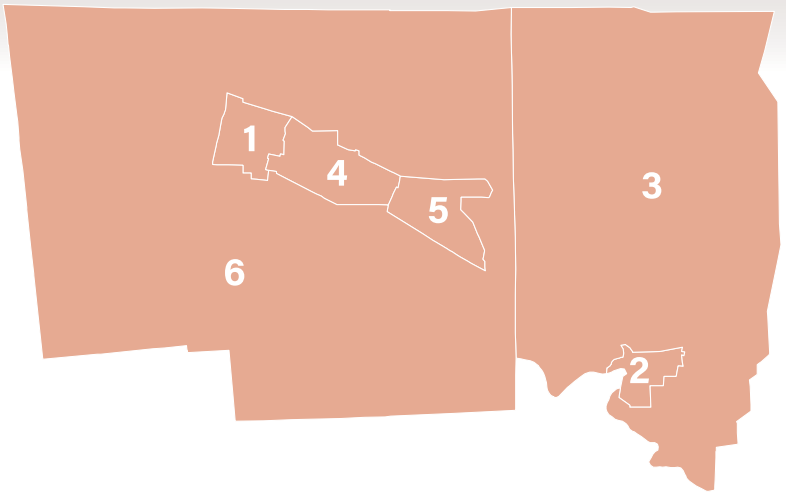
Upper Perkiomen Valley Regional
COMPREHENSIVE PLAN

1 East Greenville

2 Green Lane

3 Marlborough



Montgomery County, Pennsylvania

4 Pennsburg

5 Red Hill

6 Upper Hanover

ADOPTED MAY 9, 2024

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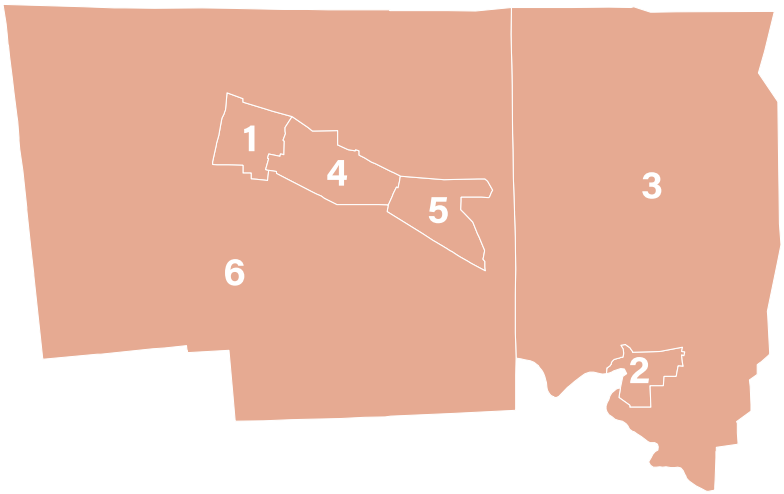

4 Pennsburg
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Prepared by Montgomery County Planning Commission

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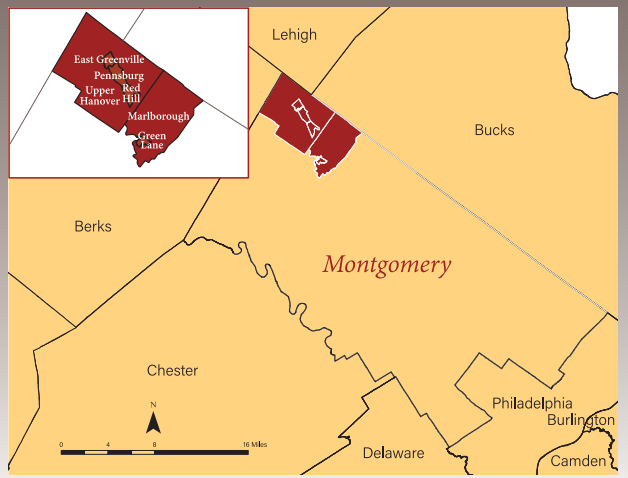
Chapter One: **BACKGROUND & DEMOGRAPHICS**



Regional Setting

The Upper Perkiomen Valley is located in the northwestern corner of Montgomery County, adjacent to Berks, Lehigh, and Bucks Counties. It is approximately 43.2 miles northwest of Philadelphia and 22.1 miles south of Allentown. The valley is approximately 36.2 square miles in size and includes six municipalities: Marlborough and Upper Hanover Townships and the Boroughs of East Greenville, Green Lane, Pennsburg, and Red Hill.

The Upper Perkiomen Valley, like the rest of Montgomery County, is considered part of the Philadelphia metropolitan region. The valley's proximity to Routes 29, 663, 100, and the Northeast Extension of the Pennsylvania Turnpike provides convenient access to other major communities. These include Allentown, Reading, Pottstown, King of Prussia, the North Penn area of Montgomery County, and the Quakertown area in Bucks County.

As influences from the Greater Philadelphia area to the south and Allentown to the north begin to converge in the Upper Perkiomen Valley, growth pressure has been a constant force over the past few decades. Despite the increasing population and associated development, the Upper Perkiomen Valley maintains a rural quality rather than a suburban one. Many large parcels remain as farms, vacant land, large lot rural residential, or woodland properties.

The valley's industrial facilities are generally large plants located on large parcels amidst the community rather than concentrated within industrial parks. Shopping centers, stores, and offices are concentrated within the four centrally located boroughs, creating a quaint small-town environment. The entire valley is located within the Perkiomen Creek Basin.

The river valleys of the Perkiomen Creek and its tributaries are dominant natural features within the region. They provide tremendous beauty that is highly valued by residents. Rolling farmland and stream corridors comprise approximately two-thirds of the valley's landscape. The other third of the valley's landscape is dramatically different. It contains boulder fields, steep slopes, and woodlands, due to its diabase geology. The Mill Hill area in Upper Hanover and the Unami Creek Valley in Marlborough have the highest concentrations of these natural features within the Upper Perkiomