary formations, respectively. The diabase formed from molten lava and has a high degree of mineral content, while the Lockatong is derived from siltstone and claystone. Both the Diabase and Lockatong formations lack the porosity necessary to allow high levels of infiltration, leading to reduced groundwater yields. Wells within the Diabase formation have a median yield of five gallons per minute and water levels that show a strong seasonal influence. The average yield for a well within the Lockatong formation is thirty-five gallons per minute. The Brunswick Formation has moderate porosity and permeability and average yields approaching 60 gallons per minute. Highest yields for the Brunswick Formation can be found in wells greater than 200 feet in depth and/or within the sandstone and conglomerate portions of the formation.

While development can be directed away from the Diabase and Lockatong Formations, the number and proximity of individual wells can still cause well interference and affect water supply. Therefore, it is important to control the intensity of development in areas served by individual on-lot wells. This is important to ensure a more reliable water supply for the residents and businesses, and is imperative to protect all the water resources of the Indian Valley. Reduced groundwater supplies will not only affect the direct users of the water but also will lower the baseflow of local streams, affecting instream habitat and water quality.

Future Water Facilities

The community facility objectives related to water facilities involve the efficient use of existing systems by extending them only within designated growth areas, and protecting water quality and quantity by effectively applying the use of public and private water systems. To further these objectives the following policies will be adopted by the Indian Valley region.

Require public water in all areas utilizing public sewer.

Connection to a public water system should be required whenever a development will utilize public sewer, particularly when the sewer system involves stream discharge. Approving a development with individual wells that is provided sewage disposal using stream discharge can deplete the groundwater, since no recharge will be taking place. All public water purveyors in the region either utilize or have access to surface water. Therefore, the impact upon groundwater will not be as dramatic. In addition to protecting the groundwater resources for water supply, groundwater provides the baseflow to the streams of the Indian Valley and is essential to maintaining water quality and in-stream habitat.

Permit only low-density development in areas not served by water and sewer.

Low-density development, typically one unit per two acres, maximizes the land area to provide groundwater infiltration and on-lot sewage disposal. This would also apply to a cluster development in a low-density area since the recharge from the preserved open space would provide the necessary recharge.

Minimize the use of individual wells within larger residential subdivisions.

In order to protect existing users of groundwater and water quality, community wells, or other regulations providing equivalent protection, should be used in larger residential subdivisions in place of individual wells. Currently, only wells that withdraw greater than 10,000 gallons per day are regulated. Therefore, a twenty-five lot subdivision utilizing individual wells can avoid regulation even if the cumulative impact is equal to 10,000 gallons per day (400 gallons per unit). Since the development remains outside the regulations, existing groundwater users have no protection from impacts to their wells and water supply. Requiring a community well on the same subdivision would require a permit from the Delaware River Basin Commission, providing additional protection to existing users that would not otherwise exist. Having only one well instead of twenty-five also reduces the number of pathways for contaminants to reach the groundwater and pollute the aquifer.

Sewage Facilities

The foundation of sewage facilities planning in Pennsylvania is the Sewage Facilities Planning Act (Act 537). This Act, passed into law in 1966, requires every municipality to develop and maintain an up-to-date sewage facilities plan. The purpose of a sewage facilities plan is to correct existing threats to public health and safety, prevent future sewage disposal problems from occurring, and generally protecting the surface and groundwater resources of the municipality.

Each of the municipalities within the Indian Valley has adopted an Act 537 Sewage Facilities Plan and are responsible to keep the plan updated. In addition to achieving the purposes of Act 537 Planning, these plans are important tools for the implementation of the Comprehensive Plan by matching designated growth areas with sewer growth areas, and adopting policies to maintain the viability of on-lot systems outside the growth area.

Existing Physical Conditions

An understanding of the physical environment is essential to proper sewage facilities planning. Important elements of the physical environment include geology and steep slopes, soils, drainage areas, wetlands, and the availability of potable water supplies. While all of these are covered in detail as part of an Act 537 Plan, soil suitability is the most fundamental. Soil suitability considers shallow depth to bedrock, high water table, and the infiltration capacity of the soil. Shallow depth to bedrock and high water table are limitations because

sewage disposal regulations generally require at least twenty inches of soil for sand mounds and up to sixty inches for a conventional in-ground system. Infiltration capacity relates to the clay content of the soil and how efficiently effluent will percolate through, and be treated by, the soil. Percolation rates that are too fast or too slow are causes for concern when analyzing infiltration capacity of the soil. While soil suitability can be used to determine those areas where on-lot systems may be most successful, it is more important for identifying those areas where an on-lot sewage management program will be the most necessary.

Existing Sewage Facilities

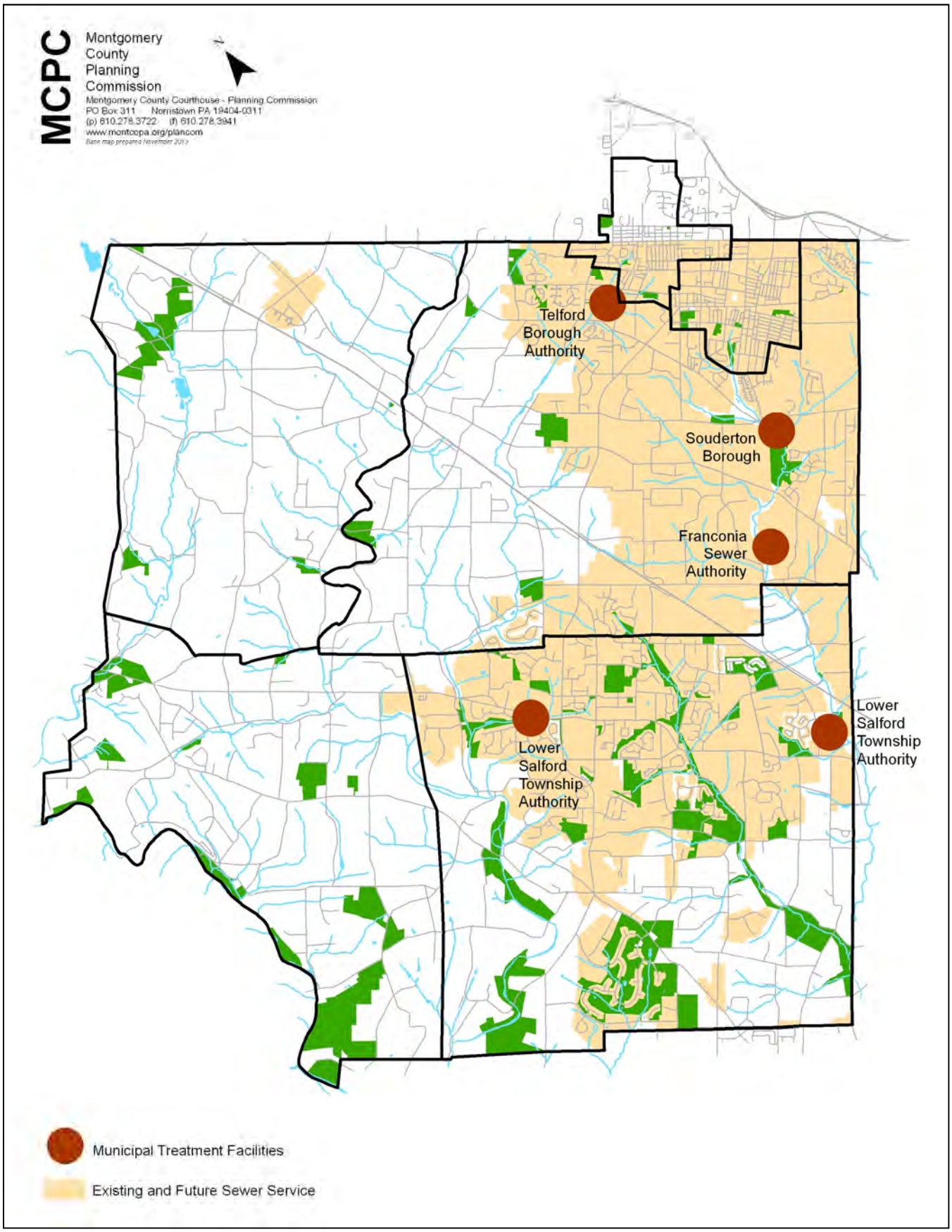
Portions of the Indian Valley region are currently served by public sewer systems (see Figure 6.4) and several non-municipal and industrial treatment plants are also in operation. Public sewer systems serve the Boroughs of Souderton and Telford as well as portions of Franconia and Lower Salford Townships and the Village of Tylersport in Salford Township. The remaining residents of Salford and all of Upper Salford Townships rely completely upon on-lot sewage disposal. Currently, seven non-municipal and industrial treatment facilities operate throughout the Indian Valley. These facilities serve various types of industries, institutional uses and camps. The following is a description of the sewage treatment facilities operating within the Indian Valley.

Facility	Municipality	Type of System
New Life Boy's Ranch	Lower Salford	Discharge to East Branch Perkiomen Creek
Camp Green Lane	Salford	Discharge to Ridge Valley Creek
Shelly Square LP	Upper Salford	Discharge to East Branch Perkiomen Creek
Upper Salford Township	Upper Salford	Discharge to Perkiomen Creek
Landis Franconia Meats	Franconia	Lagoon System
Getty Properties	Franconia	Discharge to Indian Creek
Leidy's	Franconia	Discharge to Skippack Creek

Souderton Sewer Department

The Souderton Sewer Department operates one sewage treatment plant. The plant is located within Franconia Township south of Cowpath Road along the Skippack Creek. The treatment plant has a capacity of 2 million gallons per day (MGD) and services all of Souderton Borough and a segment of Franconia Township between Souderton Borough and Allentown Road. Of the 3,801 residential units served in 2013, 2,756 are Souderton Borough connections and 1,015 are located in Franconia Township. Approximately 7% of the plant remains available for new connections. However, the collection system within Souderton Borough experiences significant infiltration and inflow problems during extreme weather conditions. While this is not uncommon considering the age of the collection system, the Borough continues to inspect sewer mains, replace sewers and laterals as needed and inspect homes for illegal connections.

Figure 6.4 Sewer Facilities



Telford Borough Authority

A 1.23 MGD treatment facility is operated by the Telford Borough Authority. The plant discharges into the Indian Creek and is located in Franconia Township between 4th Street and Cowpath Road east of Church Road. The plant serves a portion of Telford Borough, Franconia Township and currently the Village of Tylersport in Salford Township. Remaining portions of Telford Borough are served by the Pennridge Wastewater Treatment Authority. Since the diversion of flows from the Telford Borough Authority plant to the Pennridge Authority plant, approximately 63% of the capacity at the Telford Borough Authority's plant is utilized by Franconia Township. Of the residential connections served by the plant, 1,716 are from Franconia Township, including 220 from Salford Township, while only 1,029 are Telford Borough residences.

Lower Salford Township Authority

The Lower Salford Township Authority operates two sewage treatment facilities throughout the township: Harleysville Treatment Plant, and Mainland Treatment Plant. The Harleysville treatment plant was constructed in 1963 and has a capacity of 1.7 million gallons per day. The plant is located on Sumneytown Pike west of Rt. 113 and discharges into the Indian Creek. The second treatment plant (Mainland) is located north of Sumneytown Pike between Freed Road and the township line. This facility was constructed in 1997 and has a capacity to discharge 1.976 million gallons per day into the Skippack Creek. Together these two plants service the majority of the township north of the Village of Lederach and a portion of Franconia Township. A small portion of the township (approximately 2,000 gallon per day) is serviced by the Upper Gwynedd-Towamencin Municipal Authority. The remainder of the township relies upon on-lot sewage disposal. The residential connections served by these two plants consist of 4,492 in Lower Salford and 203 in Franconia Township.

Franconia Sewer Authority

The Franconia Sewer Authority wastewater treatment plant went into operation on March 7, 2011. The plant treated 17,100 gallons per day in 2013. These flows consist primarily of non-residential connections, including Souderton Area regional high school, JBS Meats (formally Moyer Packing Co.), and OPK Biotech. Flows from the high school average 6,250 gallons per day over the course of the year, but will average between 10,000 and 15,000 gallons per day during the school year and be negligible on weekends and in the summer. Similarly, JBS Meats have average daily flows as high as 15,000 to 25,000 gallons, but much lower flows on non working days. To limit these daily flow variations and correct underloading at the plant, the Authority has received approval from the Pennsylvania Department of Environmental Protection (PADEP) to divert flows from the Allentown Road pumping station, currently flowing to the Telford Borough Authority Plant, to the Franconia treatment plant. In addition, the township continues to work with PADEP address on-lot problem areas throughout the township.

On-Lot Disposal Areas

While the majority of the population within the Indian Valley is served by one of the public sewer systems, public sewer does not serve a significant percentage of the Valley's land area. All of Upper Salford and Salford Township, as well as the southern sections of both Franconia and Lower Salford Townships, currently rely upon individual on-lot systems for sewage disposal. Both Salford and Upper Salford Townships currently utilize the county's Sewage Facilities Plan as their official Act 537 Plan, and Upper Salford has supplemented that with adoption of a special study for the East Branch Drainage Area. Currently, Upper Salford Township is in the process of updating its Sewage Facilities Plan.

Long range planning should also identify and evaluate the potential benefits of making the systems' operations more efficient and environmentally friendly. Since the supply of groundwater in the region and stream discharge of treated effluent are regional concerns, land application of treated effluent should be investigated as a means to help recharge groundwater and reduce stream pollution. Alternative methods of treatment should be evaluated to optimize environmental protection, including the following:

1. Mechanical and Biological Alternatives. These include lagoon systems, sand filter systems, and systems that employ spray irrigation for effluent disposal. Although these types of systems may be used in either growth or non-growth areas, they may be more easily applied in the low density, non-growth areas because they consume more land than other methods.

2. Spray Irrigation of Treated Effluent. This should be considered wherever public or community systems will be used although initial review of soil characteristics in the area reveals that this may not be easy to achieve on a large scale. Spray irrigation may be more practical in non-growth areas, where large areas of open space may be retained more easily, but should also be considered for growth area sewage facilities.

Sewage Facility Issues and Policies

The community facility objectives related to sewage facilities involve the efficient use of existing systems by extending them only within designated growth areas, and protecting water quality and quantity by effectively applying the use of public and private sewer systems, including on-lot systems. To further these objectives the following policies will be adopted by the Indian Valley region.

Update Act 537 Sewage Facility Plans

Each municipality should review and revise their Act 537 Plans, as necessary, to complement the recommendations of this chapter and the future land use plan. The policies adopted within the Act 537 Plans will indicate to landowners and business the methods by which each section of the municipality will be provided with sewage disposal. In addition, each Act 537 Plan is approved by the Pennsylvania Department of

Environmental Protection (PADEP) and will be reviewed for consistency when any sewage facility permit or planning module is submitted.

Establish priorities and an alternative analysis for all proposed sewage systems

Each of the four townships within the Indian Valley will need to permit a variety of new and replacement sewage facility alternatives for developments outside of the sewer service areas. Therefore, any revision to an Act 537 Plan should include the establishment of a hierarchy for the types of sewage disposal systems from most acceptable to least acceptable. The hierarchy should give precedence to sewage facility alternatives that utilize land application of the effluent to recharge the region's groundwater. These types of systems include standard in-ground or sand mound systems, as well as spray irrigation. Precedence should also be given to systems that require lower operation and maintenance costs and the hierarchy should include priorities for both individual and community sewage systems. DEP reviews each permit application or planning module for consistency with local Act 537 Plans and requires an alternative analysis to support any proposed sewage disposal method.

Establish a program for long-term management and maintenance of existing and future on-lot disposal systems.

The four townships currently rely, and will continue to rely, heavily upon individual on-lot disposal systems. To ensure the continued operation of these systems any Act 537 Plan revision should include the establishment of an On-lot Disposal Systems (OLDS) Management program. The extent of these programs can include public educational programs, required pumping of septic tanks, and registration and inspection of systems. In addition to protecting public health and safety, proper maintenance of on-lot systems will reduce the need to replace on -lot systems with other treatment methods that may not provide the groundwater recharge essential to the Indian Valley. This also supports the need to establish disposal priorities and a comprehensive analysis of sewage facility alternatives. Finally, DEP will provide reimbursement for up to 85% of all municipal costs associated with implementing an OLDS management program.

Conduct on-going monitoring of known problem areas to protect public health.

Past sewage facilities planning has indicated the existence of potential on-lot problem areas. These areas should be periodically monitored to identify the existence of any malfunctioning systems. Identified malfunctions should be tracked to make certain they are properly repaired or replaced. Monitoring can also help ensure that any cluster of system failures can be quickly recognized. Should monitoring indicate a cluster of system failures, an Act 537 Plan revision can be initiated to determine appropriate alternatives to address the problem. However, it will be important for any Act 537 Plan update to differentiate between the importance of providing sewage facilities for the purpose of

correcting on-lot problem areas and protecting human health and safety, and providing sewage facilities as a method to guide the location of new development and prevent future disposal problems. Any localized situation that involves the construction of a community disposal system to address an on-lot problem area will not require the creation of new sewer growth areas.

Municipal Stormwater Systems

Another important component of community facilities are the municipal stormwater facilities. Stormwater facilities can include inlets, outlets, swales, piping, and detention basins. Municipalities have their own stormwater facilities and require land developments to plan for stormwater management. These facilities are put in place to properly convey and manage stormwater from impervious surfaces such as roads, sidewalks, and parking lots. Because impervious surfaces do not allow water to pass through them, water from a weather event instead runs across them and can create problems such as flooding, stream bank erosion, stream sedimentation, threats to public health and safety, and property damage.

In response to these concerns, Pennsylvania passed the Stormwater Management Act, commonly referred to as Act 167 in 1978 to promote stormwater management on a watershed-wide basis to mitigate the adverse effects of increased rates and volumes of stormwater. The act requires Montgomery County to prepare watershed-based stormwater management plans for the designated watersheds within its border. Municipalities are then required to adopt the stormwater management ordinance contained in the plan.

An Act 167 stormwater management plan has been prepared for the East Branch Perkiomen Creek watershed (the watershed that covers most of the Indian Valley). In addition to having ordinances that comply Act 167, all municipalities in the region were required to adopt a stormwater management ordinances and standards required under the Pennsylvania Department of Environmental Protection's Municipal Separate Storm Sewer Systems Program (MS4 Program). The municipalities in the region operate their municipal stormwater systems under the MS4 Program which was established to implement Phase II of the National Pollutant Discharge Elimination System (NPDES) Program. It regulates small communities and public entities that own or operate a municipal separate storm sewer system (MS4). The regulations were developed to address stormwater impacts on water quality. The municipalities in the Indian Valley applied for and are operating under NPDES permits to discharge stormwater from their municipal separate storm sewer systems. Under their NPDES permits, the municipalities are also required to provide public education, public involvement, and inspection and elimination of illicit discharge from stormwater outfalls. Franconia, Lower Salford, Salford and Upper Salford townships have a partnership with the Perkiomen Watershed Conservancy who assists the municipalities with the education components of their MS4 programs.

While new development within the boroughs will utilize a combination of on -site and existing municipal facilities for controlling stormwater, most of all new development within the townships will rely on on-site controls

installed by developers. As development occurs in the townships, focus should be given to infiltration, water quality and streambank protection as required by the MS4 program permits.

Government Facilities

The region is generally well-served by government facilities. Each municipality has a Township or Borough Hall as well as public works facilities. In addition to the public parks mentioned in the Open Space Chapter, there are two publicly-owned recreation facilities, the Lederach Golf Course, owned by Lower Salford Township, and the Souderton Community Pool. There is a County District Court in Souderton to serve the municipalities of Souderton, Telford, and Franconia. Salford and Upper Salford are served by a County District Court in Upper Hanover Township near Red Hill, and Lower Salford Township is served by a County District Court in Skippack Township. Additionally, there are nine U.S. Post Offices that serve the area.

Emergency Services

The Indian Valley Region is served by fire, police, and emergency services. Each municipality has its own volunteer fire company. Franconia and Lower Salford Townships and the boroughs of Telford and Souderton are served by their own police forces. The Pennsylvania State Police provide police services to Salford and Upper Salford Townships. The Souderton Community Ambulance Association serves the boroughs of Souderton, Telford, and parts of Franconia and Salford Townships as well as parts of townships in Bucks County. Harleysville Area Emergency Medical Services, Inc. operates a station in Harleysville and provides advanced life support care to the other parts of Franconia and Salford Townships as well as all of Upper and Lower Salford Townships.

Educational Institutions

The Indian Valley Region is co-located with the Souderton Area School District. Public schools in the region include the following elementary schools: E. Merton Crouthamel, Franconia, Oak Ridge, Salford Hills, Vernfield, and West Broad Street; Indian Valley and Indian Crest Middle Schools; and the Souderton Area High School. Having a quality school district is one of the most important factors for people locating to the Indian Valley, and contributes to the overall quality of life in the region. In 2009 the District opened a new state-of-the-art High School for grades 9 to 12 in Franconia Township. Two of its schools have been recognized as National Blue Ribbon Schools of Excellence and 85% of graduates go on to pursue post -secondary education at 2–year or 4-year institutions. The school district also runs several community education programs: the Adult Evening Program, Aquatic Program, Driver Education, and the Summer Recreation program.

The region also is home to several private educational institutions. There are several pre-K schools plus the following primary education schools: Penn View Christian School, Franconia (Pre-K to 8th Grade), Grace Christian School, Telford (K-6), and the Souderton Charter School Collaborative (K-8).

Library

The Indian Valley Public Library is located at 100 East Church Avenue in Telford Borough. It is a branch of the Montgomery County Norristown Public Library and serves residents of the six municipalities in the region. The library offers access to a statewide library database, free WiFi service, meeting rooms, internet access, various events, discussion groups, and classes, storytime, and special services for children and teens.

Solid Waste Services

Residential and commercial trash collection in all the municipalities in the Indian Valley Region is through private waste haulers contracting directly with property owners.

Recycling is state mandated for Souderton Borough, Franconia Township, and Lower Salford Township, which means the municipalities must either provide recycling services or require their residential and commercial properties to hire someone to do it. Recycling is not state mandated in Telford Borough, Salford Township, and Upper Salford Township. Lower Salford and Franconia Townships provide free recycling bins at the township office for new residents. Franconia also provides free bio degradable paper bags for leaf and yard waste. Franconia Township has a 24 hour recycling drop-off area located at their Public Works Department Garage. Leaf and yard waste throughout the region can be dropped off at the Barnside Composting Center, a private composting facility located in Lower Salford Township. Telford, Souderton, Franconia, and Lower Salford are part of the Northern Montgomery County Recycling Commission which is a group of 11 municipalities in Montgomery County that work together to increase recycling and to promote recycling awareness and education.

CHAPTER 7

TRANSPORTATION

Introduction

The transportation system of the Indian Valley Region is extremely important because of the need for mobility and its effect on accessibility, safety, economic development and quality of life. Residents of the Indian Valley must be able to reach their jobs, as well as community facilities such as stores, parks, and schools. Area businesses must also have an adequate road network in order to move their goods and services. This chapter will discuss existing conditions and planning for the Region's highways, public transit, bike and pedestrian mobility, and freight transport to provide a safe and efficient transportation system for the entire Indian Valley.

Roadways: Existing Conditions

Traffic Counts

Major roads in the Region include Pennsylvania Routes 63 and 113. The Northeast Extension of the Pennsylvania Turnpike (I-476) runs through the Region, but has no interchanges. The nearest I-476 interchange is with Route 63 in Towamencin Township, directly southeast of Lower Salford. The busiest stretch of road in the Region is Souderton-Harleysville Pike (PA 113) between Schoolhouse Rd. and Allentown Rd. This stretch of Route 113 serves over 20,000 cars per day. Figures 7.1 and 7.2 display traffic counts for some of the busiest roadways in the Region. Each traffic count represents the most current data from the Delaware Valley Regional Planning Commission (DVRPC).

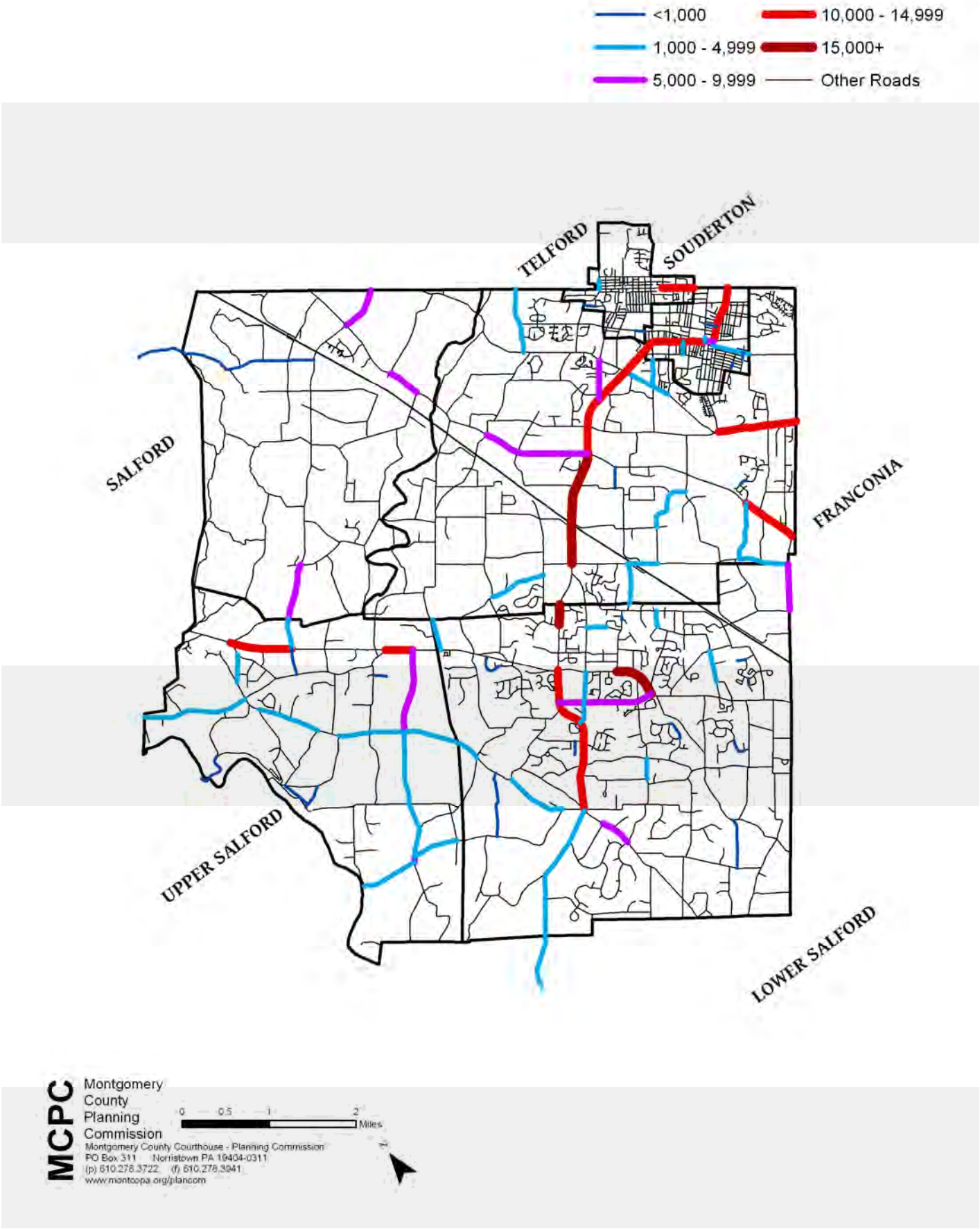
Figure 7.1 Traffic Counts –Vehicles Per Day

Municipality	Road	Location		Traffic Volume	Date of Data Collection
		From	To	(cars per day)	
Franconia	Souderton-Harleysville Pike (PA 113)	Schoolhouse Rd.	Allentown Rd.	20,512	7/23/2008
Lower Salford	Souderton-Harleysville Pike (PA 113)	Westbourne Rd.	Yoder Rd.	16,309	8/24/2006
Lower Salford	Sumneytown Pike (PA 63)	Kulp Rd.	Oak Dr.	15,189	7/17/2012
Lower Salford	Harleysville Pike (PA 113)	Salfordville Rd.	Sumneytown Pike (PA 63)	14,036	8/27/2008
Souderton	Broad St. (PA 113)	Front St.	County Line Rd.	12,060	8/12/2008
Upper Salford	Sumneytown Pike (PA 63)	Ridge Rd. (PA 563)	Barndt Rd.	11,954	9/27/2006
Telford	Main St.	Central Ave.	Hartzel Ave.	11,917	8/4/2009
Upper Salford	Sumneytown Pike (PA 63)	Old Sumneytown Pike	Shelly Rd.	11,725	9/28/2010
Franconia	Souderton-Harleysville Pike (PA 113)	Allentown Rd.	Cowpath Rd.	11,171	7/23/2008
Franconia	Allentown Rd.	Wambold Rd.	Souder Rd.	11,161	7/23/2008
Franconia	Cowpath Rd.	Township Line Rd.	Broad St.	11,001	8/17/2010
Souderton	Main St. (PA 113)	Cowpath Rd.	Chestnut St.	10,121	8/12/2008
Lower Salford	Harleysville Pike (PA 113)	Schlosser Rd.	Sharon Lane	9,610	9/13/2011
Souderton	Main St. (PA 113)	Chestnut St.	Broad St.	9,510	7/15/2009
Salford	Ridge Rd. (PA 563)	Allentown Rd.	County Line Rd.	8,209	8/12/2008
Lower Salford	Wambold Rd.	Fretz Rd.	Schoolhouse Rd.	8,135	9/28/2006
Franconia	Telford Pike	Souderton-Harleysville Pike (PA 113)	Cowpath Rd.	7,266	9/13/2011
Upper Salford	Schwenksville Rd.	Spring Mount Rd.	Lederach Rd.	6,825	9/13/2011
Franconia	Allentown Rd.	Souderton-Harleysville Pike (PA 113)	Morwood Rd.	6,780	7/25/2007
Salford	Allentown Rd.	Dietz Mill Rd.	Barndt Rd.	5,768	7/25/2012
Salford	Ridge Rd. (PA 563)	Moyer Rd.	Morwood Rd.	5,334	9/13/2011
Upper Salford	Shelly Rd.	Old Skippack Rd.	Sumneytown Pike (PA 63)	5,231	9/13/2011
Lower Salford	Oak Dr.	Groffs Mill Rd.	Sumneytown Pike (PA 63)	5,164	7/17/2012
Lower Salford	Wambold Rd.	Fretz Rd.	Schoolhouse Rd.	5,021	11/17/2011
Telford	E. Church Ave.	Main St.	Wood Alley	4,993	10/27/2010
Franconia	Schoolhouse Rd.	Lower Rd.	Kulp Rd.	4,715	7/23/2008
Upper Salford	Spring Mount Rd.	Schwenksville Rd.	Clemmer Mill Rd.	4,304	9/26/2006
Lower Salford	Maple Ave.	Sumneytown Pike (PA 63)	Souderton-Harleysville Pike (PA 113)	4,235	7/17/2012
Souderton	Washington Ave.	Cherry Lane	Broad St.	4,021	8/12/2008
Upper Salford	Old Skippack Rd.	Schwenksville Rd.	Salford St.	3,999	8/27/2008
Lower Salford	Kulp Rd.	Indian Crest Way	St. Andrews Lane	3,939	4/7/2009
Franconia	Cowpath Rd.	Summit St.	Souderton-Harleysville Pike (PA 113)	3,802	7/23/2008
Upper Salford	Schwenksville Rd.	Lederach Rd.	Old Skippack Rd.	3,702	8/27/2008
Lower Salford	Cross Rd.	Skippack Pike (PA 73)	Old Skippack Rd.	3,308	7/17/2012
Upper Salford	Old Skippack Rd.	Freeman School Rd.	Schwenksville Rd.	3,146	9/26/2006
Franconia	Lower Rd.	Moyer Rd.	Forman Rd.	3,138	9/1/2009
Lower Salford	Morwood Rd.	Sumneytown Pike (PA 63)	Mill Rd.	2,872	8/27/2008
Franconia	Kulp Rd.	Yoder Rd.	Schoolhouse Rd.	2,757	11/15/2011
Franconia	Morwood Rd.	Long Mill Rd.	Fell Rd.	2,737	9/13/2011

Figure 7.2 Traffic Counts –Vehicles Per Day (cont'd.)

Municipality	Road	Location		Traffic Volume	Date of Data Collection
		From	To	(cars per day)	
Franconia	Schoolhouse Rd.	Wambold Rd.	Souder Rd.	2,659	7/14/2010
Upper Salford	Skippack Rd.	Quarry Rd.	Church Rd.	2,556	11/17/2010
Franconia	Reliance Rd.	Cowpath Rd.	Colonial Ave.	2,472	7/15/2009
Upper Salford	Barndt Rd.	Sumneytown Pike (PA 63)	Ridge Rd. (PA 563)	2,304	11/17/2010
Franconia	Mill Rd.	Indian Creek Rd.	Hunsicker Rd.	2,188	7/15/2009
Lower Salford	Salfordville Rd.	Camp Wawa Rd.	Groffs Mill Rd.	2,174	8/27/2009
Lower Salford	Ruth Rd.	Godshall Dr.	Clemens Rd.	2,037	10/18/2005
Franconia	Kulp Rd.	Yoder Rd.	Schoolhouse Rd.	1,960	9/28/2006
Lower Salford	Cross Rd.	Skippack Pike (PA 73)	Old Skippack Rd.	1,955	8/7/2007
Lower Salford	Ruth Rd.	Godshall Dr.	Clemens Rd.	1,929	7/22/2010
Franconia	Souder Rd.	Schoolhouse Rd.	Allentown Rd.	1,846	9/13/2012
Souderton	Chestnut St.	Main St. (PA 113)	Front St.	1,728	7/15/2009
Souderton	Diamond St.	Wile Ave.	Main St. (PA 113)	1,635	4/7/2009
Upper Salford	Lederach Rd.	Larson Rd.	Schwenksville Rd.	1,630	9/1/2009
Franconia	Forrest Rd.	Cowpath Rd.	County Line Rd.	1,465	7/14/2010
Lower Salford	Ruth Rd.	Yoder Rd.	Manor Rd.	1,349	4/7/2009
Lower Salford	Gruber Rd.	Maple Ave.	Indian Crest Dr.	1,326	4/7/2009
Upper Salford	Perkiomenville Rd.	Skippack Rd.	Perkiomenville Rd.	1,253	9/26/2006
Lower Salford	Moyer Rd.	Old Morris Rd.	Landis Rd.	1,146	4/7/2009
Upper Salford	Old Skippack Rd.	Burton Rd.	Sumneytown Pike (PA 63)	1,074	7/25/2012
Upper Salford	Barndt Rd.	Old Sumneytown Pike	Sumneytown Pike (PA 63)	693	7/25/2012
Lower Salford	Upper Mainland Rd.	Quarry Rd.	Kinsey Rd.	682	8/7/2007
Souderton	3rd St.	Chestnut St.	Broad St. (PA 113)	671	4/7/2009
Franconia	Middle Park Dr.	Banbury Dr.	Longchamp Dr.	664	4/7/2009
Upper Salford	Hendricks Station Rd.	Kratz Rd.	Hendricks Rd.	632	9/13/2011
Lower Salford	Fairway Dr.	Fox Den Lane	Carriage House Lane	576	4/7/2009
Salford	Whites Mill Rd.	Ridge Rd. (PA 563)	Swamp Creek Rd.	486	8/12/2008
Telford	4th St.	Crest Ave.	Souderton Boro Line	476	4/7/2009
Franconia	Halteman Rd.	Meetinghouse Rd.	Allentown Rd.	470	4/7/2009
Lower Salford	Haldeman Rd.	Camp Wawa Rd.	Salfordville Rd.	358	8/27/2009
Upper Salford	Salford St.	Quarry Rd.	Harmon Rd.	319	11/17/2010
Souderton	Garfield Ave.	Adams Ave.	Franklin Ave.	285	4/7/2009
Souderton	Lawn Ave.	Penn Ave.	Washington Ave.	260	4/7/2009
Upper Salford	Harmon Rd.	Salford Station Rd.	Salford St.	255	4/7/2009
Lower Salford	Creekview Dr.	Doe Run Rd.	Doe Run Rd.	233	4/7/2009
Lower Salford	Lori Lane	cul-de-sac	Rothschild Lane	208	4/7/2009
Lower Salford	Moccasin Dr.	Bob-Bea Lane	Main St. (PA 63)	127	4/7/2009
Lower Salford	Vanderbilt Lane	Morgan Way	Astor Dr.	125	4/7/2009
Upper Salford	Diminian Lane	cul-de-sac	Bergey Rd.	123	4/7/2009
Telford	Northview Ave.	E. Church Ave.	Colonial Ave.	79	4/7/2009
Lower Salford	Oaklyn Ave.	cul-de-sac	Meetinghouse Rd.	46	4/7/2009

Figure 7.3 Traffic Counts –Vehicles Per Day



The high traffic volumes are a result of continued growth in the Indian Valley Region. As the region grows, traffic will naturally increase placing a greater burden on existing roads. Many of the roads within the Indian Valley are little more than rural lanes that are not designed or intended to carry significant amounts of traffic. There are currently no plans to dramatically improve these roads, and to do so would in fact destroy much of the region's rural character. In order to preserve the countryside, development will be directed to areas that have a road network capable of carrying the higher volumes of traffic.

The ownership of all the public roads in the valley falls under the jurisdiction of either the Commonwealth of Pennsylvania (PADOT), Montgomery County, or the six municipalities of the Indian Valley (see Figure 7.4). Within the limits of applicable laws, the townships and boroughs have complete control over roads under their jurisdiction but must coordinate with PADOT and the Montgomery County Department of Roads and Bridges regarding state and county roads.

For planning purposes, however, the townships and boroughs of the valley have the responsibility for designating all the roads under an appropriate functional classification relative to the purposes they are intended.

Functional Road Classification System

Functional classification is the grouping of roads into a hierarchy by the character of service and function they provide. It was developed as an important planning and design tool for comprehensive transportation planning. The system is based on standards established by the American Association of State Highway and Transportation Officials (AASHTO) and is used by the Pennsylvania Department of Transportation. It provides design guidelines appropriate for each road, as well as a way to coordinate road functions and improvements among neighboring communities and throughout the state. This system permits a logical and efficient road network to be established under a road hierarchy.

Figure 7.5 shows Indian Valley's functional road classification system using the following classifications:

- Expressways
- Principal Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Local Roads and Rural Lanes

Figure 7.4 Road Jurisdiction

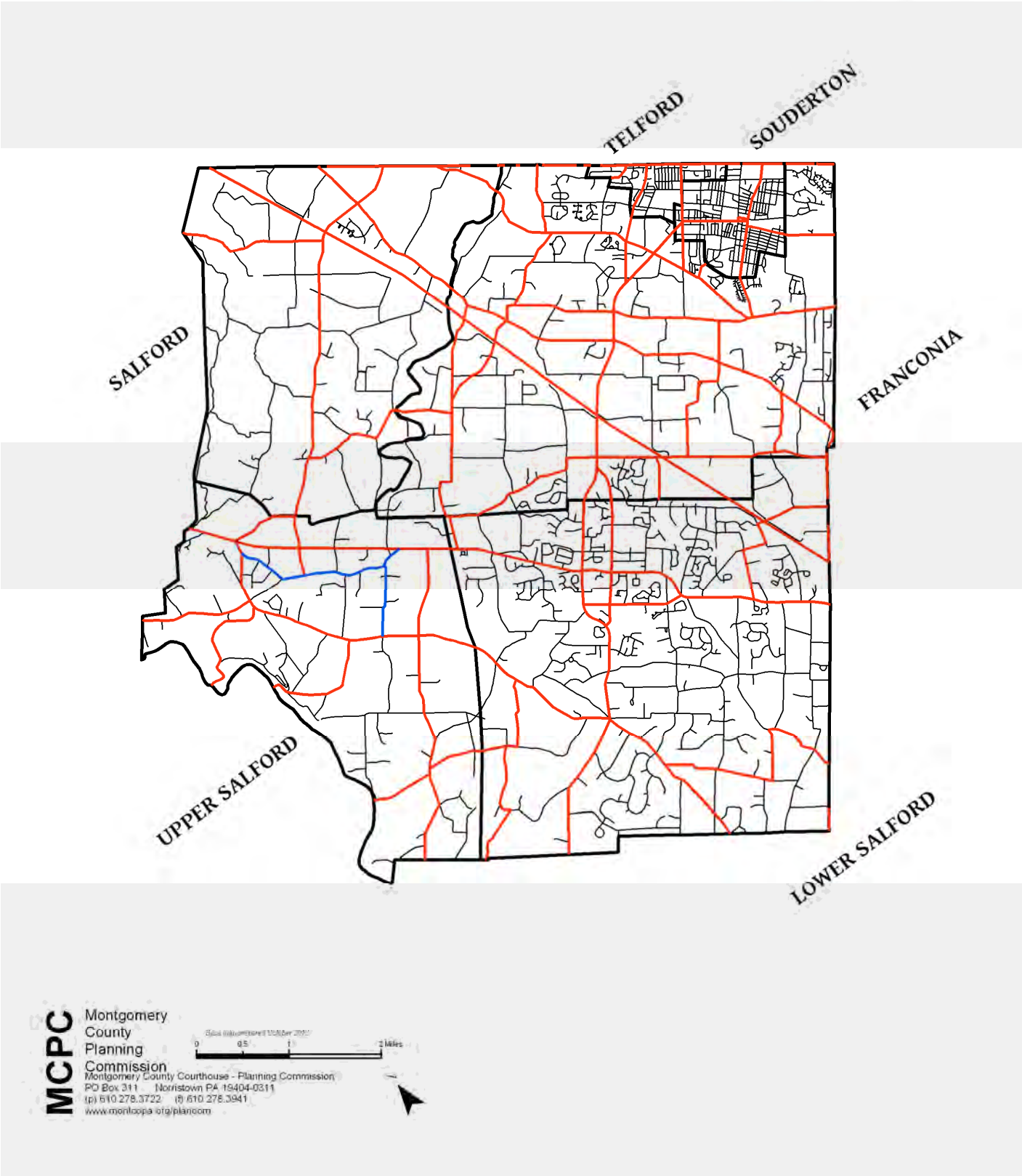
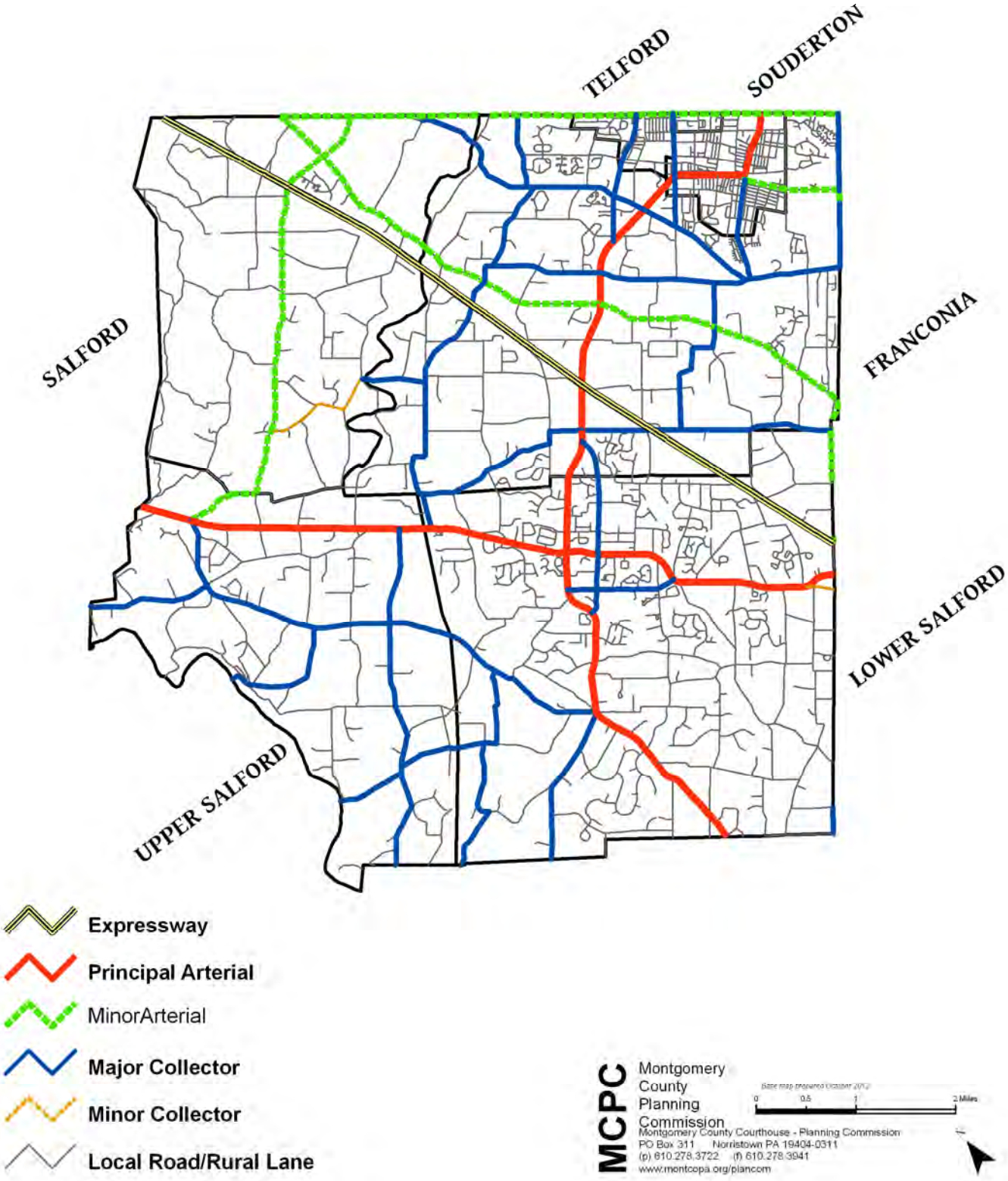
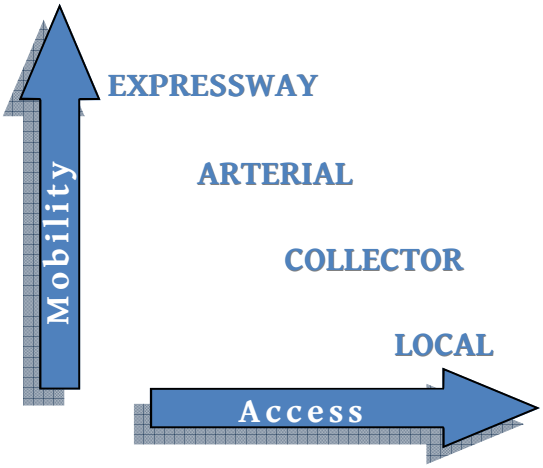


Figure 7.5 Functional Road Classifications





Expressways

The highest level of road classification is the expressway, which is a multi-lane highway with fully controlled access usually provided only at grade separated interchanges. Expressways are used in corridors that need to move high volumes of traffic at high speeds while providing high levels of safety and efficiency and usually traverse and connect metropolitan areas. The Northeast Extension of the Pennsylvania Turnpike (I-476) is the only expressway in the Indian Valley and, as mentioned before, there are no interchanges located within the Region.

Principal arterials

A principal arterial provides a high degree of mobility to long trips, but it does not necessarily have fully controlled access and it is not a part of the Interstate Highway System. It generally has two to four through-lanes and serves primarily to carry the highest volumes of through traffic on a regional level. Two principal arterials serve the Indian Valley and they are PA Routes 63 and 113. This state route connects the Region to major transportation and employment centers and carries significant amounts of traffic. We can safely anticipate that traffic on this main artery will only continue to grow as development occurs in and outside the region. This corridor will serve as a location to direct new development, specifically along the segment that traverses Harleysville.

Minor arterials

Minor arterials interconnect with and augment principal arterials in serving major activity centers, but generally serve trips of more moderate lengths. They are spaced at intervals consistent with population density and carry traffic within or between several municipalities of the county. Further, they link other areas not connected by principal arterials and provide key connections between roads of higher classification. The Indian Valley's minor arterials include County Line Road, Souderton Pike, Wambold Road, Ridge

Major collectors

Major collectors provide a combination of accessibility (road interconnectivity) and mobility (the ability to travel through an area quickly) with a priority on mobility. Ideally access is partially controlled with preference given to through traffic. Access is permitted with at-grade intersections and ideally is limited to major access driveways of selected land uses such as a retail or employment centers. They accommodate trips within and between neighboring municipalities. Further, they may serve as a major road through large industrial or office parks or provide key connections between roads of higher classification. Major collectors within the Region include Morwood Road, Skippack Road, Haldeman Road, Schwenksville Road, Schoolhouse Road, Township Line Road, Mill Road, Salford Street, Spring Mount Road, Salfordville Road, Lederach Road, Cross Road, Forrest Road, Lower Road, Perikomenville Road, Oak Drive, Maple Avenue, Godshall Road, Cowpath Road, Reliance Road, Telford Pike, and Broad Street (Telford and Souderton).

Minor collectors

Minor collectors provide a combination of mobility and access. They allow access to abutting property with little or no restriction. Generally, minor collectors accommodate shorter trips within a municipality. They are spaced to collect traffic from local roads and neighborhoods and channel it to major collectors and arterials. The minor collectors within the Indian Valley are Morwood Road and Mainland Road.

Local roads and rural lanes

Local roads and rural lanes are the minor streets that carry the lowest volumes of traffic and function primarily to provide vehicular access to adjacent land uses. They have relatively short trip lengths, generally not exceeding one mile. Because property access is their main function, there is little need for mobility or high operating speeds and as a result they have lower posted speeds between 20 and 30 miles per hour. They provide a link between properties and the collector road network. Through traffic is discouraged from using local roads. The remaining roads in the Indian Valley are considered local roads. A number of the local roads are narrow, without shoulders and some may be constructed with soil aggregate.

Road Design Guidelines

General design guidelines for the Functional Classification System were derived from the 1990 edition of *A Policy on Geometric Design of Highways and Streets* by the American Association of State Highway and Transportation Officials (AASHTO); the *Pennsylvania Department of Transportation Design Manual, Part 2*, Highway Design (Publication 13) (1990); and the *Guide for the Development of Bicycle Facilities*, published by AASHTO (1991).

The guidelines are listed in Table 7.6 and make recommendations for dimensions of different components of a roadway based on its functional classification and whether it is located in an urban or rural locale.

Figure 7.6 Highway Functional Classification and Design Guidelines

Functional Classification	Right-of-Way[1]	Number of Lanes[2]	Travel Lane Width[3]	Left Turn Lane Widths[3]	Paved Shoulder Width[4]	Parking Lane Width[5]	Bicycle Lane Width[6]	Border Area[7]	
								Grass Strip	Sidewalks / Paths[8]
EXPRESSWAYS									
Urban	300'	4-6	12'	NA	10'-12'	NA	NA	NA	12'
Rural					10'				
ARTERIALS									
Principal									
Urban	80'-100'	2-5	12'-14'	11'-12'	8'-10'	8'-10'	5'-6'	5'	5'-8'
Rural		2				NA			
Minor									
Urban	80'-100'	2-5	11'-14'	11'-12'	8'-10'	8'-10'	5'-6'	5'	5'-8'
Rural		2			4'-10'	NA			
COLLECTORS									
Urban	60'-80'	2-3	11'-14'	10'-12'	6'-10'	8'-10'	5'-6'	4'	5'-8'
Rural Major		2	11'-13'			GNA	5'	GNA	GNA
Rural Minor	60'		10'-12'	NA	2'-8'				

1. **Right-of-Way**: The right-of-way can be variable in order to accommodate highly urbanized and laterally restricted areas as well as unrestricted areas.
2. **Number of Lanes:** The number of lanes vary in order to accommodate the traffic volume, turning movements, and land capacity demand for selected level of service. This number does not include right-turn lanes where needed

3. **Range of Lane Width:** Lane width is based upon minimum and desirable standards as well as other conditions such as being adjacent to a curb or the anticipation of heavy truck traffic. When feasible, a 14 foot lane should be located next to a curb.

4. **Shoulder:** Shoulder width is based upon minimum and desirable standards as well as other conditions such as highly urbanized and laterally restricted areas, or the anticipation of heavy truck traffic. Wide shoulders may function as bike lanes.

5. **Parking Lane:** Parking lane width is based upon minimum and desirable standards as well as other conditions such as lot size, intensity of development, or potential for use as a traffic lane where required by future demand. For principal arterials, parking lanes are only recommended in highly developed areas.

6. **Bicycle Lane:** A portion of a roadway that has been designated by striping, signing, or pavement markings for the preferential or exclusive use of bicyclists. Width specifications must be in accordance with FHWA/ AASHTO standards. Wide shoulders may function as bike lanes.

7. **Border Area:** The presence of curbing, grass planter strips and sidewalks will depend upon adjacent land uses and site conditions. Otherwise, the border area would consist of a drainage swale and slope.

8. **Sidewalks:** Sidewalk width is based upon minimum desirable standards for use along each particular roadway. Under certain circumstances, the location, feasibility, and other site specific conditions may require deviations from these guidelines.

9. **Paths:** Paths for multi-use purposes, pedestrians or bicyclists may be desirable in lieu of sidewalks in rural areas or parallel to an expressway.

10. **Cartway Width:** For local roads, the total cartway width generally includes travel lanes, parking lanes, and/or shoulders.

11. **Definitions: GNA** – Generally Not Applicable. **NA –** Not Applicable.

Source: Derived from design ranges specified by AASHTO, PennDOT, and other design manuals.

Smart Transportation

Located on the suburban fringe of Philadelphia, the Indian Valley is still predominantly rural in character, yet is developing. The two boroughs, as well as the village of Harleysville, serve as development centers for the region. Therefore, neither the "rural" or "urban" categories used in the Highway Functional Classification System and Design Guidelines exactly serve the needs of the area. Another limitation of the functional classification system is that often an entire road is placed into a certain class based on select characteristics such as trip volumes relative to other roadways in the area; however, that class may not be appropriate for all segments of the roadway. This creates a dilemma for roadway designers to apply design standards for that class which may encourage higher operating speeds than are appropriate for segments serving community access.

Transportation agencies are recognizing these issues and the changing needs and demands of our transportation system. To adapt to this changing world, more than a quarter of the states in the United States are working on a concept called "Smart Transportation." Smart Transportation considers financial, land use, environmental, technological, and social contexts when approaching transportation challenges. The idea is that road design should not be a one-size-fits-all approach, but should be done to complement community character.

The Pennsylvania Department of Transportation (PennDOT), New Jersey Department of Transportation (NJ DOT), and the Delaware Valley Regional Planning Commission (DVRPC) prepared a *Smart Transportation Guidebook* in 2008 to provide technical guidance for standards and approaches related to traffic engineering and design. The Guidebook outlines six principles:

1. Tailor solutions to the context
2. Tailor the approach
3. Plan all projects in collaboration with the community
4. Plan for alternative transportation modes
5. Use sound professional judgment
6. Scale the solution to the size of the problem

The Smart Transportation Guidebook outlines seven land use context areas: rural, suburban neighborhood, suburban corridor, suburban center, town/village neighborhood, town/village center, and urban core. A land use context area is a land area that contains a unique combination of built and natural characteristics made up of different land uses, architectural types, urban form, building density, roadways, and topography and other natural features. The seven context areas can be condensed into three context areas: urban, suburban, and rural.

Figure 7.7 Smart Transportation Proposed Roadway Categories

Roadway Class	Roadway Type	Desired Operating Speed (mph)	Average Trip Length (miles)	Volume	Intersection Spacing (ft)	Comments
Arterial	Regional	30-55	15-35	10,000-40,000	660-1,320	Roadways in this category would be considered "Principal Arterial" in traditional functional classification.
Arterial	Community	25-55	7-25	5,000-25,000	300-1,320	Often classified as "Minor Arterial" in traditional classification but may include road segments classified as "Principal Arterial."
Collector	Community	25-55	5-10	5,000-15,000	300-660	Often similar in appearance to a community arterial. Typically classified as "Major Collector."
Collector	Neighborhood	25-35	<7	<6,000	300-660	Similar in appearance to local roadways. Typically classified as "Minor Collector."
Local	Local	20-30	<5	<3,000	200-660	

The Smart Transportation Guidebook also proposes new roadway categories in order to design roadways to better reflect their role in the community. The new roadway categories focus more narrowly on the characteristics of access, mobility, and speed and are outlined in Figure 7.7. It is important to note that the Smart Transportation categories should be used as only a planning and design "overlay" for individual projects and that both Pennsylvania and New Jersey will keep the underlying traditional functional classification.

Also noted in the Smart Transportation Guidebook is that fact that the "Main Street"—while not actually a Smart Transportation classification—is a very important concept to promote. Thinking of these roadways as town centers and corridors to concentrate mixed-use development—like the actual Main Streets in Telford, Souderton, and Harleysville—will help promote more sustainable land-use patterns.

Figure 7.8 Smart Transportation Context Overlay Map

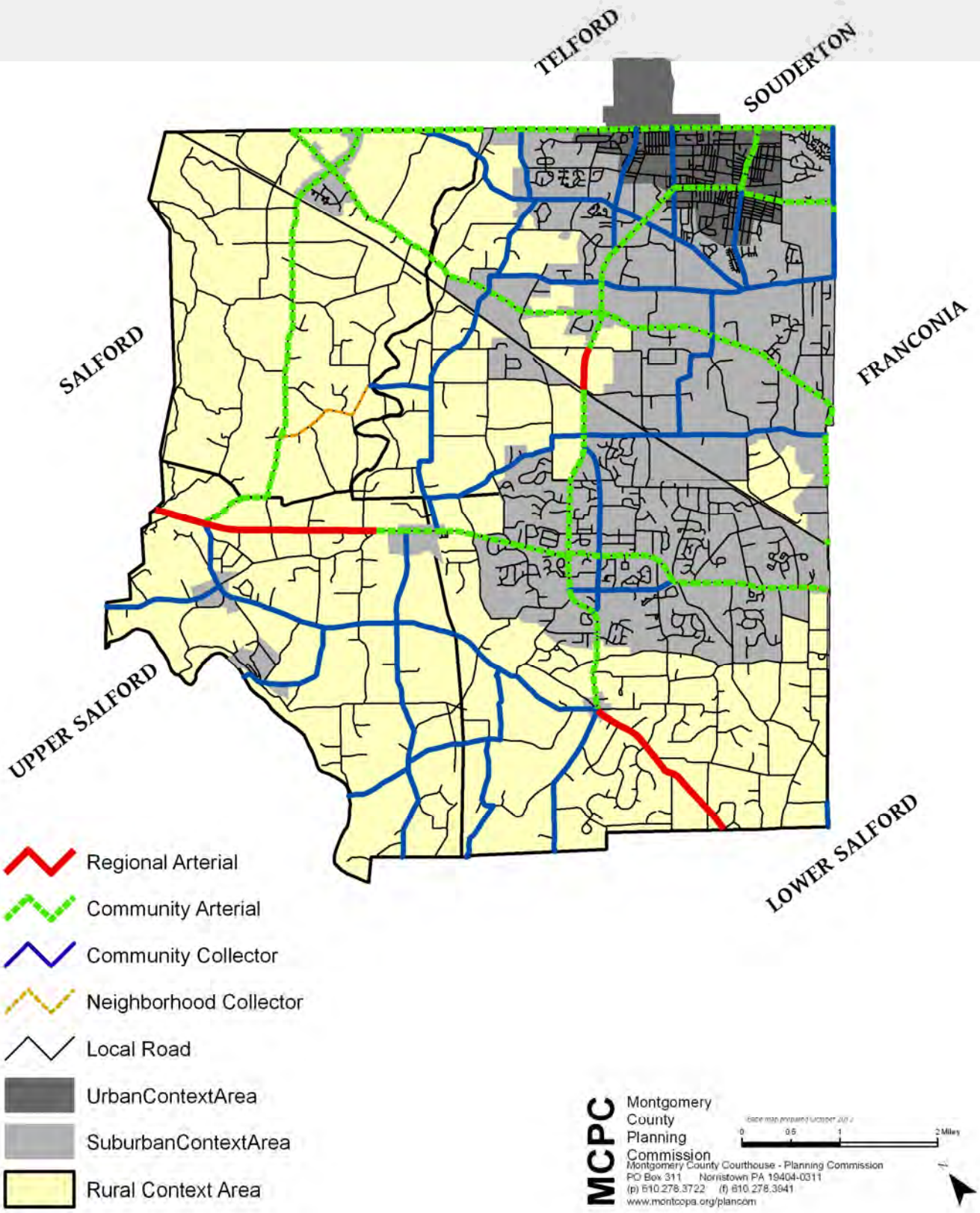


Figure 7.8 shows the Smart Transportation road categories and land use context areas applied to the Indian Valley Region. The map is a hybrid of the two classification systems that relate to major roads in Montgomery County: functional classification and roadway typology as presented in the Smart Transportation Guidebook.

The Smart Transportation Guidebook also outlines standards for roadway design based on land use contexts and roadway types. These design elements are summarized in Table 7.9 for urban, suburban, and rural context areas. The table only provides a summary of the design elements. To see a more expansive list of design elements for each of the seven context areas and five roadway typologies see the Smart Transportation Guidebook, available online at http://www.smart-transportation.com.

The design guidelines presented in the guidebook will not yet replace PennDOT's design manual guidelines but will help PennDOT to apply their own design manual guidelines to road improvements in a context-sensitive manner that serves the best interests of communities. The guidebook is also intended for use as a guide for planners to direct future improvements that will preserve the feel of the road.

Figure 7.9 Smart Transportation Summary of Guidelines for Dimensional Roadway and Roadside Elements

	Urban	Suburban	Rural
Travel Lanes	Consider 10 to 11 ft. lanes (11 ft. as typical minimum) of 35 mph or below; 12 ft. for roadways of 35 mph or above and high traffic volumes and heavy vehicles.	11 to 12 ft.	Consider 10 ft. for lightly trafficked roadwys; 11 to 12 ft. for roadways with regularly trafficked roadways, or with speeds above 35 mph.
Shoulders	4 to 6 ft. if no sidewalks are provided.	8 to 10 ft., but 4 to 8 ft. for suburban neighborhoods.	8 to 10 ft. for arterials, 4 to 8 ft. for collector roadways.
Medians	Provide depending upon access control, left turn, and "pedestrian refuge" needs. Left turn medians are 12 to 18 ft.; pedestrian refuges 4 to 8 ft.	Provide depending upon access control, left turn, and "pedestrian refuge" needs. Left turn medians are 12 to 18 ft.; pedestrian refuges 4 to 8 ft.	Design depending upon access control, left turn needs
On-Street Parking	7 to 8 ft. parallel parking; consider in town center contexts.	Provide on-street parking as needed in suburban neighborhoods.	NA
Grass Buffer	4 to 6 ft. along neighborhood streets, typically absent in town/village centers.	4 to 8 ft.	NA
Sidewalk	Strive for 6 to 10 ft. in town/village centers, 5 to 8 ft. in town/village neighborhoods.	Min. 5 ft.	NA
Bike Lanes	5 to 6 ft.	5 to 6 ft.	NA

Roadway Improvements and Recommendations

The Montgomery County Planning Commission maintains lists of proposed transportation projects that are used along with municipal suggestions to make recommendations for future highway improvements. Projects with top priority are passed onto DVRPC and PennDOT to include in the Transportation Improvement Program (TIP) to the extent allowed by fiscal constraints.

Transportation Improvement Program (TIP)

The TIP is the regionally agreed upon list of priority projects, as required by federal law (ISTEA, TEA-21, SAFETEA-LU, and MAP-21). The TIP document must list all projects that intend to use federal funds, along with non-federally funded projects that are regionally significant. These include projects that are in the TIP for a specified phase (preliminary design, final design, right-of-way acquisition, or construction) or have funding committed for that phase through some other source, such as private development. By definition, these projects are ranked high as they are already funded for at least one phase of the project development process. See Figure 7.10 for the Indian Valley Region bridges, roads, and intersection improvements are included in the 2013-2016 TIP.

Figure 7.10 Indian Valley Region Projects Included in the 2013-2016 Transportation Improvement Program (TIP)

Municipality	Project Number	Project Name	Project Description
Franconia	16109 COMPLETED	Camp Road Bridge over East Branch of Perkiomen Creek	Replace a bridge with no shoulders with a new bridge with shoulders and make a minor horizontal realignment to the S-curve.
Salford			
Lower Salford	50646	PA 63 Bridges (3) over Unami Creek and East Branch of Perkiomen	Rehabitation or replacement of three bridges on Route 63 between PA 113 and PA 29.
Upper Salford			
Marlborough			
Franconia	57864	Cowpath Road/Godshall Road/Broad Street Improvements	Project will include widening to provide for turn lanes, the addition of a 4' shoulder, realignment to correct intersection offset, construction of pedestrian infrastructure, and the replacement of two bridges.

Source: Delaware Valley Regional Planning Commission (DVRPC)

Route 309 Connector Project

The Route 309 Connector Project, which began construction in 2009, was designed to provide a connection from PA 63 near the PA Turnpike's Lansdale Interchange to PA 309. Phase 1 of the project included the realignment of Sumneytown Pike (PA 63) to bypass the village of Mainland and upgrades to Wambold Road between PA 63 and Allentown Road.

Phase 2 of the project, connecting Wambold Road at Allentown Road to PA 309, is currently on hold due to a lack of funds. Construction will resume as soon as funds become available. Since the project has already begun it is no longer listed on the TIP.

The completion of this project is of utmost importance to the region, with the potential to bring increased mobility, accessibility, and economic development to the eastern portion of the Indian Valley. For this reason, the funding of Phase 2 is a top priority for the region.

Figure 7.11 Montgomery County Planning Commission Recommended Transportation Projects—First Priority

Municipalities	Number	Project Name	Project Description
Lower Salford	262	PA 113: Relocation at Lederach Village	Construct 2-lane connector around the village.
Lower Salford	603	PA 63 Sumneytown Pike: Freed Road to west of PA 113 and Oak Drive Extension - PA 113 to PA 63	Corridor/intersection improvements, including PA 63 widening at Oak Drive; construction of new roadway.
Skippack	921	Township Line Road Extension	Extend Township Line Road from PA 113 to PA 73
Lower Salford			
Lower Salford	968	I-476 NE Extension: Lansdale Interchange to Quakertown	Widen to 6 lanes.
Franconia			
Salford			
Towamencin			
Lower Salford	1051	I-476 NE Extension: E-Z Pass Interchanges Study between Lansdale and Quakertown	Study potential E-Z Pass interchanges onto the NE Extension.
Franconia			
Salford			
Towamencin			
Bucks County			

Source: Montgomery County Comprehensive Plan, Transportation Element Amendments (2010)

Montgomery County Recommended Projects

Montgomery County prioritizes projects not currently on the TIP as First-Priority Projects (the group from which the next TIP projects would be nominated), Second-Priority Projects, and Third-Priority Projects. The prioritized projects are included in the transportation element of the County Comprehensive Plan. Figures 7.11, 7.12, and 7.13 present County-prioritized projects for the Indian Valley Region.

Figure 7.12 Montgomery County Planning Commission Recommended Transportation Projects—Second Priority

Municipalities	Number	Project Name	Project Description
Souderton	212	PA 113 at Reliance Road	Improve intersection.
Franconia	275	PA 113 at Allentown Road	Widen for turn lanes.
Upper Salford	392	PA 63 Sumneytown Pike at PA 563	Improve intersection and signalize; shift route designation of PA 563 to Barndt Road.
Franconia **Souderton** **Telford** **Hatfield Borough** **Hatfield Township** **Lansdale** **Bucks County**	1046	Passenger Rail Extension	Extend rail service from Lansdale to Souderton/Telford and beyond.

Source: Montgomery County Comprehensive Plan, Transportation Element Amendments (2010)

Figure 7.13 Montgomery County Planning Commission Recommended Transportation Projects—Third Priority

Municipalities	Number	Project Name	Project Description
Lower Salford	213	PA 113 at Landis Road	Widen for turn lanes.
Franconia	221	PA 113 Harleysville Pike at Keller Creamery Road	Widen for turn lanes.
Lower Salford	238	PA 113 Harleysville Pike at Groff's Mill Road	Widen for turn lanes.
Franconia	243	Allentown Road at Morwood Road	Widen for turn lanes.
Franconia	246	Cowpath Road at Beck Road	Widen for turn lanes.
Lower Salford	248	PA 63 Sumneytown Pike at Store Road	Align intersection with Freed Road.
Salford	257	County Line Road at Ridge Road	Widen for turn lanes.
Lower Salford	258	PA 63 Sumneytown Pike at Clemens Road	Widen intersection.
Lower Salford	263	PA 113 Harleysville Pike at Cressman Road	Widen for turn lanes.
Souderton	266	County Line Road at Cherry Lane	Widen for turn lanes.
Franconia	267	Cowpath Road at Telford Pike	Widen for left turns.
Franconia	270	PA 113 Harleysvill Pike at Telford Pike	Widen for turn lanes.
Souderton	271	PA 113 Main Street at Central Avenue	Widen for turn lanes.
Franconia	272	Godshall Road at Lower Road	Widen for turn lanes.
Lower Salford	273	PA 63 Sumneytown Pike at Morwood Road	Widen for turn lanes.
Franconia	276	Allentown Road at Souder Road	Widen intersection.
Upper Salford	289	PA 63 Sumneytown Pike at Long Mill Road	Improve intersection.
Upper Salford	298	PA 63 Sumneytown Pike at Barndt Road	Widen for turn lanes.
Salford	866	PA 563 Ridge Road at Dietz Mill Road	Align intersection.

Source: Montgomery County Comprehensive Plan, Transportation Element Amendments (2010)

Traffic Calming

Traffic calming is defined by the Institute of Transportation Engineers as "the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users." It encourages motorists to drive at a speed which residents of the area consider compatible with surrounding land uses, it can be an important means of enhancing community character, and it serves as a tool to help increase pedestrian and bicyclist safety in a neighborhood.

Traffic calming measures can be employed in the Indian Valley Region in one of two situations: when an area is being newly developed, or as a retrofit of an existing street. New development gives the designer or planner ability to shape the roadway and roadside in a manner that encourages motorist speeds that they consider desirable for the area. For situations of new development, the designer may consider narrow roadways or on-street parking to slow cars. Retrofitting of existing streets can occur when high traffic speeds have been identified as an issue on a roadway. In residential areas when high speeds are an issue, municipalities should gather traffic data, evaluate a range of traffic calming measures such as speed humps and traffic circles, and conduct a survey of motorists on the street to determine support of the installations. To address high speeds in commercial areas, intrusive measures such as speed humps and traffic circles are not recommended, and curb extensions, narrow lanes, and on-street parking could be considered. Using the Key below, Figure 7.14 depicts traffic calming measures appropriate based on Smart Transportation roadway typology.

Key:

Appropriate

Not Applicable

Appropriate in Special Circumstances

(1) Bulbouts should be used on regional arterials only in urban or suburban center contexts, with speeds of 35 mph or below. On arterials they should be no greater than 6 ft in width.

Source: Smart Transportation Guidebook, 2008

Figure 7.14 Traffic Calming Measures Appropriate to Roadway Classifications

Classification			Regional Arterial	Community Arterial	Community Collector	Neighborhood Collector	Local Street
Design speed range (mph)			**30 to 45**	**25 to 45**	**25 to 30**	**25 to 30**	**20 to 25**
Traffic calmed category			**Framework Street**		**Non-Framework Street**		
Transition zone to traffic calmed segment							
Gateway (landscaping, archway, signs, etc.)							
Cross Section Measures	Reduction in number of lanes						
	Reduction in width of lanes						
	Long median						
	Short median/refuge						
	Bulbouts(1)						
	Curb and gutter						
	Pedestrian-scale lighting						
	Street trees						
	Buildings at back of sidewalk						
	Lateral shifts						
	Bike lanes						
	On-street parking	Parallel					
		Back-in-angle					
		Front-in-angle					
		90 degrees					
Periodic Measures	**Horizontal Measures**	Roundabouts					
		Mini-traffic circles					
		Chicanes					
		Short medians					
	Narrowings	Pinch points					
	Vertical Measures	Raised intersections					
		Raised crosswalks					
		Flat-top speed humps					
		Speed cushions					
		Speed humps					

PA 113 Heritage Corridor

The PA 113 Heritage Corridor Transportation & Land Use Study was undertaken in November 2005 and supported by PennDOT, DVRPC, and MCPC, as well as other planning and economic development organizations throughout the region. During the study consultants met with municipal officials along the PA 113 corridor to discuss zoning codes, development, and traffic improvement plans in hopes to better coordinate growth along this arterial and to preserve historic resources in the process. The efforts of the consultants and the municipalities resulted in the following recommendations, which apply to the communities of the Indian Valley:

- Establish a Heritage Corridor Overlay District.
- Improve traffic flow with prioritized key-intersection improvements.
- Preserve heritage and open space viewsheds by adopting residential cluster zoning ordinances.
- Create mixed-use redevelopment at existing commercial and village centers. Concentrate development where it can be served by existing infrastructure while saving green fields from additional sprawl.
- Implement roadway improvements to accommodate increased traffic volumes, improve pedestrian and bicycle safety, and enhance the visual attributes of the corridor.

These recommendations promote context=sensitive design along an important corridor through the Indian Valley. If communities work cooperatively to implement policies that support these recommendations it will help to preserve to rural character of the region. Additionally, municipalities should consider these recommendations along other important corridors in the Indian Valley.

Pedestrian and Bicycle Mobility and Connectivity

Pedestrian circulation is also a part of a regional transportation network. Pedestrian networks in the Indian Valley Region include sidewalks, trails, paths, and crosswalks. Pedestrian travel can be an effective alternative to the automobile for short distance trips, particularly within Souderton and Telford Boroughs and potentially Harleysville. People also may use the network for longer distance exercise activities such as jogging.

Pedestrian access needs to be created where lacking in order to facilitate access between and among growth areas in the region. These networks should be as interconnected as possible to form an integrated, safe pedestrian network.

Likewise, Bicycling can be a great way to run errands or commute to work, in addition to its most common use as a means of recreation. If biking is used in place of automobile trips, it can help reduce traffic congestion, pollution, and energy consumption. Road improvements for bicycling should be encouraged and facilitated in the region to help achieve some of these things.

Sidewalks

Sidewalks promote walkabilty and reduce motorized vehicle use. Where sidewalks exist, they provide safety for non-drivers.

There are often many problems with an existing sidewalk network. Network gaps can exist where existing sidewalks fail to interconnect with wider networks. Existing sidewalks may be broken in places, obstructed, or inaccessible to the handicapped. Also crosswalks may be missing or inadequate, therefore inhibiting pedestrian traffic across major roads.

Sidewalks should be well-designed and set back from the street, free of obstructions, interconnected, and wide enough to accommodate the anticipated volume of foot traffic in the area served. See Figure 7.15 for sidewalk design standards. Additionally, crosswalks should be clearly marked and should connect to adjoining sidewalks.

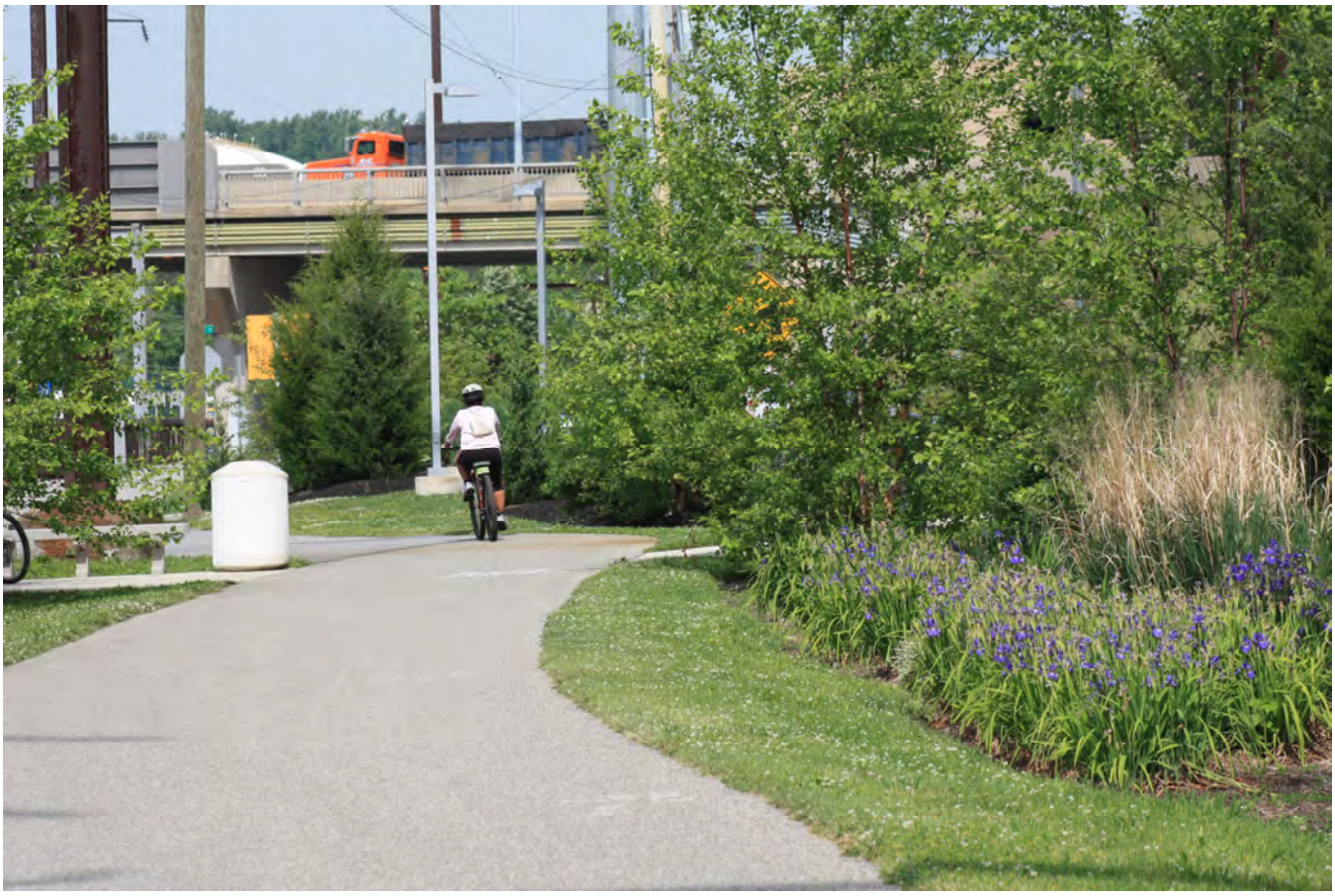


Figure 7.15 Sidewalk Design Standards

Sidewalk Location	Sidewalk Width	Planting Strip Width
Central Business District	8' or wider	8' or wider
Commercial, office, industrial areas outside of CBD	5' or wider; 7' with no planting strip or; 5' with 2' planting strip	4' to 8' preferred
Residential areas along arterial or collector	5' or wider	4' to 8' preferred; 2' is acceptable
Residential areas along local streets w/ density > 4DU/acre	5' or wider	Minimum 2' wide; Wider is preferred
Residential areas along local streets w/ density ≤ 4DU/acre	4' or wider	Minimum 2' wide; Wider is preferred
Important Note: *All sidewalk widths are exclusive of any obstacle. Sidewalk areas containing street lights, trees, benches, doors, trash cans, mailboxes, newspaper boxes, etc., must be added to the minimum width. In addition, in central business districts, two feet should be added to the width wherever pedestrians may be window shopping or doors may be opening onto the sidewalk area.*		

Source: Montgomery County Comprehensive Plan, Transportation Element, 2005

Within higher density areas, municipal Zoning and Subdivision and Land Development ordinances should provide language that requires sidewalks along all streets, major driveways, and parking areas. Sidewalks should be located anywhere there is a potential for pedestrian-vehicle conflicts. Because the nature of suburban development has given priority to auto traffic at the expense of pedestrian mobility, there are many such conflict points that lack proper sidewalks.

Installing sidewalks everywhere they are absent and improving existing but inadequate sidewalks can be problematic. Therefore, this becomes a question of prioritizing where sidewalks are missing or inadequate and where is it most important they be installed or upgraded. They should be installed wherever people might be expected to walk, which could include main street areas, shopping centers, office parks, industrial complexes, and higher density residential areas. Sidewalks should also connect to "destinations" such as shopping centers, bus stops, schools, parks, and libraries.

Trails

Trails can be used for recreation but can also be used as an alternative transportation choice. They can connect destinations within and outside of the region that are too far apart for sidewalks to link. Trails also have been shown to enhance the quality of life in communities.

The Indian Valley Region trail network consists of one existing and two proposed trails (Figure 7.16). The Perkiomen Trail, a County regional trail extending from the Schuylkill River up to Green Lane Park, runs along the western border of the region in Upper Salford. The proposed Liberty Bell Trail is currently in the planning stage, and will traverse Souderton, Telford, and Franconia, connecting East Norriton to Quakertown. The portion of the Liberty Bell trail running through Hatfield Borough has already been completed. The proposed Evansburg Trail will provide residents of Lower Salford with easy access to both the Perkiomen Trail and the Evansburg State Park.

The municipalities in the Indian Valley Region have also identified additional proposed trails in each of their Open Space Plans. Municipalities should continue to develop these trails and connections as resources permit. In doing so, the municipalities should connect sidewalks and trails as much as possible, however; trails should not be considered a replacement for a sidewalk network along roads. Rather, the trails will enhance the walkability that is primarily supported by a strong network of sidewalks, specifically in the boroughs and villages.

Bicycle Guidelines

As already mentioned, it is important that the Indian Valley Region is both walkable and bikeable. The more options that residents have for commuting to work, the less congested our roads will be. In addition, bicycling can help fight obesity and promote a healthy lifestyle, saving on healthcare costs. PennDOT has adopted the Federal Highway Administration's guidelines as "recommended standards" for making roads in the state bikeable. These standards are presented in Figure 7.17 and examples are illustrated in Figure 7.18

Figure 7.16 Existing and Proposed Trails

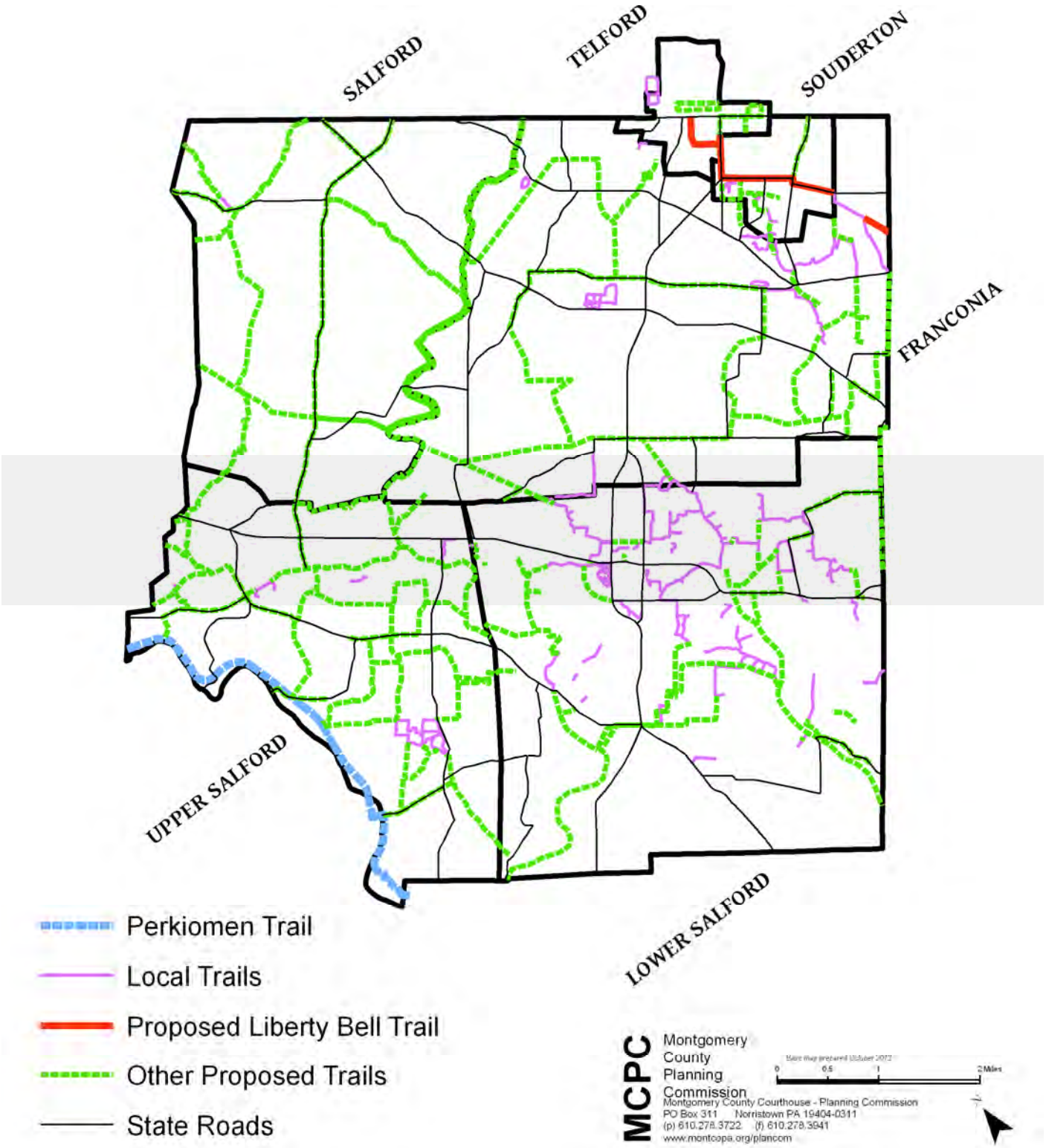


Figure 7.17 Standards for Bikeable Roads

Bicyclist Type, Average Motor Vehicle Operating Speed (AMVOS), and Road Profile	<2,000 AADT volume				2,000 – 10,000 AADT volume				>10,000 AADT volume			
	Adequate site distance		Inadequate site distance		Adequate site distance		Inadequate site distance		Adequate site distance		Inadequate site distance	
GROUP A BICYCLISTS:		Truck, bus, rv				Truck, bus, rv				Truck, bus, rv		
<30 mph AMVOS:												
Urban, no parking (note 1)	13 sl	13 sl	15 wc	15 wc	13 sl	15 wc	15 wc	15 wc	15 wc	15 wc	15 wc	15 wc
Urban, with parking (note 2)	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	15 wc	15 wc	14 wc
Rural (note 3 & 4)	12 sl	12 sl	14 wc	14 wc	12 sl	14 wc	14 wc	14 wc	14 wc	14 wc	4 sh	4 sh
30-40 mph AMVOS:												
Urban, no parking (note 1)	15 wc	15 wc	16 wc	16 wc	15 wc	16 wc	16 wc	16 wc	15 wc	16 wc	16 wc	16 wc
Urban, with parking (note 2)	14 wc	14 wc	14 wc	15 wc	14 wc	15 wc	15 wc	15 wc	14 wc	15 wc	15 wc	15 wc
Rural (note 3 & 4)	14 wc	14 wc	4 sh	4 sh	14 wc	15 wc	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh
41-50 mph AMVOS:												
Urban, no parking (note 1)	16 wc	16 wc	16 wc	16 wc	16 wc	16 wc	6 sh	6 sh	16 wc	16 wc	6 sh	6 sh
Urban, with parking (note 2)	15 wc	15 wc	15 wc	15 wc	15 wc	16 wc	16 wc	16 wc	15 wc	15 wc	16 wc	16 wc
Rural (note 4)	4 sh	4 sh	4 sh	4 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh
>50 mph AMVOS:												
Urban, no parking	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh
Urban, with parking	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rural (note 4)	4 sh	6 sh	6 sh	4 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh
GROUP B/C BICYCLISTS:		Truck, bus, rv				Trucks, bus, rv				Trucks, bus, rv		
<30 mph AMVOS:												
Urban, no parking (note 1 & 5)	15 wc	15 wc	15 wc	15 wc	15 wc	15 wc	15 wc	15 wc	5 bl	5 bl	5 bl	5 bl
Urban, with parking (note 2 & 5)	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	14 wc	5 bl	5 bl	5 bl	5 bl
Rural (note 4)	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh	4 sh
30-40 mph AMVOS:												
Urban, no parking (note 5)	5 bl	5 bl	5 bl	5 bl	5 bl	6 bl	6 bl	5 bl	5 bl	6 bl	6 bl	5 bl
Urban, with parking (note 5)	5 bl	5 bl	5 bl	5 bl	5 bl	6 bl	6 bl	5 bl	6 bl	6 bl	6 bl	6 bl
Rural (note 4)	4 sh	4 sh	4 sh	4 sh	4 sh	6 sh	6 sh	4 sh	6 sh	6 sh	6 sh	6 sh
41-50 mph AMVOS:												
Urban, no parking (note 5)	5 bl	5 bl	5 bl	5 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl
Urban, with parking (note 5)	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl
Rural (note 4)	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh	6 sh
>50 mph AMVOS:												
Urban, no parking (note 5)	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl	6 bl
Urban, with parking	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rural (note 4)	6 sh	6 sh	6 sh	6 sh	8 sh	8 sh	8 sh	8 sh	8 sh	8 sh	8 sh	8 sh

*For legend and further explanation of this table, please see next page.

NOTES:

1. The wc or sl number represents the "usual width" of the outer travel lane, measured from the left strip of the travel lane to the face of the curb.

2. The wc number represents the "usable width" of the outer travel lane, measured from the left edge of the parking space (8 to 10 feet minimum from the face of the curb) to the left stripe of the travel lane.

3. The wc or sl number represents the "usable width" of the outer travel lane, measured from the left strip of the travel lane to the edge of the pavement if a smooth, firm and level shoulder is adjacent. If a soft shoulder exists or if there are rough or dropped seams at the edge of the pavement, then a width should be increased by a minimum of 1 foot.

4. For a sh, a minimum 2 foot separation is desirable between the edge of the pavement and the edge of the roadside ditch, if any.

5. The bl number indicates the recommended standard width measured from the bike lane stripe to the face of the curb. The minimum allowable width for a bl is 4 feet. If a curb is not provided, a minimum 2 foot separation is desirable between the edge of the pavement and the edge of the roadside ditch, if any.

LEGEND:

sl = shared lane (12 to 13 foot)

wc = wide curb lane (14 to 16 foot)

sh = shoulder (4 to 8 foot)

bl = bike lane (5 to 6 foot)

Distinction Between Bicyclist Groups

Group A (Advanced) Bicyclists - These are experienced riders who can operate under most traffic conditions. They comprise the majority of the current users of collector and arterial streets. Advanced bicyclists are best served by sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motor vehicle to change position when passing.

Group B (Basic) Bicyclists - These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Basic bicyclists are best served by bike paths and other facilities that provide a well-defined separation of bicycles and motor vehicles on arterial and collector streets.

Group C (Child) Bicyclists - These are preteen riders whose roadway use is initially monitored by parents. As their riding skills develop, child bicyclists are accorded independent access to the system. Like Group B bicyclists, children are best served by bike paths and other facilities that provide a well-defined separation of bicycles and motor vehicles on arterial and collector streets.

As bicycling has become a more popular method of both transportation and active recreation over the past several years there has been an increase in the number of Group B and C cyclists using roadways. If the number of automobiles per household continues to decrease throughout the United States and if more people continue to show preference for walkable and bikeable communities, both casual/new riders and children riders will continue to increase. This should be taken into account when planning new bicycle facilities.

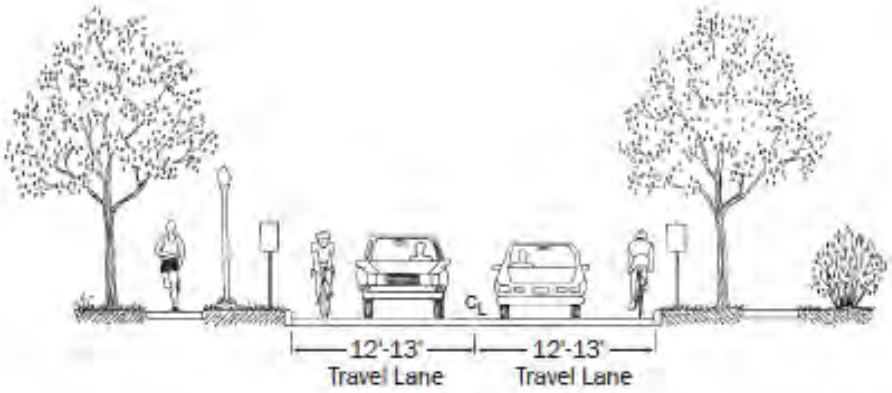
Recommended Bicycle Routes

The 2005 Montgomery County Transportation Plan included potential bicycle routes in Montgomery County and encourages making Montgomery County more "bikeable." Recommended bicycle routes from the plan are identified on Figure 7.18. Primary bicycle routes are key bicycling corridors that link major destinations and contribute to an interconnected on-road bicycle network. Secondary bicycle routes are all arterials and collectors not otherwise categorized as primary routes. Primary and secondary growth areas are also shown for added reference.

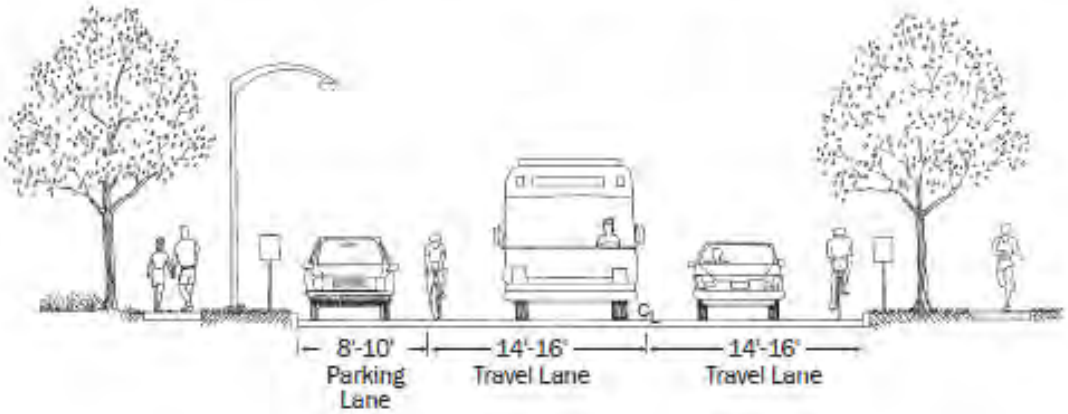
The suggested routes could serve as a guide to where bike lanes or paved shoulders would be appropriate. In addition to the on-road routes suggested above off-road paths could be introduced in areas that offer convenient access to shopping, employment, schools, or recreation areas. The municipalities of the Indian Valley Region should work to develop bike routes where appropriate to encourage biking within the region.

Figure 7.17 Standards for Bikeable Roads—Example Illustrations

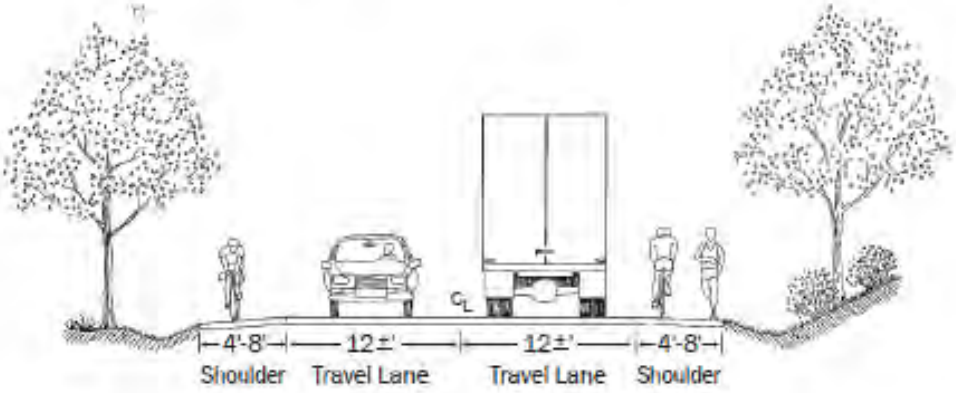
SHARED LANE



WIDE CURB LANE



SHOULDER



BIKE LANE

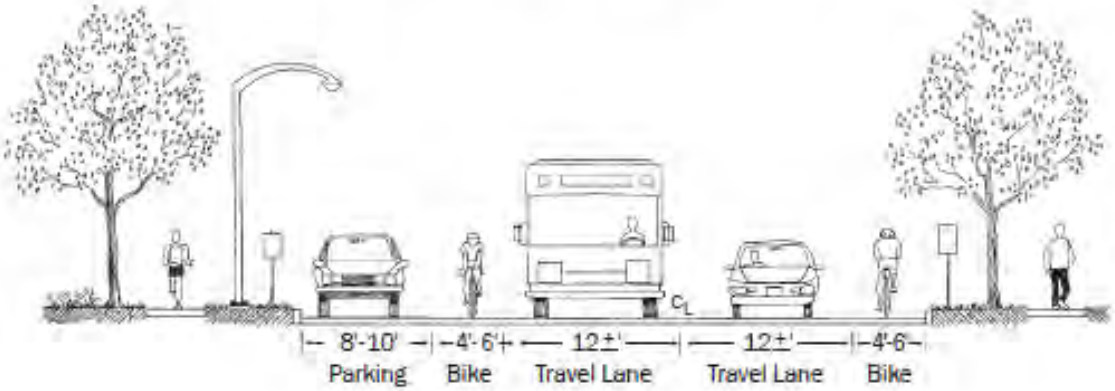
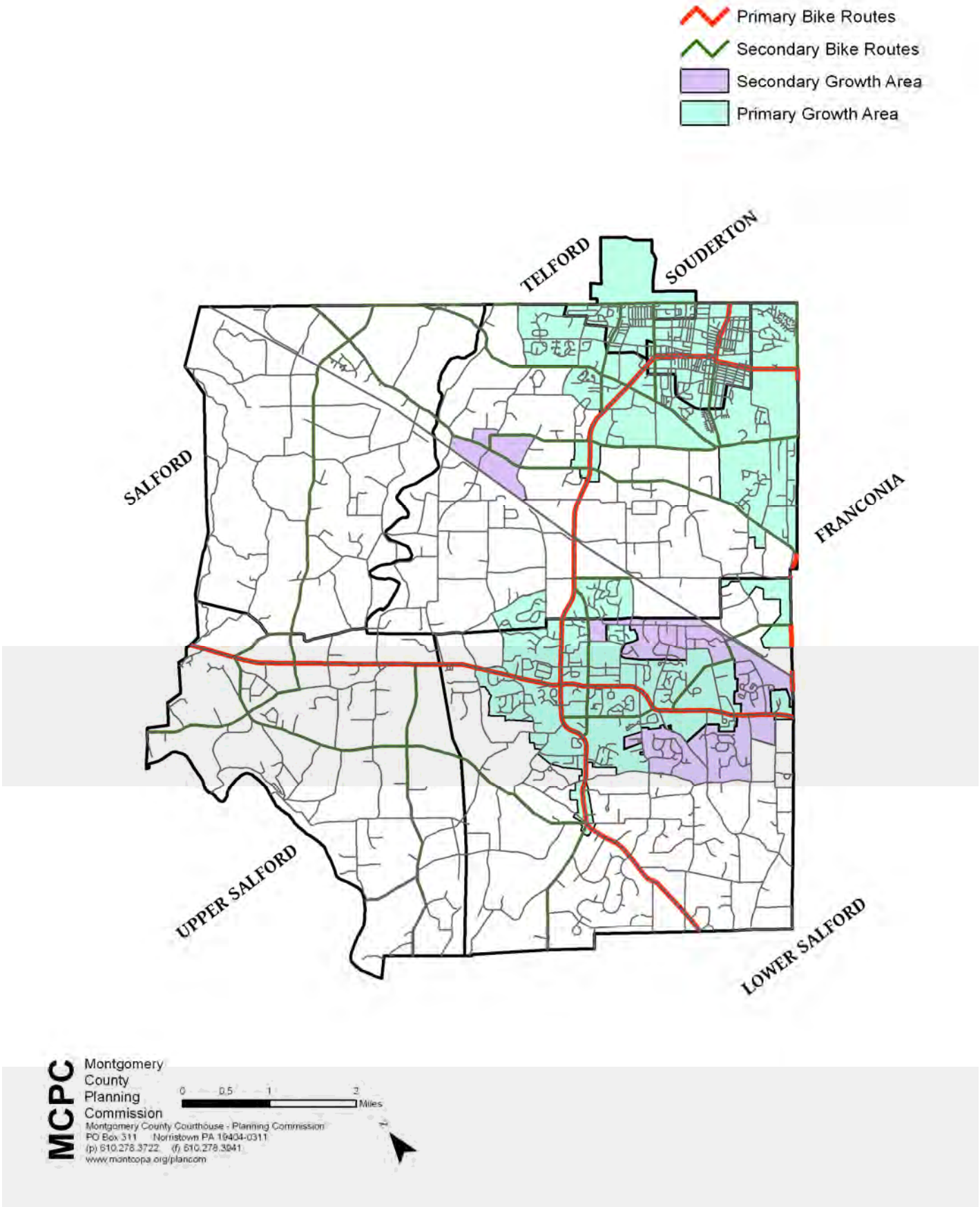


Figure 7.18 Recommended Bicycle Routes



Public Transportation

Public transportation reduces the amount of traffic on the roads and provides greater transportation options to those without access to automobiles or those with physical disabilities who cannot drive. Use of public transit can also conserve energy and improve air quality. Furthermore, an expanded public transit network can better connect workers to jobs and consumers to commercial areas, thus enhancing economic development. Currently public transportation in the region is minimal, with one SEPTA bus route (Route 132) operating between the Montgomery Mall and Telford. Despite the lack of bus routes in the region, one advantage of the existing bus route is that it serves as a direct link to the Lansdale Rail Station and the Lansdale/Doylestown line of the SEPTA Regional Rail System. Using the Route 132 bus and the Regional Rail a passenger can get from Souderton to Center City Philadelphia in under an hour and a half. In addition to the current service, there are several ideas for expanding public transportation in the region.

Extension of Passenger Rail

The Bethlehem Branch is a SEPTA-owned rail line that runs from Lansdale Borough to the village of Shelly in Richland Township, Bucks County via Souderton and Telford. Though passenger service along this corridor ceased in the 1980s there have been multiple attempts at reviving the service over the past twelve years. Reestablishing this rail line is a second-priority project, according to the 2010 Amendments to the Transportation Element of the Montgomery County Comprehensive Plan.

In 2007, Bucks County Planning Commission in cooperation with the Montgomery County Planning Commission and the Bucks County Transportation Management Association (TMA Bucks), and also involving SEPTA, the Regional Improvement Consortium, and DVRPC, commissioned a study by Jacobs, Edwards, and Kelcey entitled *Quakertown Rail Restoration Alternatives Analysis (QRRAA).* The final report detailed three alternatives for public transportation along the Bethlehem Branch Corridor, as detailed in Figure 7.19.

Figure 7.19 Quakertown Railroad Restoration Alternatives

Baseline Alternative	No Build plus Transportation System Management	The Baseline Alternative includes transportation conditions anticipated in the project build year 2030, plus other relatively low cost improvements, known as Transportation System Management (TSM). The TSM includes a system of three express bus routes providing feeder service to rail stations, expansion of the existing parking facilities at the SEPTA rail station in Lansdale and additional vehicles for SEPTA Lansdale/Doylestown Line services.
Build Alternative 1	Diesel Rail Shuttle (DMU)	Diesel rail shuttle service over the Bethlehem Branch to Lansdale, where a transfer would be made to existing SEPTA rail service to complete trips to destinations such as Center City Philadelphia.
Build Alternative 2	Electric Multiple Unit Direct (EMU)	Extension of existing SEPTA electric rail service over the Bethlehem Branch, creating direct rail service to Center City Philadelphia. This alternative would eliminate the need for a transfer at Lansdale.

The study found that Build Alternative 1 (DMU) was the Locally Preferred Alternative (LPA) when considering both mobility advantages and cost-effectiveness. In the proposal there would be stops at Hatfield, Souderton, Telford, Sellersville, Perkasie, Quakertown, and Shelly. Out of all of the stops , Telford had the highest projected ridership.

Unfortunately, there is no funding available for such a rail extension at this time. This comprehensive plan recommends that local, state, and state authorities take steps to encourage the resumption of rail service to Telford and Souderton. Such a move would increase economic development and quality of life in the region without sacrificing the region's character or increasing congestion.

Partnership TMA Community Coaster

The Community Coaster was a program run by the Partnership Transportation Management Association (TMA) that served the needs of people in the Indian Valley who are underserved by transit. Although the service was limited, it filled a niche for many Indian Valley residents. Unfortunately, due to budget constraints, Partnership TMA was forced to eliminate service indefinitely in the summer of 2012.

It is suggested that the municipalities of the Indian Valley work with Partnership TMA toward the possible restoration of the Community Coaster service. If this is deemed unfeasible options should be explored to fill the void that the suspension of Community Coaster service has left.

Northwestern Montgomery County Strategic Transit Plan

The Northwestern Montgomery County Strategic Transit Plan focused on the 17 municipalities in the county that have historically lacked transit service. This includes Lower Salford, Salford, Upper Salford, and Franconia in the Indian Valley Region. Souderton and Telford were not included in the study because of the SEPTA Route 132 Bus that operates between those boroughs and the Montgomery Mall.

Out of all of the municipalities included in the study Lower Salford was the most populous, with Franconia coming in third. Some of the highest densities are located around Harleysville—as illustrated in the photo below—and the areas of Franconia directly adjacent to Souderton and Telford, making these areas most ideal for transit services.

In the report's final recommendations it identified an East Greenville to Harleysville connector route as a long-term strategic goal, but noted that there were barriers to implementation (lower density, high cost) and did not recommend further exploration at this time.

Freight Transport

Freight transport can include trucking, rail, and air transportation. The closest airports to the Indian Valley Region are the Perkiomen Valley Airport located in Skippack Township and the Pennridge Airport in Bucks County. The larger Pottstown-Limerick Airport is also located nearby. In 1999 PennDOT determined that the Pottstown-Limerick Airport had a $4.2 million economic impact.

SEPTA leases operating rights to a freight rail line that runs through Telford, Souderton, and a small portion of Franconia. It serves a number of industries in the region. The region also experiences truck traffic, particularly on the Northeast Extension of the Pennsylvania Turnpike which runs through Lower Salford, Franconia, and Salford Townships, and has an interchange just outside of Lower Salford.

CHAPTER 8
ECONOMIC DEVELOPMENT

Introduction

Based upon the Comprehensive Plan's goals and objectives, economic development in the Indian Valley will focus upon encouraging new retail, office and industrial development within designated areas to meet a range of uses. Fostering this economic development in a way that encourages infill and redevelopment within established commercial areas, such as the region's boroughs and villages, while complementing more recent commercial development in surrounding areas, will be essential to the region's success.

The focus of economic development for the purposes of the recommendations in this chapter will be on revitalization of Souderton and Telford Boroughs, as well as the development of agricultural resources and farming as a business in the four townships. Design issues relating to non-residential development in both greenfield and infill locations will also be addressed. Finally, this chapter will integrate the Indian Valley Industrial Marketing Plan into the greater vision of this comprehensive plan.

Economic Development Goal

To attract new businesses and support existing businesses in order to promote a high quality of life and economically and environmentally sustainable environment in the Indian Valley Region.

The objectives that will help the Indian Valley Region meet its economic development goal include:

- Continue to employ strategies to recruit new businesses and support existing businesses..
- Ongoing support of employment opportunities throughout the region so that employers may be effectively matched with the region's highly educated and skilled work force.
- Support local organizations, such as the Indian Valley Chamber of Commerce and Souderton-Telford Main Streets to help guide and implement the recommendations of the Souderton-Telford Community Revitalization Plan and future regional economic development plans and studies.
- Enhance the region's tax base with new and expanded businesses that reinforce the natural, cultural, and historic brand of the area.
- Maintain the agricultural heritage of the region while promoting sustainable farm enterprises.
- Encourage new industrial, light manufacturing and research lab uses in appropriate areas, as outlined in the Indian Valley Industrial Marketing Plan.

Existing Economic Conditions

Boroughs and Villages

The Indian Valley's boroughs and villages are the older and more established areas of the region where plentiful and diverse housing options serviced by existing infrastructure can be found. More importantly, the greatest share of commercial activity can be found within the downtowns, small shopping centers, and shopping strips of the region's boroughs and villages.

Boroughs. In the Boroughs of Telford and Souderton the commercial corridors can be better described as traditional town "Main Street" corridors. Both boroughs have downtowns that are focused along their Main Street corridors. For Souderton, PA Route 113—which runs through the borough as both Main Street and East Broad Street—serves as the primary artery. For Telford, the primary commercial spine is Main Street, which continues as County Line Road outside the borough. These "Main Street" areas contain a mix of retail, office, and institutional uses that contribute to the region's economic development.

Villages. In terms of commercial activity, the villages of the region have a similar economic profile to the Indian Valley's boroughs, but are generally smaller in scale. Harleysville is an exception to the size rule, as it is a census-designated place that is larger in geographic size and population than either of the two boroughs, but it is still less densely settled than either Telford or Souderton. While Harleysville has an economic footprint and population profile that is similar to a borough, the other villages in the region are much smaller—with some occupying a single intersection. These villages include Mainland, Lederach, and Vernfield in Lower Salford Township; Salford, Salfordville, and Woxall in Upper Salford Township; Tylersport in Salford Township; and Earlington, Elroy, Franconia, and Morwood in Franconia Township.

Townships

The townships of Lower Salford, Salford, Upper Salford, and Franconia all contain areas with zoning that supports commercial, office, and light industrial uses—with the greatest concentration being found in Lower Salford and Franconia Townships. As mentioned before, the densest amalgam of commercial uses outside of the boroughs is focused in and around the village of Harleysville in Lower Salford Township.

Employment and Employers

According to the 2011 U.S. Census American Community Survey five year estimates there are 23,307 employed people living in the Indian Valley. Of those 23,307, only 4,439 both live and work within the region—representing

about 19% of the total employed residents. The remaining 18,868, or 81%, are employed outside of the Indian Valley. As reported by the U.S. Census Bureau's Center for Economic Studies, Figures 8.1 and 8.2 both illustrate the job type distribution of the region's employed residents, dividing them into 20 industry categories. As with all of the tables in this chapter, Figure 8.1 also provides comparisons to Montgomery County and the Commonwealth of Pennsylvania as a whole.

Figure 8.1 Resident Workforce Distribution by Industry Sector, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Manufacturing	3,658	15.7%	35,471	9.0%	587,038	10.5%
Health Care and Social Assistance	3,276	14.1%	57,924	14.7%	954,953	17.1%
Retail Trade	2,704	11.6%	42,768	10.9%	632,853	11.3%
Professional, Scientific, and Technical Services	1,905	8.2%	42,209	10.7%	337,342	6.0%
Educational Services	1,843	7.9%	40,252	10.2%	549,190	9.8%
Wholesale Trade	1,483	6.4%	20,966	5.3%	239,092	4.3%
Finance and Insurance	1,382	5.9%	27,750	7.0%	262,173	4.7%
Accomodation and Food Services	1,262	5.4%	23,991	6.1%	412,482	7.4%
Construction	1,171	5.0%	14,190	3.6%	223,757	4.0%
Administration & Support, Waste Management and Remediation	1,112	4.8%	20,844	5.3%	285,953	5.1%
Other Services (excluding Public Administration)	874	3.7%	13,709	3.5%	190,264	3.4%
Transportation and Warehousing	621	2.7%	9,969	2.5%	228,887	4.1%
Management of Companies and Enterprises	510	2.2%	10,086	2.6%	130,226	2.3%
Information	417	1.8%	10,168	2.6%	104,677	1.9%
Public Administration	367	1.6%	9,841	2.5%	228,526	4.1%
Arts, Entertainment, and Recreation	296	1.3%	5,572	1.4%	82,575	1.5%
Real Estate and Rental and Leasing	261	1.1%	5,673	1.4%	61,305	1.1%
Utilities	97	0.4%	1,945	0.5%	33,432	0.6%
Agriculture, Forestry, Fishing and Hunting	41	0.2%	430	0.1%	20,785	0.4%
Mining, Quarrying, and Oil and Gas Extraction	27	0.1%	283	0.1%	27,743	0.5%
Totals	23,307	100.0%	394,041	100.0%	5,593,253	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

The majority of the Indian Valley's resident workers (51.4%) earn more than $3,333 per month, as illustrated in Figure 8.3. Figures 8.4 and 8.6 give the educational attainment and age distribution of the region's resident workers, respectively. The age profile of Indian Valley workers is similar to Montgomery County and the state, while the region's resident workers are more likely to possess a Bachelor's or advanced degree than the average resident worker in the Commonwealth.

While the Center for Economic Studies reports on the industry in which residents work, the U.S. Census Bureau's American Community Survey focuses on the occupation of residents and workers, as reported by those individuals. According to the American Community Survey Five Year Estimates, the most common occupations among workers residing in the Indian Valley in-

Figure 8.2 Resident Workforce Distribution by Industry Sector, 2011

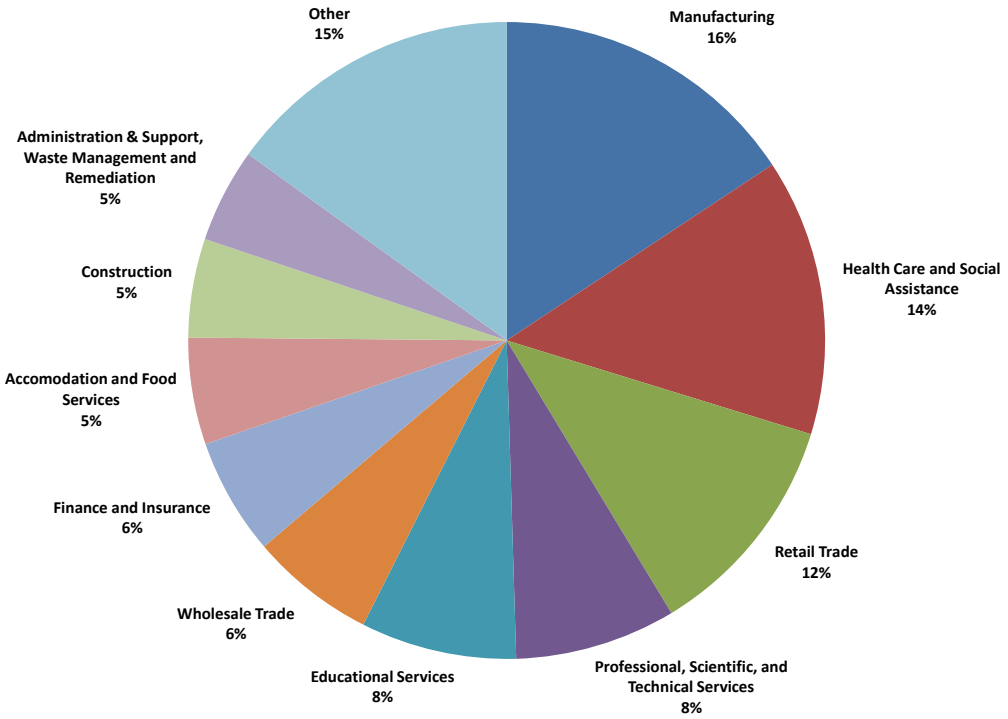


Figure 8.3 Earnings Distribution of Resident Workers, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
$1,250 per month or less	5,190	22.3%	83,551	21.2%	1,407,026	25.2%
$1,251 to $3,333 per month	6,135	26.3%	99,534	25.3%	1,905,523	34.1%
More than $3,333 per month	11,982	51.4%	210,956	53.5%	2,280,704	40.8%
Total Resident Workers	23,307	100.0%	394,041	100.0%	5,593,253	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

Figure 8.4 Educational Attainment of Resident Workers, 2011

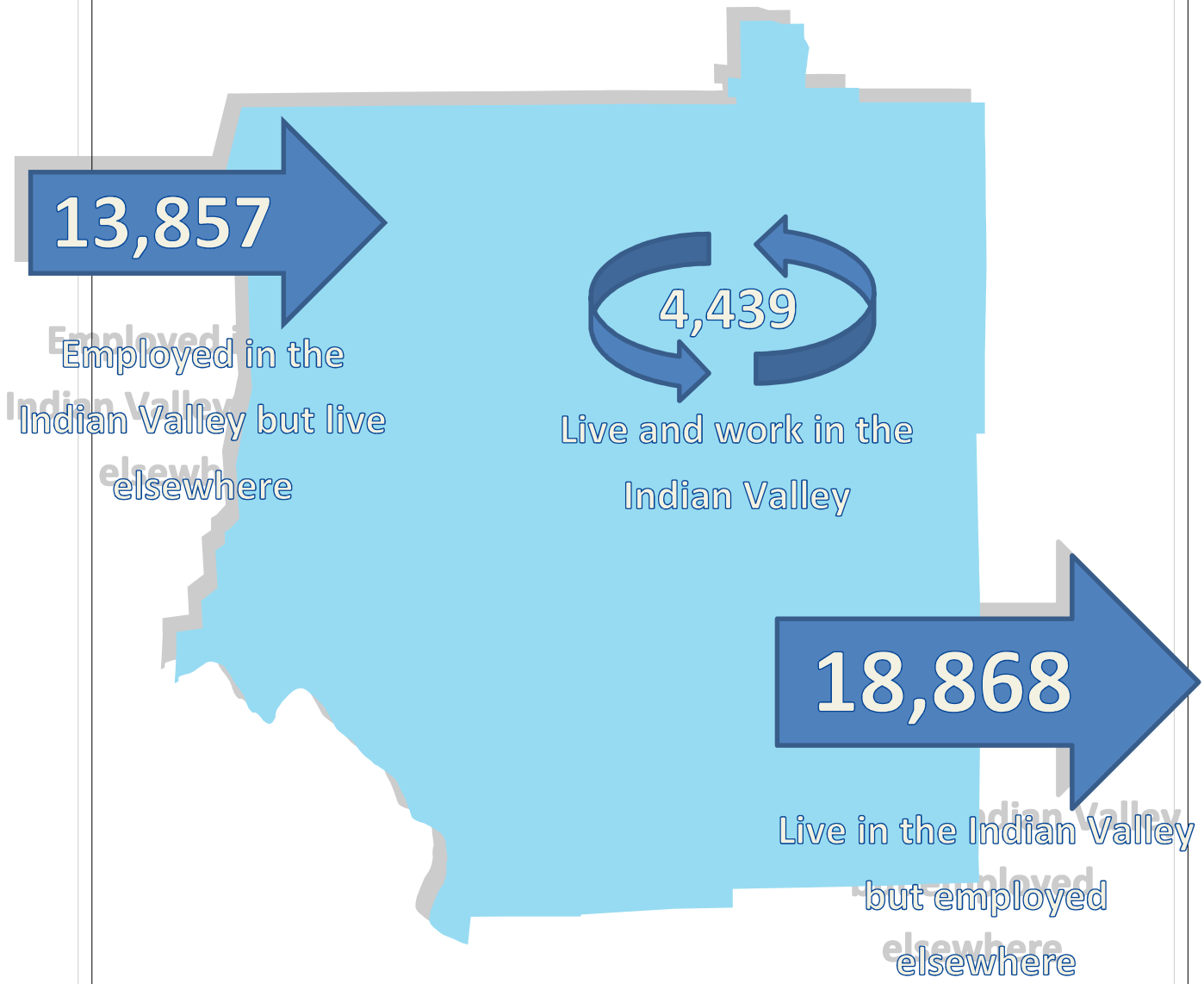
	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Less than high school	1,192	5.1%	21,229	5.4%	378,198	6.8%
High school or equivalent, no college	4,489	19.3%	73,038	18.5%	1,303,289	23.3%
Some college or Associate degree	5,794	24.9%	92,923	23.6%	1,362,990	24.4%
Bachelor's degree or advanced degree	6,848	29.4%	123,635	31.4%	1,294,340	23.1%
Educational attainment not available*	4,984	21.3%	83,216	21.1%	1,254,436	22.4%
Total Resident Workers	23,307	100.0%	394,041	100.0%	5,593,253	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

clude management, business, science, and arts occupations (about 41% of the population) and sales and office occupations (about 26%). Occupation data for the Indian Valley, Montgomery County, and Pennsylvania are presented in Figure 8.7. Though unemployment rates are not available at the regional level, one can infer that the unemployment rate for the Indian Valley would be similar to that of Montgomery County as a whole. As of April 2013, the Bureau of Labor Statistics was reporting that unemployment was at 6.2% in Montgomery County, significantly better than the rate for the metropolitan area (7.7%) and for the Commonwealth of Pennsylvania (7.6%). These data are illustrated in Figure 8.8

The 2011 U.S. Census Bureau data shows that there are 18,296 individuals occupying jobs available within the Indian Valley. Of those 18,296 individuals, only 4,439 are people who also live with-

Figure 8.5 Commuting Patterns in the Indian Valley, 2011



Source: U.S. Census Bureau, Center for Economic Studies

Figure 8.6 Age Distribution of Resident Workers, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Age 29 or younger	4,984	21.4%	83,216	21.1%	1,254,436	22.4%
Age 30 to 54	13,326	57.2%	222,598	56.5%	3,123,024	55.8%
Age 55 to older	4,997	21.4%	88,227	22.4%	1,215,793	21.7%
Total Resident Workers	23,307	100.0%	394,041	100.0%	5,593,253	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

Figure 8.7 Occupation of Civilian Employed Population, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Management, business, science, and arts occupations	9,127	41.1%	197,898	47.9%	2,110,258	35.5%
Service occupations	2,854	12.9%	50,761	12.3%	1,004,069	16.9%
Sales and office occupations	5,800	26.1%	103,438	25.0%	1,485,290	25.0%
Natural resources, construction, and maintenance occupations	1,951	8.8%	27,693	6.7%	519,190	8.7%
Production, transportation, and material moving occupations	2,451	11.0%	33,141	8.0%	819,700	13.8%
Total	22,183	100.0%	412,931	100.0%	5,938,507	100.0%

Source: U.S. Census Bureau, American Community Survey (Five Year Estimates)

Figure 8.8 Labor Force and Employment, April 2011

	Montgomery County		Phila-Camden-Wilm Metropolitan		Pennsylvania*		United States*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Employed	410,736	93.8%	2,784,346	92.3%	6,008,600	92.4%	143,579,000	92.5%
Unemployed	27,171	6.2%	232,966	7.7%	496,513	7.6%	11,659,000	7.5%
Labor Force	437,907	100.0%	3,017,312	100.0%	6,505,113	100.0%	155,238,000	100.0%

Source: Bureau of Labor Statistics

*Figures for Pennsylvania and the United States are seasonally adjusted.

in the region. Therefore, 13,857 people—or roughly 76%—of the people employed within the region are commuting into the region from homes elsewhere (Figure 8.5).

Manufacturing jobs are the most commonly held type of job with the Indian Valley, with healthcare and social assistance jobs coming in second. These two job types account for about 21% and 12% of all jobs in the region, respectively. This is illustrated in Figures 8.9 and 8.10. The earnings distribution of people working at a job within the Indian Valley differs with the employed residents data, with less of a percentage earning more than $3,333 per month (about 42%) and greater percentages for those earning $1,250 per month or less (about 21%) and those earning between $1,251 and $3,333 per month (about 37%), as outlined in Figure 8.11. The age distribution and educational attainment of those occupying jobs available are illustrated in Figures 8.12 and 8.13, respectively.

Economic Development Strategies

The economic development strategies recommended by this comprehensive plan are designed to support the economic development goal of the Indian Valley region. All strategies recommended by this plan are a reiteration and reaffirmation of the recommendations outlined in the Indian Valley Industrial Marketing Plan, the Souderton-Telford Community Revitalization Plan, and other relevant planning documents adopted by the municipalities of the Indian Valley. It should be noted that the municipalities of the Indian Valley have been implementing the relevant planning documents through their ongoing economic development strategies, and will continue to do so. The following sections outline several policy areas that serve as examples of the ongoing economic development initiatives employed in the region.

Figure 8.9 Employment Type Distribution of Persons Occupying Jobs Available, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing and Hunting	11	0.1%	305	0.1%	21,754	0.4%
Mining, Quarrying, and Oil and Gas Extraction	22	0.1%	315	0.1%	30,475	0.6%
Utilities	14	0.1%	3,060	0.6%	33,486	0.6%
Construction	1,299	7.1%	18,500	3.9%	216,729	3.9%
Manufacturing	3,799	20.8%	46,213	9.8%	577,473	10.5%
Wholesale Trade	724	4.0%	27,503	5.8%	232,306	4.2%
Retail Trade	1,722	9.4%	57,977	12.3%	625,160	11.3%
Transportation and Warehousing	414	2.3%	10,280	2.2%	227,094	4.1%
Information	77	0.4%	13,726	2.9%	102,446	1.9%
Finance and Insurance	1,762	9.6%	35,415	7.5%	255,331	4.6%
Real Estate and Rental and Leasing	118	0.6%	6,786	1.4%	59,203	1.1%
Professional, Scientific, and Technical Services	886	4.8%	57,159	12.1%	327,842	5.9%
Management of Companies and Enterprises	417	2.3%	11,033	2.3%	129,383	2.3%
Administration & Support, Waste Management and Remediation	1,272	7.0%	33,512	7.1%	280,645	5.1%
Educational Services	1,665	9.1%	29,318	6.2%	541,146	9.8%
Health Care and Social Assistance	2,177	11.9%	61,912	13.1%	951,082	17.3%
Arts, Entertainment, and Recreation	202	1.1%	5,826	1.2%	83,252	1.5%
Accomodation and Food Services	639	3.5%	28,186	6.0%	411,188	7.5%
Other Services (excluding Public Administration)	947	5.2%	15,856	3.4%	187,885	3.4%
Public Administration	129	0.7%	8,833	1.9%	217,860	4.0%
Totals	18,296	100.0%	471,715	100.0%	5,511,740	100.0%

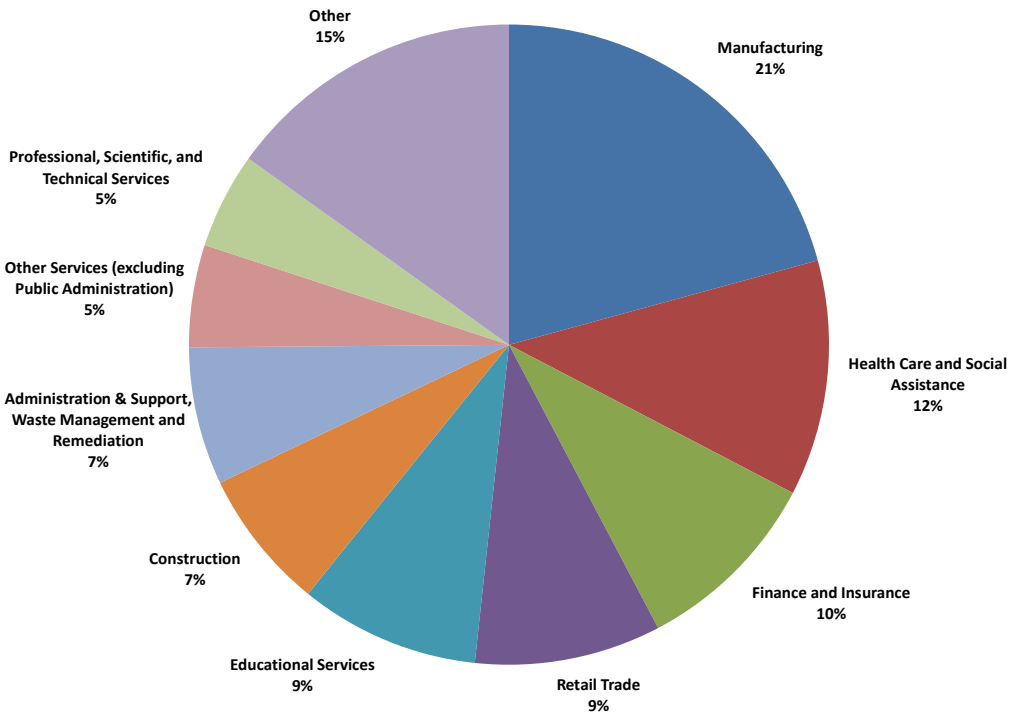
Source: U.S. Census Bureau, Center for Economic Studies

Borough Revitalization

Create a Market Niche

The "downtown" portions of Telford and Souderton Boroughs continue to create opportunities for businesses that will complement the retail offerings within the surrounding shopping centers. Traditional downtown areas provide an alternative to shopping centers and big-box retail through small shops that specialize in unique services and local eateries that offer indoor and outdoor dining. As noted in the Souderton-Telford Community Revitalization Plan, the two boroughs of the Indian Valley are uniquely well-preserved classic small towns

Figure 8.10 Employment Type Distribution of Persons Occupying Jobs



and benefit from their central location within the Philadelphia and Lehigh Valley metropolitan regions. These positive attributes helped bolster efforts to improve quality of life in the boroughs. Through these efforts the boroughs have made streetscape improvements, added public parks and open space, and supported the growth of retail and restaurants, among many other accomplishments.

Maintain Unique Historical Identity

One strategy for revitalization is to focus on preserving the history and identity of the downtown areas. An example of this being done is the renovation of the Telford train station, which has been redeveloped into a successful business location and gathering space and a focal point of the Main Street corridor. Another example is the Montgomery Theater in Souderton, which occupies a former firehouse—successfully adapting and reusing a historic structure.

Figure 8.11 Earnings Distribution of Persons Occupying Jobs Available, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
$1,250 per month or less	3,903	21.30%	103,926	22.0%	1,399,784	25.4%
$1,251 to $3,333 per month	6,694	36.60%	135,936	28.8%	1,886,148	34.2%
More than $3,333 per month	7,699	42.10%	231,853	49.2%	2,225,808	40.4%
Total	18,296	100.00%	471,715	100.0%	5,511,740	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

The borough downtowns could further leverage the historical and cultural amenities of the region by establishing new arts and cultural programs and events, preserving properties identified in historic inventories, fostering heritage tourism, and encouraging the growth and development of events such as the Indian Valley Farmer's Market.

Streetscape Improvements

Streetscapes and building conditions are important in framing a visitor's overall impression of an area. As recommended in the Souderton-Telford Community Revitalization Plan, streetscape improvements have been ongoing in the boroughs and are important because they contribute to the physical character and aesthetics of the main street corridors.

Both boroughs in the Indian Valley recognize that a well-developed, continuous sidewalk network facilitates the movement of pedestrians and shoppers in the downtowns, while also enhancing safety. The boroughs strive to install sidewalks where they are missing to create links between businesses and residences and to repair existing sidewalk that is in need of repair. New development within the boroughs is encouraged to maintain the existing historic street pattern and also include pedestrian amenities to ensure the preservation of the boroughs' small-town character.

Figure 8.12 Age Distribution of Persons Occupying Jobs Available, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Age 29 or younger	3,895	21.3%	106,700	22.6%	1,246,144	22.6%
Age 30 to 54	10,225	55.9%	267,558	56.7%	3,067,481	55.7%
Age 55 to older	4,176	22.8%	97,457	20.7%	1,198,115	21.7%
Total	18,296	100.0%	471,715	100.0%	5,511,740	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

Streetscape improvements also include the installation of benches and trash receptacles. By placing street benches at centrally located spots people can gather and rest. The street benches selected by the community should contain a design that complements the character already established by the historic street lighting fixtures found within the main street corridor.

Cleanliness is also an important aspect of aesthetics. A way to ensure that these corridors remain clean is to provide trash receptacles at appropriate locations. Similar to the benches, the trash receptacles should contain a design reflective of the corridor's existing character.

Figure 8.13 Educational Attainment of Persons Occupying Jobs Available, 2011

	Indian Valley		Montgomery County		Pennsylvania	
	Number	Percent	Number	Percent	Number	Percent
Less than high school	1,268	6.9%	27,975	5.9%	371,753	6.7%
High school or equivalent, no college	4,007	21.9%	89,838	19.0%	1,291,100	23.4%
Some college or Associate degree	4,660	25.5%	111,195	23.6%	1,341,823	24.3%
Bachelor's degree or advanced degree	4,466	24.4%	136,007	28.8%	1,260,920	22.9%
Educational attainment not available*	3,895	21.3%	106,700	22.6%	1,246,144	22.6%
Total	18,296	100.0%	471,715	100.0%	5,511,740	100.0%

Source: U.S. Census Bureau, Center for Economic Studies

It is also important to improve the streetscape on the side streets. These could include installation of new sidewalks and curbing, planting of street trees, and continuing the installation of streetlights identical to those being installed on the corridor's main thoroughfare. Even though this section is primarily focused on borough revitalization, it is important to note that the village of Harleysville is also a prime candidate for continued streetscape improvements. Increased walkability and the promotion of a pleasant pedestrian experience will highlight the historic small-town development patterns of Harleysville. Additionally, the township should continue to expand and maintain the already robust trail system which can promote economic development within the village.

Signage

The provision of attractive and informative signage within the Indian Valley region's boroughs plays an important role in economic revitalization and is recognized in the Souderton-Telford Community Revitalization Plan. Up-to-date sign ordinances that regulate the installation of new signage so that it is compatible with the small-town feel and historic environment of the main street corridors is a useful way to help make the area inviting for residents and tourists alike. The ordinances regulate different types of signs and their characteristics which can include size, lettering, setback, and illumination.

There are different types of signs such as amenity signs, way-finding signs, historic signs and gateway signs. A way-finding study to identify the appropriate locations for the different types of signs would be helpful in implementation of this revitalization strategy. Amenities signs can be installed at municipal parking lots, athletic fields and parks. Gateway signs are a key aspect of any signage program and are often installed at entrances to communities—serving as the first impression visitors will have to each community. As is the case with streetscape improvements, a focus on attractive signage can be a valuable tool to promote economic development in not only the boroughs, but also in the village of Harleysville.

Revitalize Vacant Lots

While the majority of land within the boroughs is developed, the existing vacant land will become increasingly important as these areas revitalize and infill development increases. Since the Indian Valley Industrial Marketing Plan identified commercially and industrially zoned parcels in the boroughs, officials can monitor which parcels are vacant and ready for redevelopment. This knowledge is helpful when reviewing zoning codes and subdivision and land use ordinances to ensure that the regulations designed to guide new development will promote revitalization of vacant parcels in a way that will compliment the walkable character and historic feel of Souderton and Telford boroughs.

Pedestrian Safety

It is important to reduce the impact of motor vehicles in order to make the downtown a comfortable shopping, dining, and office destination. Reducing speed limits at targeted roadways and intersections is one way to achieve this. Municipalities may also consider other traffic calming measures described in Chapter 7 of this plan to increase pedestrian safety.

Souderton-Telford Main Streets

Souderton-Telford Main Streets is the main street organization for both of the boroughs in the Indian Valley. The Souderton-Telford Revitalization Plan encourages both the municipalities in the Indian Valley to work with this organization and with the Indian Valley Chamber of Commerce to implement policies that will further revitalize the business districts within the two boroughs. In addition to assisting the boroughs with the implementation of revitalization strategies, the program supports the business community by recruiting new businesses and new development to the downtown areas of the boroughs; assisting existing businesses with marketing, business growth and façade improvements; and organizing and promoting annual community events.

Indian Valley Industrial Marketing Plan

The Indian Valley region has a robust network of industry, including strong representations of agriculturally-based business and the pharmaceutical

and bio-science industries. Its location along the Pennsylvania Turnpike and near business centers on the Northeast Corridor makes the area one of the most competitive areas to site new large-scale business operations on the entire East Coast. The Indian Valley Industrial Marketing Plan identifies the assets that make the region competitive and lays out goals and objectives to assist in the continued development of strong industrial sectors within the region.

The Indian Valley Industrial Marketing Plan identified 560 acres of vacant and underutilized land in Lower Salford and Franconia Townships that could be utilized for new industrial development. Additionally, the plan identifies almost 90 acres of industrial-zoned land in the two boroughs that would be appropriate for small-scale light industrial uses. Continued use of this plan will allow the municipalities to tout their strong assets that make the region a desirable place to live and work. Taking steps to ensure that the Indian Valley Industrial Marketing Plan is made available to businesses that are considering relocation to the area will help make the case that the region is one where businesses can easily grow and prosper.

Arts and Culture

Current planning documents, including the Souderton-Telford Borough Revitilzation Plan and the Indian Valley Industrial Marketing Study stress the important of arts and culture to the development of the Indian Valley. In addition to numerous arts and culture amenities within the region, the Indian Valley is fortunate to be located within driving distance of cultural destinations within the Delaware Valley and adjacent regions in the northeastern United States. Some examples of policies and planning strategies that support arts and culture in the region are included here.

Historic Preservation

The creation and promotion of Historic Districts is one initiative that can serve as both a redevelopment incentive and as a place-making strategy, however, it is not a strategy for every community. While Telford Borough carefully orchestrated the historically-accurate renovations of the Telford Train Station buildings, and recognizes the importance of the borough's historic resources, they have determined that historic districts and historic zoning

overlays are not techniques that complement their current revitalization strategy. Souderton Borough, however, approved a National Historic District in 2010 to help preserve the character of the area, and also provide an incentive for developers to renovate and adaptively reuse existing historic structures. Souderton Borough is also in the process of rehabilitating the buildings at the Souderton Train station.

Improvement And Redevelopment Of Key Landmarks

The region can also memorialize some of its historic resources with a historical marker through the Historical Marker Program of the PHMC. Any individual or group may nominate a structure or site for such a commemoration. If the independent panel designated by the PHMC approves the marker, the nominator must submit a request for grant funding for approximately half of the cost of the monument's manufacture and designate a nonprofit organization as a sponsor who will provide funding for the remaining costs of manufacture. Once erected, the Commission takes ownership of the monument and assumes all responsibility for its maintenance.

Creating an Arts and Culture Center

The Souderton-Telford Revitalization Plan calls for the municipalities of the Indian Valley to support the creation of an "Indian Valley Arts Center or similar community arts and education facility." An Arts and Culture Center would lead the region in promoting existing heritage, art and cultural resources to the communities; provide resources to local artists and art and culture organizations; encourage community involvement; and develop new attractions to draw visitors to the region. Local artisans are also an important resource for adding public art to beautify and possibly unify the region's commercial areas.

Other goals in the Souderton-Telford Revitalization Plan call for the development of the Broad Theater as a downtown anchor; the creation of the annual Arts Festival; and collaboration among stakeholders such as the "Indian Valley Library, local schools, churches, and other organizations to foster community events and building uses in the boroughs." In short, the Souderton-Telford Revitalization Plan views arts and culture as an important aspect of economic development within the region.

Tourism And Recreation

The wealth of natural resources in the region could facilitate the pursuit of a low-impact economic development strategy around outdoor recreation and natural resources tourism. Opportunities in outdoor recreation and natural resource tourism include: enhanced or new recreational amenities, trails, parks, campgrounds, scenic areas, restaurants, cafes, bed-and-breakfasts, outfitters and rental operations, antique stores, and specialty

retailers. Anchors of the outdoor recreation and outdoor tourism industry include the Spring Mountain Ski Area and the Perkiomen Trail. Additionally, the Philadelphia Folk Festival draws thousands of visitors to the Indian Valley—capitalizing on its idyllic setting on Salford Station Road in Upper Salford. These uses contrast with the more typical economic development strategy of attracting large commercial or professional offices, which would have a greater impact on the region's character. Furthermore, outdoor recreation and active use of natural resources is a growing trend; the region would be capitalizing on a unique opportunity to use its own resources in a beneficial way.

Benefits of this type of economic development include:

- limited increase in density and new construction
- preservation of existing natural resources
- limited or no infrastructure expansion or development
- increased visitor spending
- new small enterprise
- job creation.

Park and Recreation Inventory

An inventory of all the natural areas, parks, trails, campgrounds, active recreational amenities, etc. is beneficial to the region it is helpful in identifying gaps in the recreational and natural resources available—both in location and type of resource. Open Space inventories are included in this comprehensive plan, and also in the individual municipality's open space plans. Such inventories also expose concentrations of resources, in which new economic generators might be best located.

Prioritize Expansion Opportunities

Emphasize park and recreation opportunities that preserve natural linkages, environmental resources and viewsheds. Develop upon the existing trail network, including the Perkiomen Trail and its links to Philadelphia, to ex-

pand the regional trail network to connect communities and recreation areas within the region. In order to capitalize on the potential economic benefits of a regional multi-use recreation trail, trails could be expanded to enter or come adjacent to commercial centers. With that connection, new businesses such as cafes, rental outfitters, and lodging options, can establish to serve the needs of trail users. Once drawn into the community and off the trail, users may spend more time and money in the community.

New Business Development

The rural nature of the Indian Valley and its natural open spaces offer competitive outdoor recreation and nature tourism advantages for the region. This type of tourism includes the attraction of tourists to destination areas replete with natural areas for recreation, and a rich local heritage and culture. For communities, the influx of visitors for these activities provides opportunities for new local entrepreneurship. Typical outdoor recreation and nature tourism opportunities include restaurants, gift shops, clothing stores, art galleries, home accessory stores, wine/liquor stores, antiques and collectibles markets, music and book stores, sporting goods/outfitters, and bed and breakfasts/inns/hotels.

Sustainable Farming as a Business

Traditional farming has been important to the economic health of the Indian Valley for generations and it is expected to continue its role as a major contributor to the economic well-being of the area for the foreseeable future. In addition to traditional farming operations, one niche farming strategy that may be viable in the Indian Valley is sustainable agriculture. Sustainable agriculture is farming that can produce healthy food on healthy soils and provide a profit for the farmer at a much smaller scale than is often associated with traditional farming enterprises.

In the Green Space Alliance report entitled *Transforming Open Space to Sustainable Farm Enterprises* they point out additional key characteristics of sustainable agriculture. These include that the food should be produced for human consumption or to support local livestock and not consist of monocultures—which is the growing of one crop over a large area. Generally the crops are meant to be consumed within a 150 to 200 mile radius of where they're grown and may or may not be grown organically. Finally, crops grown using sustainable agriculture practices may be used to help support the local agriculture industry or agriculture infrastructure. For example, in Chester County hay is grown for the equine industry which produces a by-product of fertilizer for the local mushroom industry.

Within the broader definition of sustainable agriculture, small-scale sustainable agriculture enterprises can be defined as home gardens, farms,

and orchards that involve the raising and harvesting of food and non-food crops and the raising of farm animals for consumption locally by humans. These small-scale enterprises can take place on lots as small as 1/4 acre.

The economic and environmental benefits of small-scale sustainable farming can improve the quality of life for citizens in the Indian Valley. These quality of life improvements include enhancement of open space, access to fresh, locally grown food, and keeping profits from such enterprises in the area.

If Indian Valley municipalities pursue policies that promote sustainable farming enterprises it is also important that municipalities continue to focus on strengthening the traditional agricultural presence that is already located in the region. A focus on small-scale sustainable agriculture would serve as a compliment to the traditional agriculture that can be found throughout the Indian Valley.

CHAPTER 9
HOUSING

Introduction

The housing goal of the Indian Valley Regional Comprehensive Plan is to accommodate adequate housing opportunities for current and future residents. In addition, the objectives of the housing goal recognize that the long-term social and economic well-being of the region depends upon an adequate supply of all housing types for a range of income levels, including the housing needs of older adults. To facilitate this, the housing objectives identify the importance of concentrating new development within designated growth areas, encouraging new housing developments that create a sense of community and promote a pedestrian friendly environment, and encouraging diversified housing opportunities for a range of life stages. In terms of the existing housing stock, the housing objective is to encourage maintenance and modernization to preserve and enhance the region's small towns and neighborhoods.

Together these housing objectives complement the region's goals for open space and natural resource protection by seeking to manage growth while discouraging suburban sprawl. Providing various housing types for a range of income levels within designated growth areas will contribute to the protection of the open fields, woodlands, stream valleys, and farms that contribute to the Indian Valley's rural character. At the same time, new development within the designated growth areas should be done in a way that complements existing neighborhoods and retains the small-town charm of the villages and boroughs.

Existing Conditions

Housing Units

The housing stock of the Indian Valley is diverse and in ample supply. There are single-family homes, twins, duplexes, townhouses, apartments, mobile homes, and mobile home parks.

According to information from the 2010 U.S. Census, 60.9% of all occupied homes in the Indian Valley are single-family detached (see Figures 9.1). The remaining housing units consist of higher density attached units, multi-family dwellings or mobile homes, and represent 19.1%, 18.7%, and 1.3%, respectively, of the Indian Valley's overall housing stock. This low density to high density breakdown leans slightly more toward lower density than

Figure 9.1 2010 Housing Type

Municipality	Total Occupied Housing Units	Single-Family Detached	Single-Family Attached	Multifamily	Mobile Homes
Franconia	4,728	2,888	1,105	543	192
Lower Salford	5,403	3,439	1,078	874	12
Salford	951	905	12	34	0
Souderton	2,803	1,112	673	1,018	0
Telford	1,988	977	328	683	0
Upper Salford	1,057	993	40	15	9
Indian Valley	***16,930***	***10,314***	***3,236***	***3,167***	***213***
Montgomery County	308,218	171,677	61,644	71,815	3,082

Source: U.S. Census, American Community Survey

Figure 9.2 2000 and 2010 Housing Mix

Residential Units	2000	2000 % of Total	2010	2010 % of Total
Low Density	9,114	59.4%	10,314	60.9%
High Density	6,240	40.6%	6,616	39.1%
Total	**15,354**	**100.0%**	**16,930**	**100.0%**

the county as a whole, which is comprised of 56% single-family detached (low density) units and 44% higher-density units.

In addition, the region's ratio of low density units to high density units has only slightly increased since the 2000 census based upon the mix of housing constructed in the Valley (see Figure 9.2). In 2000 the region's low density to high density breakdown was 59.4% and 40.6%, respectively. Since 2000, 76% of the units built in the Indian Valley have been single-family detached units, causing a minimal increase in the low density to high density split.

Housing Value

Based upon all housing units sold in the Indian Valley in 2011, the region's median sales value was $259,900. Figure 9.3 shows for each municipality the median housing value as reported in the 2001 and 2011 median sales values, and the percent change between 2001 and 2011. The 2001 values have been adjusted for inflation and represent the 2001 median sales price

using 2011 dollars. While the 2011 sales values reflect only the prices paid for the 359 units sold that year, it does include both existing and new units, and serves as the best available surrogate for the current market value of housing. Lower Salford Township increased its median sales price by 44%; more than triple the increase of any other community. Four of the remaining five communities had increases in the median sales price around 10%, while Franconia actually had a 4.47% decrease. However, Franconia had the highest starting point for median sales price in 2001, at roughly 20% higher than Lower Salford, contributing to the lack of any gain in sales price between 2001 and 2011. Also, in 2011 nearly 37% of the home sales in Franconia were attached units, also contributing to a smaller 2011 median sale price. Finally, when we look at the region as a whole, the change in

Figure 9.3 2001 and 2011 Median Housing Sales Price

Municipality	2001 adjusted for inflation	2011	% Change
Franconia Township	$285,778	$273,000	-4.47%
Lower Salford Township	$240,371	$346,500	44.15%
Salford Township	$244,499	$270,020	10.44%
Souderton Borough	$180,358	$201,250	11.58%
Telford Borough	$170,705	$198,500	16.28%
Upper Salford Township	$238,783	$256,000	7.21%
Indian Valley	**$212,498**	**$259,900**	22.31%
Montgomery County	**$211,476**	**$260,000**	**22.95%**

Source: U.S. Census; MCPC 2011 Median Prices for Housing Report

Figure 9.4 2011 Median Housing Sales Price by Housing Type

Municipality	**Detached**	**Attached**
Franconia Township	$310,000	$242,500
Lower Salford Township	$430,000	$205,450
Salford Township	$361,250	$265,170
Souderton Borough	$212,000	$186,450
Telford Borough	$203,000	$166,500
Upper Salford Township	$256,000	NA
Montgomery County	$299,950	$216,700

Source: MCPC 2011 Median Prices for Housing

median sales prices for the Indian Valley was 22.31% and nearly identical to that of the county (22.95%).

Figure 9.4 breaks down the 2011 median home sales price for single-family detached and single-family attached units. While we expect the median price for attached units to be generally lower than that for detached units, the relative difference does vary by community. This variation can be attributed to the total number of sales for each unit type and by the breakdown of sales between existing, often more affordable, units and newer, generally more expensive, units. The difference in value ranges from detached being 14% more expensive than attached in Souderton Borough to detached being more than twice (109%) as expensive than attached in Lower Salford Township.

Lastly, it is important to have a sense of how affordable the housing is in the Indian Valley as compared to the median income of households in the Valley. Therefore, we looked at 2011 median household income, as identified in the 2011 American Community Survey 5-year estimates, and calculated what home price could reasonably be afforded by that household income. Affordability is calculated assuming not more than 30% of gross income should be spent on housing costs, and in consideration of the 2011 30-year fixed mortgage interest rate, 2011 municipal tax rates, and the buyer having a 10% down payment. Based upon this analysis, Figure 9.5 shows the estimated 2011 median household income for each municipality and the housing value that could reasonably be afforded by that income. When comparing Figures 9.4 and 9.5 and using these broad assumptions as a glimpse into affordability (many other factors can also affect affordability), we see the home price that the median household income can afford exceeds the median price for attached units in every community, except Upper Salford Township where no price for attached units was established. And since the home sales prices are median values, where half the homes sold for less, we can assume that the median household income can also afford some of the less expensive, and likely older, detached units in the Valley. Only in Upper Salford Township did the home price that the median household income could afford exceed that of the median

Figure 9.5 2011 Median Housing Value and Housing Affordability

Municipality	2011 Median Household Income	2011 Sales Value of "Affordable Housing"
Franconia Township	$81,909	$282,650
Lower Salford Township	$90,097	$306,600
Salford Township	$79,837	$275,500
Souderton Borough	$59,917	$198,000
Telford Borough	$58,915	$194,000
Upper Salford Township	$91,964	$317,000
Montgomery County	$78,446	$270,500

Source: U.S.Census ACS 2011; MCPC

sales price for detached units, reflecting the high median household income for the township (the highest in the Valley) and a more established housing stock. And while the median sales price of Indian Valley detached homes in 2011 were often more than could be afforded by the current median household income, these more expensive homes were sold, either to those living in the Valley with incomes above the median or to those with higher incomes moving in from outside the region. Overall, while the region provides home that are affordable for current households, it will be important over time to ensure housing opportunities continue to exist for the median income levels and below in order to retain current residents throughout their lifetimes and offer a variety of housing types for all income levels.

Housing Demand

As discussed in Chapter 1, the population of the region is projected to increase from 45,316 people in 2010 to 54,504 people by the year 2035. In order to understand how this additional population will relate to land use, we need to project the additional housing demand that will be generated by the additional residents. Figure 9.6 estimates future 2035 housing demand for both the county and the region based upon the projected 2035 population. Figure 9.6 also outlines each step in the process and discusses the numbers being used. The analysis reveals that if the region grows to the population projected for 2035, the demand for housing will increase by approximately 3,756 units. However, looking at the more short-term population forecast for 2020, the region will only need to add 917 units.

As we plan for the projected 2035 demand of 3,756 units, it is also important to determine the potential demand for low density and high density units. In order to estimate the split between low density and high density units, the region's current housing ratio of 60:40 (low density to high density) was used. Even though a higher percentage of low density units were built in the region between 2000 and 2010 (76%), the 60:40 split reflects a longer time frame and may be more accurate over time, especially given the potential for higher density infill development within the boroughs. Therefore, of the 3,756 additional units projected by 2035, the region can expect that 2,291 will be low density and 1,465 will be high density.

To meet the 2035 housing need, an average of 150 units per year would need to be constructed within the region between 2010 and 2035. Only 91 units per year will need to be constructed between 2010 and 2020 to meet the forecasted 2020 population. Looking at the number of homes constructed in the Valley per year over the past 12 years, two trends are revealed. The first trend is between 2000 and 2007 when an average of 227 homes were built in the Valley per year. The second, and more recent trend, occurred between 2008 and 2011 when only 82 homes per year were constructed in the Valley.

Figure 9.6 2035 Projected Housing Demand

	Montgomery County	Indian Valley
2035 Projected Population	887,364	54,504
2035 Average Household Size is based on a projection of the national household size. The county's household size was projected using a curve, based upon 1980-2010 household size and the Indian Valley is calculated as a percentage of the County's household size.	2.50	2.62
2035 Projected Group Quarters Population is based on 2010 group quarters populations. The percentage of total population in group quarters for Montgomery County is 2.6% and 1.6% for the Indian Valley.	23,071	872
2035 Projected Household Population equals the projected population minus the group quarters population.	864,293	53,632
2035 Projected Number of Households equals the household population divided by the average household size.	345,717	20,470
Estimated Total Number of Housing Units Needed by 2035 equals the projected number of households (which is equivalent to the projected number of occupied housing units) added to the number of projected vacant units. The vacancy rate for Montgomery County is 5.5% and 3.7% for the Indian Valley.	359,231	21,227
2010 Total Units Built	325,735	17,471
Estimated Number of Housing Units Remaining to be Built by 2035 equals the number of total estimated units minus the housing units built as of 2010.	**33,496**	**3,756**

The 2007 dividing line between the two trends reflects the economic recession and near collapse of the housing market. Comparing these construction trends with the forecasted housing demand, even the more recent trend of 82 homes per year will nearly satisfy the 91 homes per year that will need to be built to meet the forecasted 2020 demand. However, the smaller forecasted demand for the first ten years means that the yearly housing demand between 2020 and 2035 will need to be closer to 190 homes constructed per year to satisfy the 2035 housing demand. While 190 is still lower than the 227 homes per year that were being constructed in the Valley between 2000 and 2007, it is more than double what is currently

being constructed per year. Given the still soft housing market, the reliability of the longer range forecasts are still questionable. However, a protracted slowdown in the housing market will assuredly result in slower population growth within the Indian Valley. The population forecasts, updated by the Delaware Valley Regional Planning Commission every five years, will need to be monitored to see how population trends, and its implications for housing and infrastructure, evolve over time.

Housing Distribution

Based upon the future housing demand established for 2035, how and where will the region lodge these new units? More specifically, does the region have enough land zoned for higher density uses to meet both the region's "fair share" of high density housing types and the expected 2035 demand for residential units (low density and high density).

In terms of "fair share," the courts have ruled in cases involving Warwick Township, Marshall Township and Upper Southhampton Township that 2.9%, 2.7% and 3.5%, respectively, of land area zoned for high density housing is not considered exclusionary. Using this fundamental "fair share" analysis, Figure 9.7 shows that with 8.7% of the region zoned for high density housing, including 39% percent of all existing units being high

Figure 9.7 Fair Share

Category	**Residential Land Use**			**All Other**	**Region Totals**
	Low Density	*High Density*	***Total***		
Number of Acres	25,370	2,734	28,104	3,275	31,379
Percent of Region Gross Area	80.9%	8.7%	89.6%	10.4%	100.0%
Percent of Total Residential Area	90.3%	9.7%	100.0%	NA	NA

Source: MCPC

Figure 9.8 Land Use of Developed Land and Zoning of Developable Land (gross)

Category	Residential	Non-Residential	Region Total
Developed/Preserved Areas			
Acres	10,267	8,689	18,956
Percent of Region	34.8%	29.5%	64.3%
Developable Areas			
Acres	9,080	1,439	10,519
Percent of Region	30.8%	4.9%	35.7%
Percent of Total Developable Area	86.3%	13.7%	100.0%

density, the Indian Valley could not be considered exclusionary. In more practical terms, however, how does the region's zoning relate to the projected 2035 housing demand? To answer this, the existing zoning and the gross developable land within each zoning district was analyzed. Figure 9.8 shows that 9,080 acres of gross developable land remain zoned for both low density and high density residential uses. Based upon the developable acreage for residential uses, we can calculate how many units can be built upon those 9,080 acres. Once we have these "buildout" numbers we can incorporate them into the analysis determining if the region can accommodate the 2035 housing demand.

Through computer mapping analysis the 9,080 gross acres of developable residential land was adjusted to account for steep slopes and floodplains, resulting in 8,602 net developable acres. To calculate the number of potential dwelling units that could be built on these sites, another 20% was subtracted from the net developable acreage to account for roads, absorption of secondary natural resources (woodlands, important soils, etc), and irregularly shaped parcels. The resulting acreage for each site was

Figure 9.9 Accommodation of the 2035 Housing Demand

	Total Units	**Low Density Units**	**High Density Units**
2035 Projected Housing Demand	**3,756**	**2,291**	**1,465**
Potential Infill/Redevelopment would take place within the boroughs and villages on developed or underdeveloped properties and is projected to be 20% of total development. Nearly 17% of current development in the Valley is infill and redevelopment, however, over time this would be expected to move closer to the county average of 30%. It would be assumed, given its location, that all infill/redevelopment would consist of high density units.	751	NA	751
Remaining Projected Demand	**3,005**	**2,291**	**714**
Units Approved But Not Constructed is based upon the number of units that have been granted development approval in the Valley but have not yet been constructed. This reflects the actual number of low density and high density units.	405	182	223
Remaining Projected Demand (potential excess units)	**2,600**	**2,109**	**491**
Buildout of Developable Land reflects the number of units, both low density and high density, that can be constructed on developable land per the current zoning of the site.	4,939	4,238	701
Remaining Projected Demand (potential excess units)	**(2,339)**	**(2,129)**	**(210)**

then multiplied by the permitted density of the applicable underlying zoning district. The results of the buildout analysis indicate that if every parcel in the region zoned for residential use was built upon, the region could expect another 4,939 dwellings. More specifically, based upon the highest and best use of the underlying zoning, these 4,939 units would likely consist of 4,238 low density units and 701 high density units. In order to determine the region's ability to accommodate the projected housing demand of 3,756 units (2,291 low density and 1,465 high density), we will also consider the potential for infill and redevelopment, the number of units approved but not yet built, and the results of the buildout analysis. Once these three potentialities have been factored in (see Figure 9.9 for explanation), it becomes apparent that the region is easily capable of accommodating the potential 2035 housing demand. In terms of low density housing, the demand of 2,291 units can be accommodated by 182 approved but not yet constructed units and a potential buildout of 4,238 units, resulting in 2,129 units more than the 2035 demand. The high density housing demand of 1,465 units can be accommodated by 751 potential infill/ redevelopment units, 223 approved but not yet constructed units and buildout of another 701 units, resulting in an excess of 210 high density units.

Housing Form

A primary objective of this plan is to concentrate new housing development in areas where infrastructure exists or is planned. Infrastructure, such as roads, public sewers, and public water, can be found primarily in and around the boroughs (see Future Land Use Chapter). Conversely, the rural areas of the townships, are to be protected as much as possible by limiting the amount of new development through a variety of planning and regulatory means.

Low-Density Residential

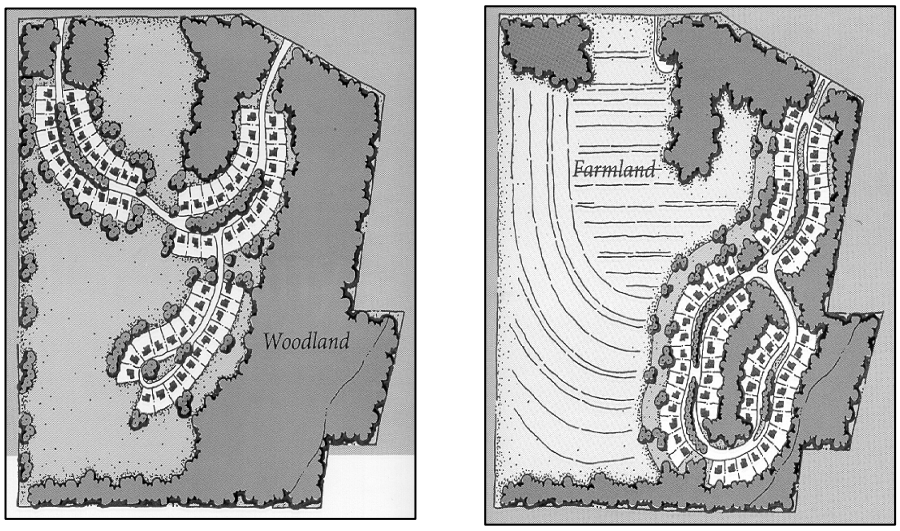
Limiting development in the rural areas to low-density residential will help to reduce conflicts between agricultural operations and residential development as well as preserve the region's environmental features and rural character. This will be accomplished by limiting the amount of residential development in the rural areas to a maximum of one dwelling unit per two acres. In addition, no public sewer or water is planned for the rural low-density areas

To further protect the region's viable farming activity and significant environmental constraints, a number of regulatory tools, such as conservation subdivision, agricultural zoning, and environmental performance zoning may be may be implemented, resulting in even larger lot sizes. Investigations into the applicability of a transfer of development

rights (TDR) program for the region should also be continued, including the monitoring of a newly adopted TDR program in nearby Hereford Township.

One of these tools mentioned above, conservation subdivision or cluster zoning, is illustrated below to show how the goal of open space and natural feature preservation can be achieved in concert with new residential development. The two sites in Figure 9.10 are considered fully developed with 65 homes on 130 acres. Yet more than 75 percent of each tract has been permanently preserved as open space (conservation subdivision typically preserves 50% of gross tract acreage plus all primary natural features). In the example on the left in Figure 9.10, all of the woodlands are saved. In the example on the right, where perhaps farming is still a viable activity, the homes have been placed in the wooded areas to preserve the farm fields. In both cases, because of the large amount of required open space, developers have a great deal of flexibility in siting the homes. With conservation subdivision, open space or farmland can be preserved while still allowing some development to occur. Consistent with the region's goals for resource protection and residential development within the rural resource area, Upper Salford Township adopted standards for conservation subdivision nearly fifteen years ago.

Figure 9.10 Conservation Subdivision Examples



Medium-Density Residential

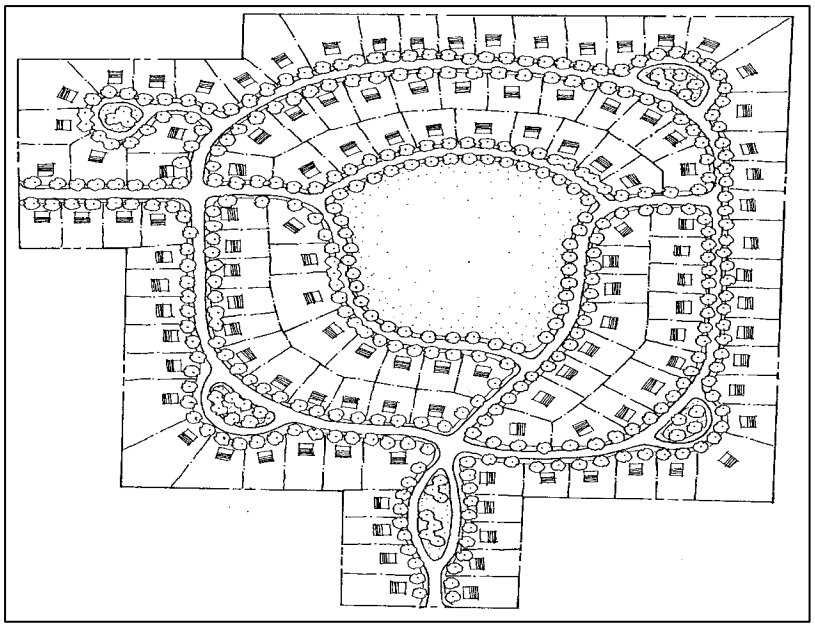
Medium-density housing, ranging from 1 to 4 units to the acre, will be permitted in the designated growth areas (see Future Land Use Chapter). To preserve the rural countryside and environmental amenities as much as possible, infill development and redevelopment within the boroughs will be encouraged. In addition, medium-density development will also be directed to designated growth areas within the townships. These growth areas are situated where the road network, community facilities including public sewer and water, and commercial and retail centers already exist. Since

growth tends to follow public sewer and water, this decision will help insure that new development occurs only in the most appropriate locations.

For larger residential subdivisions, typical suburban medium-density development often appears dull and uniform with its rigid quarter-acre to one-acre tract housing. Although appropriate for many of the more developed areas of the county, suburban-style development would not fit into the rural landscape of the Indian Valley. Medium density development with a village-style appearance would be more suitable to local development patterns. Village development would fit into the existing style of development within the boroughs and foster a sense of community and a pedestrian friendly environment.

The county's model for medium-density housing calls for central greens, landscaped cul-de-sac islands, sidewalks, and a number of other design standards intended to evoke the feeling of a village. The example in Figure 9.11 incorporates many of these design features. Street trees are planted in front of each house, sidewalks are on both sides of the street, and lot widths are varied for visual interest. In the center of the development is a large central green, which serves as the focal point of the neighborhood and serves as a common play area.

Figure 9.11 Medium-density Housing Design



However, not all medium-density residential development will consist of the large residential subdivisions. Some of the new units being constructed within the boroughs and villages will consist of infill development. Infill development typically occurs in several ways: when an oversized lot or small vacant lot is split into two or more lots, when an existing dwelling is demolished to allow for one or more new dwellings, or a non-residential use is demolished or converted for new residential uses. Infill development can be beneficial in that it often provides more affordable housing, adds residents near downtown commercial areas, provides housing in a walkable

environment, and does not involve the expansion of infrastructure. However, even though infill development does not involve a large number of units, it can have a dramatic impact on an existing neighborhood if it is not done appropriately (see Figure 9.12). Poorly designed and planned infill development can change neighborhood character by reducing breaks in development created by extra-wide lots, placing homes at irregular setbacks, having new construction that is not compatible in terms of architecture or materials, or by adding new curb cuts or front facing garages where none exist. To ensure new infill development does not detract from community character, design standards that encourage development to fit into the existing built environment, also known as context sensitive design, should be considered by each municipality in the Valley.

Figure 9.12 Examples of Infill Housing

New infill twin dwelling on tree-lined street with rear parking creates new curb cuts, front-facing garages and dramatically alters the streetscape.

New infill single-family dwelling respects the existing streetscape by using rear parking and extending the low retaining wall.

High-Density Residential

High-density housing in the region's designated growth areas will exceed 4 units to the acre for townhouses, apartments, twins, duplexes, and mobile homes in mobile home parks

Most of the region's high-density housing is located within Telford and Souderton Borough, around the borough's in Franconia Township and around Harleysville in Lower Salford Township. These areas have infrastructure already in place, and are best suited to accommodate new high-density housing. In the boroughs much of this new development will be in the form of infill and redevelopment on scattered vacant sites or the improvement of underutilized properties. The designated growth areas in Franconia and Lower Salford Townships will provide additional land to allow for market flexibility. As shown earlier, these areas should be sufficient to meet the long-term high-density housing needs of the region.

New high-density development should be physically and architecturally compatible with existing high-density housing. In the Indian Valley, that means taking on a village-style appearance. Design criteria should be integrated into the municipal zoning codes to insure new development fits in seamlessly with the community. Design elements include sidewalks, interconnected streets, and central greens. These elements work in combination to create a livable community.

CHAPTER 10

FUTURE LAND USE

Introduction

The Future Land Use chapter is the cornerstone of the Indian Valley Regional Comprehensive Plan. Understanding existing land use patterns and properly integrating future land use as part of a single unified plan will result in a more efficient land use pattern that preserves open space, revitalizes business centers and preserves the small town character that is so important to residents. The Land Use Plan designates appropriate areas for new growth and directs revitalization, new development and infrastructure improvements into those areas. Outside of the growth areas, the primary land use objective is preservation of the region's rural landscape and its natural and cultural resources.

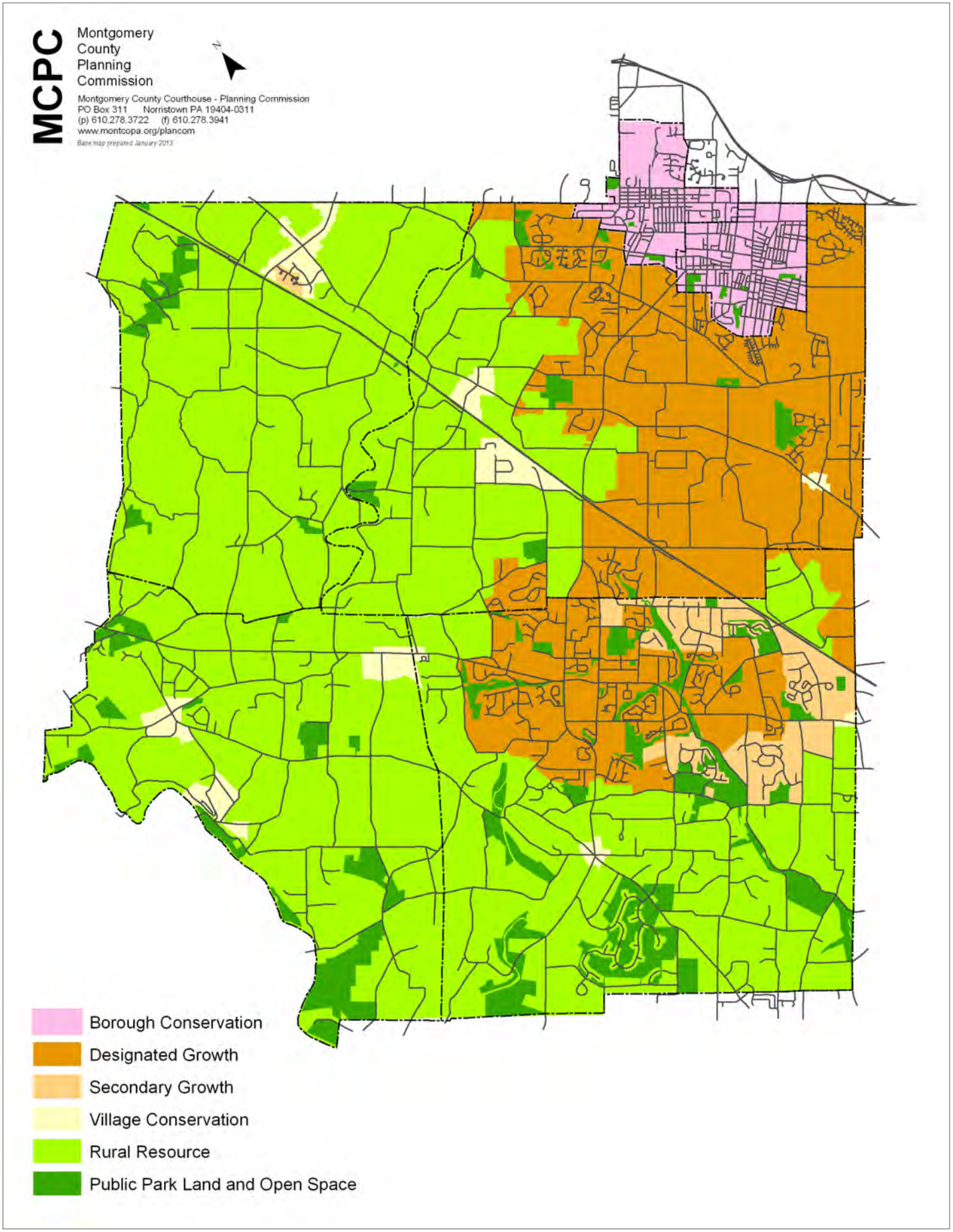
The Future Land Use Plan establishes land use policies for the entire Indian Valley Region. However, implementation of the Future Land Use Plan will rely upon the individual and collective efforts of the six participating municipalities. Specifically, it will be the responsibility of the municipalities to implement the agreed-upon land use policies via local zoning ordinances and other municipal policies. In order to further the goals and objectives of the Regional Comprehensive Plan, while maximizing municipal control over local zoning decisions, the Future Land Use Plan will rely upon three key elements for implementation:

Future Land Use Map The future land use map divides the Indian Valley Region into five generalized land use categories: Borough Conservation, Designated Growth, Secondary Growth, Village Conservation, and Rural Resource. The future land use map depicts the location of the land use categories within the Indian Valley Region and characterizes the relationships between the land use categories.

Future Land Use Matrices Each land use category has a corresponding Future Land Use Matrix. Each land use matrix authorizes municipalities to permit, but does not mandate, a variety of land uses within seven development classifications: residential, commercial, industrial, institutional, utilities, open space/recreation, and miscellaneous. For each development class, the matrix identifies the primary land use vision, permitted uses, allowable densities and intensities, and specific development policies.

Intergovernmental Cooperative Implementation Agreement This agreement adopted by each of the six participating municipalities will guide implementation of the Indian Valley Regional Comprehensive Plan, and identified Future Land Use Plan. The Implementation Agree-

Figure 10.1 Future Land Use



ment recognizes the goals and objectives of the Regional Comprehensive Plan, authorizes continuation of the Regional Planning Commission, establishes processes for reviewing subdivisions and land developments of regional significance, comprehensive plan amendments, and local zoning changes, and provides commitments for maintaining higher density residential zoning and zoning for specific non-residential uses.

FUTURE LAND USE MAP

A fundamental policy of the Indian Valley Regional Comprehensive Plan is to direct new residential and non-residential development to appropriate areas while protecting the region's natural features and rural character. Simplified, this policy results in the establishment of Growth Areas and Rural Resource Areas. Using five land use categories, the Future Land Use Map (see Figure 10.1) further defines the location of the Growth Areas and Rural Resource Areas.

Growth Areas

With attributes such as large tracts of undeveloped land and access to major roads, new growth is inevitable in the Indian Valley. Growth, if properly managed, can have many positive benefits for the community. It will help to maintain the economic vitality of the community and will provide new opportunities for residents. Growth in the Indian Valley should be complementary to the community's character and should meet the goals of the comprehensive plan. These goals include providing housing for future residents and guiding the development of new non-residential uses to meet commercial needs, expand employment opportunities and promote new industry.

To maximize the positive aspects of growth, it is important to plan for it. By locating new growth around existing growth centers, existing services and infrastructure can be utilized, thereby reducing the need for new infrastructure. Additionally, concentrating growth into suitable locations preserves open space that may have otherwise been sacrificed to accommodate new development.

The Municipalities Planning Code (MPC) recognizes two types of growth areas: designated growth areas and secondary growth areas. A designated growth area is defined as, "an area that preferably includes and surrounds a borough or village and within which residential and mixed use development is permitted or planned for at densities of one unit to the acre or more; commercial, industrial and institutional uses are permitted or planned for; and public infrastructure services are provided or planned." Secondary growth areas are similar but recognize that while "public infrastructure services...may not be [currently] provided, future development at

greater densities is planned to accompany the orderly extension and provision of public infrastructure services."

In order to accommodate future growth and development within the Indian Valley the following categories have been established:

Designated Growth Area The Future Land Use Map establishes designated growth areas within Franconia Township between the Boroughs of Souderton and Telford, generally east of Rt. 113 and the Harleysville area, and within Lower Salford Township around the Harleysville area. These areas have been centers of economic and social activity in the region, contain existing infrastructure, and have substantial existing development. Therefore, these areas should be the principal locations for new residential and non-residential growth.

Secondary Growth Area The secondary growth areas, as shown in Figure 10.1, include a small portion of Salford Township around the Village of Tylersport, and a portion of Lower Salford Township east of the Harleysville area. These areas have also been traditional sites of development in the region, but on a smaller scale than those included in the designated growth areas. The secondary growth area will serve as an extension of the designated growth area and may or may not currently be provided with public infrastructure. Therefore, the secondary growth areas are expected to develop at a slower rate and at somewhat lower densities than the designated growth areas.

While both the designated growth area and secondary growth area are recognized as locations for future development, the timing and intensity of that development will vary. Therefore, in order to incorporate flexibility for local municipal implementation, the expected densities in the growth areas range from one to ten units to the acre. The densities will ultimately be defined by the local zoning ordinances of the respective municipalities based upon the type of growth area and existing development patterns.

Another important element of the Growth Area for the Indian Valley includes the Boroughs of Souderton and Telford. While not expected to accommodate significant amounts of future growth and development, the Boroughs offer a significant stock of housing and commercial opportunities, existing infrastructure, and the potential for redevelopment and downtown revitalization. Therefore, the Growth Area of the Indian Valley Region will also include the following as a third land use category:

Borough Conservation The Boroughs of Souderton and Telford currently contain most of the regions' high-density residential housing, including apartments, townhouses, twins and small lot single-family

detached units found along the "Main Streets" of these boroughs. The boroughs also contain a mix of residential and commercial uses that contributes to their unique historic character.

An identified goal of the comprehensive plan is to preserve and revitalize these areas. Economic revitalization programs should be encouraged and supported by the whole region, for the benefit of the Indian Valley. Revitalization techniques to be pursued could include a market analysis of potential new small businesses, design guidelines, residential conversion regulations, home-based business regulations and historic preservation regulations and incentives.

Rural Resource Areas

By directing the majority of new development into the growth areas through the provision of public infrastructure and higher densities, rural resource areas outside the growth area can be established to preserve the Indian Valley's natural and cultural resources. As defined in the MPC, a rural resource area is, "an area within which rural resource uses including, but not limited to, agriculture, timbering, mining, quarrying and other extractive industries, forest and game lands and recreation and tourism are encouraged and enhanced. Development that is compatible with or supportive of such uses is permitted and public infrastructure services are not provided for except in villages."

In order to protect the natural environment, rural character, and cultural resources of the Rural Resource Area, the following two land use categories have been established:

Rural Resource Preserving the open spaces, farmland, woodlands and other natural and cultural resources within these rural resource areas is very important to sustaining the natural environment, agricultural economy, and the quality of life in the Indian Valley Region. The rural resource category encompasses large parts of Upper Salford and Salford Townships, as well as a potion of Franconia Township generally west of Rt. 113, and south of the Harleysville Area in Lower Salford Township. The intent of the rural resource category can be summarized into farmland preservation, resource conservation, and open space preservation.

The farmland preservation element seeks to preserve the region's prime agricultural soils and retain the local agricultural economy. In addition, Pennsylvania law permits municipalities to enact restrictive agricultural zoning requirements to discourage undesirable development of farmlands. Agricultural zoning is most suitable in areas where farming is a strong and healthy industry and where farmers have made a firm commitment to continuing agricultural activities.

The resource conservation element reflects the importance of land with environmental characteristics that cause significant challenges for development. These challenges include bedrock geology, rock outcroppings, soil limitations, extensive wetlands, steep slopes and floodplain areas. The combination of these environmental features also provides the region with unique natural resource and scenic areas, which the region desires to protect. Therefore, preservation of natural features should be the dominant purpose served by land use regulations throughout this area.

The open space preservation element recognizes some land is more developable and/or closer to infrastructure. However, it was also recognized that preserving open space and natural resources around the region's growth areas is important. Instead land use regulations such as cluster zoning should be considered in these locations to allow greater flexibility in site design to better preserve open space areas, natural resources and scenic views. While the rural resource area is not intended to be served by community facilities, infrastructure extensions or improvements may be permitted to encourage the innovations in residential development by an increased variety in type, design, layout of structures and by the conservation and more efficient use of open space that cluster zoning provides.

Village Conservation Several existing villages are categorized as Village Residential. This category recognizes the existence of pockets of village-type development in Earlington, Vernfield, Salford, Woxall, Tylersport, Mainland, and Lederach and continues to provide this option in those areas. Where village residential uses are proposed, dwellings are anticipated to be primarily single-family detached units, along with some twin or duplex units, built at a density of no greater than three units to the acre. Non-residential uses, consistent with the village character, will be permitted to encourage continued use of existing structures to architecturally maintain the residential quality of the area. Several of villages covered by this land use category are currently served by community facilities. In these areas the use of public water and sewer will continue. However, any new public sewage facilities provided to Village Conservation areas should only be designed to meet existing needs for the purpose of protecting public health and not as a means of directing future growth.

Relationship to Public Sewer and Water

The designation of growth and non-growth areas within the Indian Valley were developed in consideration of existing and proposed public utilities, primarily water and sewer. Since development follows the provi-

sion of public sewer and water, future development shall be directed to the growth areas, specifically the Borough Conservation Area, the Designated Growth Area and the Secondary Growth Area in which public utilities exist or will be extended to in the future. While public sewer and water will be permitted to extend throughout the growth areas, these services will not be permitted in the non-growth areas, except under specific circumstances.

Borough Conservation Area

All new residential and non-residential development in the Borough Conservation Area must connect to public sewer and water. It is intended that all development both existing and future will be served by public utilities.

Designated Growth Area

Understanding that there are is a range of uses and densities and intensities in the Designated Growth Area, the extension of public sewer and water to undeveloped areas not currently served will be at the discretion of the municipality.

Secondary Growth Area

As with the Designated Growth Area, the extension of public sewer and water within the Secondary Growth Area will be at the discretion of the municipality. While the uses and densities and intensities permitted in the Secondary Growth Area are as extensive as those in the Designated Growth Area they are somewhat varied.

Rural Resource Conservation Area

Being a non-growth area, the Rural Resource Conservation Area will not permit the extension of public sewer and water. Only on-site sewer and water will be allowed, except under extenuating circumstances. The extension of sewer and water off-site whether pubic or private, shall be considered for the purpose of protecting public safety.

With the intent of allowing for a transition area to occur between the growth and no-growth areas, rural cluster developments occurring on tracts that are located within a ½ mile of any municipalities sewer growth boundary (inside or outside the region) may connect to public sewer provided the development is connected to public water and provides a minimum of 50% open space. This will allow for the visual appearance of a denser development while still only being permitted to build at a density of one dwelling unit per two acres.

Village Conservation

Since Village Conservation is a non-growth area, and villages are only expected to absorb minimal amounts of in-fill development, the extension of public sewer and water as a means to direct new growth will not be permitted in the Village Conservation Area. In Village Conservation Areas where community facilities do not currently exist, the extension of sewer and water shall only be considered for the purpose of protecting public safety and not as a means of directing future growth. Villages that are served by public sewer and water will continue to rely these community facilities for all existing and future development.

FUTURE LAND USE MATRICES

Each of the five land use categories identified on the Future Land Use Map has a corresponding matrix that establishes a land use vision, a menu of use options, a range of density and intensity limits, and required development polices for each development class. The development classes identified within each future land use matrix include residential, commercial, industrial, institutional, utilities, open space/recreation, and miscellaneous. The Future Land Use Matrix for each Land Use Category can be found in Figures 10.2 through 10.6. Each matrix will guide implementation of the future land use plan for the area encompassed by that category on the Future land Use Map. The following describes the components of the Future Land Use

Land Use Vision

Each of the five land use matrices includes a vision statement for each development class. The vision statement describes the intent of the specific land use classification for each development class. The intent may include statements regarding the general character of the development, including appropriate locations for development. The vision statements provide a context for interpreting the menus of use option, density/intensity limits, and required policies.

Use Options

Each future land use matrix authorizes specific uses within each development class. This menu of use options establishes what uses can be permitted by each municipality, it does not require that each municipality permit the specified use at all or across the entire area covered by the future land use category. The menu of use option establishes the regional land use policy for the land use category and is intended to be general in order to provide flexibility. Each municipality will determine how to achieve general consistency with the established policy via their own zoning ordinances. For example, while the matrix may authorize “retail stores,” some municipalities may wish to further differentiate between the “types” of retail stores. For the purposes of general consistency, the

generalized use will include all potential sub-uses. In addition, the list of authorized uses is not intended to include accessory or ancillary uses. Regulation of these will be left entirely to individual municipalities. Finally, any combination of authorized uses may be permitted and regulated by a municipality (i.e. retail store/gas station), provided the individual uses are separately authorized.

Density/Intensity

The future land use matrix for each land use category establishes density ranges for residential uses and maximum intensity limits for nonresidential uses that may be permitted within each applicable development class.

For residential uses, the permitted density ranges shall be applicable to each residential use permitted within the matrix. While the densities permitted by the municipalities must fall within the range of permitted densities, exact densities shall ultimately be defined by local zoning ordinances. The maximum density permitted in the range is not intended to be an entitlement to property owners, but is intended to recognize varying development patterns across the area covered by the future land use category and provide flexibility to the individual municipalities.

For nonresidential uses, the identified maximum permitted intensity shall be applicable to each nonresidential use permitted within the matrix. While nonresidential uses permitted by the municipalities must not exceed the maximum intensity, exact intensity limits shall ultimately be defined by local zoning ordinances. The maximum intensity permitted is not intended to be an entitlement to property owners, but is intended to recognize varying development patterns across the area covered by the future land use category and provide flexibility to the individual municipalities.

Required Development Policies

The future land use matrix for each land use category includes required development policies for each development class. These development policies are intended to define the character of the development in relation to existing land use and community facilities. The required development policies are minimum development standards, and the right of municipalities to require additional development standards and zoning requirements shall not be diminished. While the zoning ordinance will be the primary tool for establishing general consistency with the Future Land Use Plan of the Regional Comprehensive Plan, municipalities may find it beneficial to incorporate design standards within the subdivision and land development ordinance that complement and/or further the required development policies. In general, municipalities shall examine regulations and codes on an annual basis to determine their effective-

ness in achieving the preservation of agricultural land, natural resources, open space, and historic landscapes.

Development Classifications

Residential

Borough Conservation Area. Existing residential development in the Boroughs of Telford and Souderton is a mix of types and densities. These areas are primarily developed, so it is expected that any future residential development will occur as infill. All residential types, with the exception of mobile home parks, will be permitted in the Borough Conservation Area.

Local ordinances shall encourage adaptive re-use and redevelopment of existing housing stock, as well as the conversion of obsolete or unused non-residential space to quality residential options. Future development shall also be compatible with the existing character and heritage of the Boroughs.

Designated Growth Area. Residential development in the Townships of Franconia and Lower Salford has been primarily suburban in character. While there exists a variety of housing types in these municipalities, existing housing can be primarily categorized as either single-family detached or single-family attached. During the next 20 years, these municipalities will continue to supply the majority of suburban character residential development in the region. All residential types will be permitted in the *Designated Growth Area* at a density defined by each participating municipality. New residential development shall be designed so as to preserve and protect areas of open space and natural environmental features, as well as existing villages.

Secondary Growth Area. This area is characterized by a mix of old and new development, which has occurred along primary road networks in small portions of Lower Salford and Salford Townships. Future residential development shall be concentrated around these areas. Such development shall be compact with a mix of residential land uses built with sensitivity to the surrounding natural environment. All residential types will be permitted in the Secondary Growth Area at a density defined by each participating municipality. Future residential development shall promote pedestrian movement and access to buildings, open spaces, and streets. Municipalities should examine regulations and codes to determine the effectiveness of design standards in achieving the preservation of open space, natural features, historic resources, and community character in the Secondary growth Area.

Village Conservation Area. Existing residential development in the villages is a mix of types and densities. These areas are primarily developed, so it is expected that any future residential development will occur as infill. All residential types, with the exception of mobile home parks, will be permitted in the Village Conservation Area in accordance with a density not to exceed 3 dwelling units per acre.

Local ordinances shall encourage adaptive re-use and redevelopment of existing housing stock, as well as the conversion of obsolete or unused non-residential space to quality residential options. Future development shall also be compatible with the existing character and heritage of the villages.

Rural Resource Conservation Area. This area consists of the primarily undeveloped and environmentally sensitive land in the region, specifically in the Salford and Upper Salford Townships and, and portions of Franconia and Lower Salford Townships. Future residential development will occur in a manner that protects the existing agricultural lands, woodlands and open space, as well as other important rural environmental resources by maintaining a consistently low level of development in the area. All types of residential dwellings will be permitted, at a density of one dwelling unit per two acres.

Residential development shall be designed in a manner that is compatible with the existing natural environment and preserves important natural and historic features. Municipalities should examine their regulations and codes on an annual basis to determine their effectiveness in achieving these goals.

Commercial

Borough Conservation Area. Future commercial development shall continue to provide for a wide-range of uses at varying intensities. An extensive range of commercial and office uses will be permitted in the Boroughs, consistent with those uses that currently exist. The intensity of commercial development within the *Borough Conservation Area* will be determined by the individual municipalities.

The boroughs shall continue to be the primary targets for new commercial development in the region. The municipalities shall establish flexible standards that encourage new viable retailers to locate in the boroughs, specifically those businesses that fill a niche market not served by larger "big-box" retailers. Future development shall apply appropriate design, dimensional, and development concepts that complement and enhance the existing development patterns of the boroughs.

Designated Growth Area. Future commercial and office developed in the *Designated Growth Area* shall be focused in the Harleysville area. An extensive list of uses, equivalent to that of the Borough Conservation Area shall be permitted in the *Designated Growth Area*, although the maximum permitted intensity will be determined by each of the participating municipalities via their zoning ordinance.

Where applicable, the municipalities shall provide standards that allow for the conversion of existing buildings in a manner that maintains the visual character and architectural scale of existing development. Additionally, new commercial development shall be required to consolidate driveways, parking, and curb cuts to provide for more efficient access and parking whenever possible. The municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Secondary Growth Area. Commercial and office development in the Secondary Growth Area shall contribute to establishing a stronger "village-like" character, particularly in the area east of Harleysville and the Village of Tylersport, and shall focus on serving the needs of nearby residents. Permitted uses in this area are characteristic of more small-scale, pedestrian-friendly type uses, with the maximum permitted intensity to be determined by each of the participating municipalities via their zoning ordinance.

New development shall be characteristic of the existing historical character and be connected by a safe and convenient pedestrian circulation system, which shall connect buildings with sidewalks along streets, and parking areas, common areas and other buildings. On an annual basis, the municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Village Conservation Area. Commercial and office development in the Village Conservation Area is similar to the Secondary Growth Area and should contribute to establishing a stronger "village-like" character and focus on serving the needs of nearby residents. Given the variety of village and levels of existing development, the intensity of such development in Village Conservation Areas will be at the discretion of the municipality.

New development shall be characteristic of the existing historical character and be connected by a safe and convenient pedestrian circulation system, which shall connect buildings with

sidewalks along streets, and parking areas, common areas and other buildings. On an annual basis, the municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Rural Resource Conservation Area. Future commercial and office uses in this area will be small-scale and low intensity in nature. They will be supportive of a rural economy, preserve the rural character, and be compatible with the dominant land use pattern. Commercial development in the *Rural Resource Conservation Area* will be minimal, serving primarily the needs of the region's rural residents. Permitted commercial uses are limited to a minimum lot size of two acres, with a building coverage of 10% and a maximum building footprint of 5,000 square feet. The municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Industrial

Borough Conservation Area. Future industrial development in the boroughs will continue to provide for a variety of small-scale uses that are coordinated with the existing infrastructure. In an effort to encourage economic development and strengthen the Boroughs' tax base, maximum intensity limits for industrial development shall be established by the individual municipality.

Local ordinances shall promote the adaptive reuse of vacant industrial facilities that is consistent with the surrounding character. New industrial development shall adhere to strict performance standards.

Designated Growth Area. More intensive industrial development shall be directed to the Designated Growth Area in proximity to Sumneytown Pike (Route 63) or have access to a road having a classification of Collector or higher. The permitted uses are similar to those in the Borough Conservation Area; however it is anticipated that future industrial development in these Townships will be of a larger scale and intensity.

New industrial development shall be required to have a minimum lot size of one acre and a maximum building coverage of 60%. Development shall adhere to strict performance standards, paying particular attention to those relating to landscaping, buffering, setbacks, light and noise, pollution control, and odor to ensure that industrial development is compatible with nearby residential development.

Municipalities should examine regulations and codes on an annual basis to determine the effectiveness of design standards in achieving the preservation of open space, natural features historic resources, and community character in the Designated Growth Area.

Secondary Growth Area. The provision for industrial development in the Secondary Growth Area is directed toward providing a variety of small-scale, low-intensity development that is compatible with a "village-like" character. Permitted uses are similar to those permitted in the other areas. Future industrial development in the Secondary Growth Area shall have a minimum lot size of one acre and a maximum building coverage of 60%.

Development shall adhere to strict performance standards, paying particular attention to those relating to landscaping, buffering, setbacks, light and noise, pollution control, and odor to ensure that industrial development is compatible with nearby residential development. Industrial uses will be required to have direct access onto an arterial or collector road. The municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Village Conservation Area. The provision for industrial development in the Village Conservation Area is directed toward providing a variety of small-scale, low-intensity development that is compatible with a "village-like" character. Permitted uses are limited contractor's office and storage, and printing, publishing, lithography or similar processes, and uses of similar nature. The intensity of such uses will be at the discretion of the municipality.

Development shall adhere to strict performance standards, paying particular attention to those relating to landscaping, buffering, setbacks, light and noise, pollution control, and odor to ensure that industrial development is compatible with nearby residential development. Industrial uses will be required to have direct access onto an arterial or collector road. The municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Rural Resource Conservation Area. Several of the municipalities have areas zoned for industrial uses located within the Rural Resource Conservation Area. This plan will allow the municipalities to continue to provide for a variety of small-scale industrial uses and other larger industrial uses that by their nature require a larger land area. New industrial development will be required

to have a minimum lot size of two acres, a maximum building coverage of 25%, and a maximum building footprint of 15,000 square feet.

Development shall adhere to strict performance standards, paying particular attention to those relating to landscaping, buffering, setbacks, light and noise, pollution control, and odor to ensure that industrial development is compatible with nearby residential development. Industrial development shall be permitted only along Allentown Road or Route 63 or have access to a road having a classification of Collector or higher that leads to either arterial. The municipalities should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Institutional

The policies related to future institutional development in the Indian Valley are similar for the five areas. The common intent is for each area to provide for a full range of institutional uses that are complimentary to the individual area's character. The Borough Conservation, Designated Growth and Rural Resource Conservation Areas permit a variety of use options, while the options permitted in the Rural Resource Conservation Area are somewhat limited. This is in response to the limited infrastructure in the Rural Resource Conservation Area.

Only the intensity of institutional development in the Rural Resource Conservation Area will be limited to a minimum lot size of two acres and a maximum building coverage of 35%, the intensity of such development in the other areas will be at the discretion of the municipality. With regard to the design of new institutional development, new development in the Borough Conservation Area is required to apply appropriate community-design concepts that complement the scale and character of the surrounding area. Municipalities in the Designated Growth, Secondary Growth and Rural Resource Conservation Areas should examine their codes to determine if they are effective in the preservation of open space, natural features, historic resources, and community character.

Utilities

As with future institutional development, the policies related to utility development are simlilar in each of the areas. All five areas provide for the same use options, except for sewage treatment facilities which are not to be permitted in the Village Conservation Area. The intensity of such facilities shall be defined by the individual municipality in accordance with the policies of this plan. The municipal regulations shall be in accordance with applicable state and/or federal regulations, where applicable.

Open Space and Recreation

The intent of the matrices, as they pertain to the provision of open space and recreation, is to maximize opportunities for open space and recreational uses in each of the five future land use areas. Each area is permitted a range of use options dependent on the amount of available land for such. The intensity of open space and recreational uses shall be defined by the individual municipalities in accordance with the policies of the plan.

Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing Opportunities for new development to connect to existing trails, greenways, or open space and recreation areas shall be examined. Additionally, recreation areas shall be of a size and shape that is conducive to active or passive recreation. When, determining local policies municipalities shall comply conceptually with the recommendations of this plan and the municipal open space plans.

Miscellaneous

The intent of this classification is to provide for those uses that cannot be categorized in traditional land use terms, and include such uses as quarries, adult uses, etc. Many of these uses are regulated by state and/or federal regulations and should be allocated for accordingly.

FUTURE LAND USE PLAN IMPLEMENTATION

Each land use category authorizes municipalities to permit a variety of residential and nonresidential uses at varying densities and intensities, respectively. Municipalities need only comply with the policies of those land use categories that fall within their boundaries. In addition, it is recognized that a number of zoning districts, which may permit differing uses and densities, will be utilized to implement the future land use categories, including zoning districts that may currently exist within the participating municipalities. Also, given the inherent flexibility of the Future Land Use Map and Land Use Category Matrices, the policies associated with each future land use category may be implemented differently across the area governed by the future land use category. Any changes to the location of the future land use categories on the future land use map will require a comprehensive plan amendment. Specific responsibilities for implementation of the Future Land Use Plan will be regulated by an Intergovernmental Cooperative Implementation Agreement adopted by each municipality within the region.

Indian Valley Regional Comprehensive Plan: Borough Conservation Area Future Land Use Policy Matrix				
	Vision	**Use Options [1]**	**Density/ Intensity [2]**	**Required Policies**
Residential	To continue providing a wide range of housing types and densities, through compatible infill development.	▪ Single-Family Detached ▪ Single-Family Attached ▪ Twin/Duplex ▪ Multi-Family ▪ Mobile Home	To be defined by the individual municipality in accordance with the policies of this plan.	➢ The extension of public sewer and water to undeveloped areas not currently served is at the discretion of the municipality.
Commercial	To provide a wide-range of commercial and office opportunities at varying intensities for the region.	▪ Automobile and gasoline service station ▪ Automobile service, parts and supply center with automobile service as ancillary use ▪ Bank or other financial institution ▪ Business or professional office ▪ Car washes ▪ Drive-in or fast food restaurants ▪ Farm stand ▪ Funeral home ▪ Garden supply, nursery ▪ Hotels, motels ▪ Inns and bed & breakfasts ▪ Indoor amusement/athletic facility ▪ Motor vehicle sales, new and used ▪ Neighborhood shopping centers ▪ Outdoor amusement/athletic facility ▪ Personal service shop ▪ Rental facilities for tools or equipment ▪ Restaurant, bar, tavern, banquet facilities ▪ Retail stores for sale and repair of goods and merchandise ▪ Shopping Center ▪ Studios ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ The extension of public sewer and water to undeveloped areas not currently served is at the discretion of the municipality.
Industrial	To provide for a variety of small-scale industrial uses coordinated with the existing infrastructure.	▪ Contractor's office and storage ▪ Lumberyard, building supply center ▪ Manufacturing, fabrication, assembly, processing and packaging of natural and man-made materials, chemicals, synthetics, and other organic and inorganic products ▪ Printing, publishing, lithography or similar processes ▪ Scientific or industrial research, engineering, training, testing, experimental laboratory or similar uses ▪ Self-service storage facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ All new development must connect to public sewer and water. ➢ New industrial development shall conform to strict performance standards to ensure compatibility with surrounding residential neighborhoods. ➢ Where applicable, require additional buffering, setbacks, and design for heavier industrial uses.
Institutional	To provide for a full range of institutional uses that are complimentary to the borough character.	▪ Cemetery ▪ Community center ▪ Day care center ▪ Emergency services ▪ Hospitals ▪ Municipal/governmental uses ▪ Museum ▪ Nursing home, personal care and/or life care facilities ▪ Private clubs, fraternal organizations ▪ Public library ▪ Religious institutions and their ancillary uses ▪ School, primary ▪ School, secondary and post-secondary ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ All new development must connect to public sewer and water. ➢ New institutional development shall be compatible with the surrounding residential development.
Utilities	To provide for a range of utility uses within the Borough Conservation Area.	▪ Public utility use (including offices) ▪ Sewage treatment plant ▪ Transformer / pumping station, substation ▪ Wireless communication facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Policies shall be defined by the individual municipality in accordance with state and/or federal regulations, where applicable.
Open Space/Recreation	To maximize opportunities for open space and recreational uses in the Borough Conservation Area.	▪ Agriculture ▪ Open space ▪ Public park/recreational use, including trails ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing. ➢ New development shall connect to existing trails, greenways, or open space/recreation areas.
Miscellaneous	To provide for those uses that cannot be categorized in traditional land use terms.	▪ Billboards ▪ Home occupation ▪ Parking garage	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Standards shall be in accordance with state and/or federal regulations, where applicable.

[1] Municipalities are authorized to permit the uses listed within each identified land use class. Uses are not required to be permitted, except as identified within the Intergovernmental Cooperative Agreement. Each municipality shall ultimately determine the uses to be permitted from the authorized list and the locations in which they are permitted via the municipal zoning ordinance.
[2] The densities/intensities serve as maximum standards. While densities/intensities shall not exceed the standards listed for each land use class, exact densities/intensities shall be ultimately be defined by municipal zoning ordinances. It is not assured that the maximum density/intensity standards for each use class will be an entitlement to landowners, but is intended to recognize existing development patterns and provide flexibility among the individual municipalities.

FIGURE 10.2

BOROUGH CONSERVATION AREA FUTURE LAND USE POLICY MATRIX

Indian Valley Regional Comprehensive Plan: Designated Growth Area Future Land Use Policy Matrix				
Land Use Class	**Vision**	**Use Options [1]**	**Density/ Intensity [2]**	**Required Policies**
Residential	To adequately supply the majority of suburban character residential development in the region over the next 20 years.	▪ Single-Family Detached ▪ Single-Family Attached ▪ Twin/Duplex ▪ Multi-Family ▪ Mobile Home ▪ Mobile Home Park	To be defined by the individual municipality in accordance with the policies of this plan.	➢ The extension of public sewer and water to undeveloped areas within the designated growth area not currently served is at the discretion of the municipality.
Commercial	To provide for commercial and office opportunities along arterial roadways, specifically Routes 63 and 113 and Allentown Road.	▪ Automobile and gasoline service station ▪ Automobile service, parts and supply center with automobile service as ancillary use ▪ Bank or other financial institution ▪ Business or professional office ▪ Car washes ▪ Drive-in or fast food restaurants ▪ Farm stand ▪ Funeral home ▪ Garden supply, nursery ▪ Hotels, motels ▪ Inns and bed & breakfasts ▪ Indoor amusement/athletic facility ▪ Motor vehicle sales, new and used ▪ Neighborhood shopping centers ▪ Outdoor amusement/athletic facility ▪ Personal service shop ▪ Rental facilities for tools or equipment ▪ Restaurant, bar, tavern, banquet facilities ▪ Retail stores for sale and repair of goods and merchandise ▪ Shopping Center ▪ Studios ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ The extension of public sewer and water to undeveloped areas not currently served is at the discretion of the municipality.
Industrial	To provide for a variety of more intensive industrial development, primarily in Franconia Township.	▪ Contractor's office and storage ▪ Lumberyard, building supply center ▪ Manufacturing, fabrication, assembly, processing and packaging of natural and man-made materials, chemicals, synthetics, and other organic and inorganic products ▪ Printing, publishing, lithography or similar processes ▪ Scientific or industrial research, engineering, training, testing, experimental laboratory or similar uses ▪ Warehouse, storage, or distribution center ▪ Self-service storage facilities ▪ Solid waste disposal or transfer facility, recycling operation ▪ Uses of similar nature to those listed above	Minimum Lot Size: 1 acre Maximum Building Coverage: 60%	➢ The extension of public sewer and water to undeveloped areas not currently served is at the discretion of the municipality. ➢ New industrial development shall be directed in proximity to Route 63or have access to a road having a classification of Collector or higher. ➢ New industrial development shall conform to strict performance standards to ensure compatibility with surrounding residential neighborhoods. ➢ Where applicable, require additional buffering, setbacks, and design for heavier industrial uses.
Institutional	To provide for a range of institutional uses compatible with primarily suburban residential development.	▪ Cemetery ▪ Community center ▪ Day care center ▪ Emergency services ▪ Hospitals ▪ Municipal/governmental uses ▪ Museum ▪ Nursing home, personal care and/or life care facilities ▪ Private clubs, fraternal organizations ▪ Public library ▪ Religious institutions and their ancillary uses ▪ School, primary ▪ School, secondary and post-secondary ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ The extension of public sewer and water to undeveloped areas not currently served is at the discretion of the municipality. ➢ New institutional development shall be compatible with the surrounding residential development.
Utilities	To provide for a range of utility uses within the Designated Growth Area.	▪ Public utility use (including offices) ▪ Sewage treatment plant ▪ Transformer/pumping station, substation ▪ Wireless communication facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Policies shall be defined by the individual municipality in accordance with state and/or federal regulations, where applicable.
Open Space/Recreation	To maximize opportunities for open space and recreational uses in the Designated Growth Area.	▪ Agriculture ▪ Forestry, lumbering, reforestation ▪ Game farm, fish hatchery, hunting or fishing preserve ▪ Open space uses ▪ Outdoor plant nursery, orchard ▪ Public park/recreational use ▪ Stable ▪ Wildlife sanctuary ▪ Woodland preserve ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing. ➢ New development shall connect to existing trails, greenways, or open space/recreation areas.
Miscellaneous	To provide for those uses that cannot be categorized in traditional land use terms.	▪ Heliports ▪ Home occupation ▪ Parking garage ▪ Billboards ▪ Landfill ▪ Quarries	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Standards shall be in accordance with state and/or federal regulations, where applicable.

[1] Municipalities are authorized to permit the uses listed within each identified land use class. Uses are not required to be permitted, except as identified within the Intergovernmental Cooperative Agreement. Each municipality shall ultimately determine the uses to be permitted from the authorized list and the locations in which they are permitted via the municipal zoning ordinance.
[2] The densities/intensities serve as maximum standards. While densities/intensities shall not exceed the standards listed for each land use class, exact densities/intensities shall be ultimately be defined by municipal zoning ordinances. It is not assured that the maximum density/intensity standards for each use class will be an entitlement to landowners, but is intended to recognize existing development patterns and provide flexibility among the individual municipalities.

FIGURE 10.3

DESIGNATED GROWTH AREA FUTURE LAND USE POLICY MATRIX

Indian Valley Regional Comprehensive Plan: Future Growth Area Future Land Use Policy Matrix				
	Vision	**Use Options** [1]	**Density/ Intensity** [2]	**Required Policies**
Residential	To adequately supply the majority of suburban character residential development in the region over the next 20 years.	▪ Single-Family Detached ▪ Single-Family Attached ▪ Twin/Duplex ▪ Multi-Family ▪ Mobile Home ▪ Mobile Home Park	To be defined by the individual municipality in accordance with the policies of this plan.	➢ This area is ultimately to be served with public sewer, however, the timing of public sewer and water extension to undeveloped areas not currently served is at the discretion of the municipality.
Commercial	To provide for future commercial and office opportunities in the region over the next 20 years.	▪ Automobile and gasoline service station ▪ Automobile service, parts and supply center with automobile service as ancillary use ▪ Bank or other financial institution ▪ Business or professional office ▪ Farm stand ▪ Funeral home ▪ Garden supply, nursery ▪ Hotels, motels ▪ Indoor athletic facility ▪ Inns and bed & breakfasts ▪ Neighborhood shopping centers ▪ Outdoor amusement ▪ Personal service shop ▪ Restaurant, bar, tavern, banquet facilities ▪ Retail stores for sale and repair of goods and merchandise ▪ Shopping Center ▪ Studios ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ This area is ultimately to be served with public sewer, however, the timing of public sewer and water extension to undeveloped areas not currently served is at the discretion of the municipality.
Industrial	To provide for a variety of industrial development in the region over the next 20 years.	▪ Contractor's office and storage ▪ Junkyard ▪ Manufacturing, fabrication, assembly, processing and packaging of natural and man-made materials, chemicals, synthetics, and other organic and inorganic products ▪ Printing, publishing, lithography or similar processes ▪ Scientific or industrial research, engineering, training, testing, experimental laboratory or similar uses ▪ Warehouse, storage, or distribution center ▪ Self-service storage facilities ▪ Uses of similar nature to those listed above	Minimum Lot Size: 1 acre Maximum Building Coverage: 60%	➢ This area is ultimately to be served with public sewer, however, the timing of public sewer and water extension to undeveloped areas not currently served is at the discretion of the municipality. ➢ New industrial development shall be directed in proximity to Route 63or have access to a road having a classification of Collector or higher. ➢ New industrial development shall conform to strict performance standards to ensure compatibility with surrounding residential neighborhoods. ➢ Where applicable, require additional buffering, setbacks, and design for heavier industrial uses.
Institutional	To provide for a range of institutional uses compatible with primarily suburban residential development.	▪ Cemetery ▪ Community center ▪ Day care center ▪ Emergency services ▪ Hospitals ▪ Municipal/governmental uses ▪ Museum ▪ Nursing home, personal care and/or life care facilities ▪ Private clubs, fraternal organizations ▪ Religious institutions and their ancillary uses ▪ School, primary ▪ School, secondary and post-secondary ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ This area is ultimately to be served with public sewer, however, the timing of public sewer and water extension to undeveloped areas not currently served is at the discretion of the municipality. ➢ New institutional development shall be compatible with the surrounding residential development.
Utilities	To provide for a range of utility uses within the Future Growth Area.	▪ Public utility use (including offices) ▪ Sewage treatment plant ▪ Transformer/pumping station, substation ▪ Wireless communication facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Policies shall be defined by the individual municipality in accordance with state and/or federal regulations, where applicable.
Open Space/Recreation	To maximize opportunities for open space and recreational uses in the Future Growth Area.	▪ Agriculture ▪ Forestry, lumbering, reforestation ▪ Game farm, fish hatchery, hunting or fishing preserve ▪ Open space uses ▪ Outdoor plant nursery, orchard ▪ Public park/recreational use ▪ Wildlife sanctuary ▪ Woodland preserve ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing. ➢ New development shall connect to existing trails, greenways, or open space/recreation areas.
Miscellaneous	To provide for those uses that cannot be categorized in traditional land use terms.	▪ Heliports ▪ Home occupation ▪ Billboards ▪ Quarries	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Standards shall be in accordance with state and/or federal regulations, where applicable.

[1] Municipalities are authorized to permit the uses listed within each identified land use class. Uses are not required to be permitted, except as identified within the Intergovernmental Cooperative Agreement. Each municipality shall ultimately determine the uses to be permitted from the authorized list and the locations in which they are permitted via the municipal zoning ordinance.
[2] The densities/intensities serve as maximum standards. While densities/intensities shall not exceed the standards listed for each land use class, exact densities/intensities shall be ultimately be defined by municipal zoning ordinances. It is not assured that the maximum density/intensity standards for each use class will be an entitlement to landowners, but is intended to recognize existing development patterns and provide flexibility among the individual municipalities.

FIGURE 10.4

FUTURE GROWTH AREA
FUTURE LAND USE POLICY MATRIX

Indian Valley Regional Comprehensive Plan: Village Conservation Area Future Land Use Policy Matrix				
	Vision	**Use Options** [1]	**Density/ Intensity** [2]	**Required Policies**
Residential	To continue providing a wide range of housing types and densities, through compatible infill development.	▪ Single-Family Detached ▪ Single-Family Attached ▪ Twin/Duplex ▪ Multi-Family ▪ Mobile Home	Maximum Density: 3 dwellings per acre	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development.
Commercial	To provide a wide-range of commercial and office opportunities at varying intensities for the region.	▪ Automobile service station w/o gas ▪ Bank or other financial institution ▪ Business or professional office ▪ Garden supply, nursery ▪ Hotels and motels ▪ Indoor amusement/athletic facility ▪ Inns and bed & breakfasts ▪ Personal service shop ▪ Rental facilities for tools and equipment ▪ Restaurant, bar, tavern, banquet facilities ▪ Retail stores for sale and repair of goods and merchandise ▪ Studios ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development.
Industrial	To provide for a variety of small-scale industrial uses coordinated with the existing infrastructure.	▪ Contractor's office and storage ▪ Printing, publishing, lithography or similar processes ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development. ➢ New industrial development shall conform to strict performance standards to ensure compatibility with surrounding residential neighborhoods. ➢ Where applicable, require additional buffering, setbacks, and design for heavier industrial uses.
Institutional	To provide for a full range of institutional uses that are complimentary to the village character.	▪ Cemetery ▪ Community center ▪ Day care center ▪ Emergency services ▪ Municipal/governmental uses ▪ Museum ▪ Private clubs, fraternal organizations ▪ Public library ▪ Religious institutions and their ancillary uses ▪ School, primary ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development. ➢ New institutional development shall be compatible with the surrounding residential development.
Utilities	To provide for a range of utility uses within the Village Conservation Area.	▪ Public utility use (including offices) ▪ Transformer/pumping station, substation ▪ Wireless communication facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Policies shall be defined by the individual municipality in accordance with state and/or federal regulations, where applicable.
Open Space/Recreation	To maximize opportunities for open space and recreational uses in the Village Conservation Area.	▪ Agriculture ▪ Forestry, lumbering, reforestation ▪ Game farm, fish hatchery, hunting or fishing preserve ▪ Open space uses ▪ Outdoor plant nursery, orchard ▪ Public park/recreational use ▪ Wildlife sanctuary ▪ Woodland preserve ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing. ➢ New development shall connect to existing trails, greenways, or open space/recreation areas.
Miscellaneous	To provide for those uses that cannot be categorized in traditional land use terms.	▪ Billboards ▪ Home occupation ▪ Parking garage ▪ Quarries	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Standards shall be in accordance with state and/or federal regulations, where applicable.

[1] Municipalities are authorized to permit the uses listed within each identified land use class. Uses are not required to be permitted, except as identified within the Intergovernmental Cooperative Agreement. Each municipality shall ultimately determine the uses to be permitted from the authorized list and the locations in which they are permitted via the municipal zoning ordinance.
[2] The densities/intensities serve as maximum standards. While densities/intensities shall not exceed the standards listed for each land use class, exact densities/intensities shall be ultimately be defined by municipal zoning ordinances. It is not assured that the maximum density/intensity standards for each use class will be an entitlement to landowners, but is intended to recognize existing development patterns and provide flexibility among the individual municipalities.

FIGURE 10.5

VILLAGE CONSERVATION AREA FUTURE LAND USE POLICY MATRIX

Indian Valley Regional Comprehensive Plan: Rural Resource Conservation Area Future Land Use Policy Matrix				
Land Use Class	**Vision**	**Use Options [1]**	**Density/ Intensity [2]**	**Required Policies**
Residential	To protect existing agricultural lands, woodlands and open space, as well as other important rural environmental resources by reducing overall development in the area and region.	▪ Single-Family Detached ▪ Twin/Duplex ▪ Mobile Home	Maximum Density: 1 dwelling per 2 acres	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development. ➢ Rural cluster developments occurring on tracts that are located within a ½ mile of any municipalities sewer growth boundary may connect to public sewer provided the development is connected to public water and provides a minimum of 50% open space.
Commercial	To provide small-scale low intensity commercial and office uses that are supportive of a rural economy, preserve the rural character, and are compatible with the dominant rural land-use pattern. Such uses will primarily serve the residents of the region's rural areas.	▪ Farm stands ▪ Garden supply, nursery ▪ Indoor amusement/athletic facility ▪ Inns and bed and breakfasts ▪ Outdoor amusement/athletic facility ▪ Personal Service Shop ▪ Rental facilities for tools or equipment ▪ Restaurant, bar, tavern, banquet facilities ▪ Retail stores for sale and repair of goods and merchandise ▪ Studios Uses of similar nature to those listed above	Minimum Lot Size: 2 acres Maximum Building Coverage: 10% Maximum Building Footprint: 5,000 sq. ft.	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development.
Industrial	To provide for a variety of small-scale industrial uses coordinated with the existing infrastructure.	▪ Junkyard ▪ Uses of similar nature to those listed above	Minimum Lot Size: 2 acres Maximum Building Coverage: 25% Maximum Building Footprint: 15,000 sq. ft.	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development. ➢ New industrial development shall conform to strict performance standards to ensure compatibility with surrounding residential neighborhoods. ➢ New industrial development shall be directed in proximity to Route 63 or have access to a road having a classification of Collector or higher. ➢ Where applicable, require additional buffering, setbacks, and design for heavier industrial uses.
Institutional	To provide for a variety of institutional uses compatible with the surrounding rural environment.	▪ Cemetery ▪ Community Center ▪ Correctional facility ▪ Day care center ▪ Emergency services ▪ Municipal/governmental uses ▪ Museum ▪ Private clubs, fraternal organizations ▪ Public Library ▪ Religious institutions and their ancillary uses ▪ School, primary ▪ School, secondary and post-secondary ▪ Uses of similar nature to those listed above	Minimum Lot Size: 2 acres Maximum Building Coverage: 35%	➢ Only on-site sewer and water will be permitted. ▪ Extension of sewer and water off-site, whether public or private, shall only be considered for the purpose of protecting public health. ▪ Off-site sewer shall only be permitted to serve existing and in-fill development. ➢ New institutional development shall be compatible with the surrounding residential development.
Utilities	To provide for a range of utility uses within the Rural Resource Conservation Area.	▪ Public utility use (including offices) ▪ Sewage treatment plant ▪ Transformer/pumping station, substation ▪ Wireless communication facilities ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Policies shall be defined by the individual municipality in accordance with state and/or federal regulations, where applicable.
Open Space/Recreation	To maximize opportunities for open space and recreational uses in the Rural Resource Conservation Area.	▪ Agriculture ▪ Day/resident camp ▪ Forestry, lumbering, reforestation ▪ Game farm, fish hatchery, hunting or fishing preserve ▪ Golf course ▪ Open space uses ▪ Outdoor plant nursery, orchard ▪ Public park/recreational use ▪ Stable ▪ Wildlife sanctuary ▪ Woodland preserve ▪ Uses of similar nature to those listed above	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Park and recreation facilities shall be constructed in a manner that is sensitive to the environment, protects historic and natural features, and is aesthetically pleasing. ➢ New development shall connect to existing trails, greenways, or open space/recreation areas.
Miscellaneous	To provide for those uses that cannot be categorized in traditional land use terms.	▪ Adult uses ▪ Billboards ▪ Home occupation ▪ Landfill ▪ Quarries	To be defined by the individual municipality in accordance with the policies of this plan.	➢ Standards shall be in accordance with state and/or federal regulations, where applicable.

[1] Municipalities are authorized to permit the uses listed within each identified land use class. Uses are not required to be permitted, except as identified within the Intergovernmental Cooperative Agreement. Each municipality shall ultimately determine the uses to be permitted from the authorized list and the locations in which they are permitted via the municipal zoning ordinance.
[2] The densities/intensities serve as maximum standards. While densities/intensities shall not exceed the standards listed for each land use class, exact densities/intensities shall be ultimately be defined by municipal zoning ordinances. It is not assured that the maximum density/intensity standards for each use class will be an entitlement to landowners, but is intended to recognize existing development patterns and provide flexibility among the individual municipalities.

FIGURE 10.6

RURAL RESOURCE AREA FUTURE LAND USE POLICY MATRIX

Appendix A

Adoption Resolutions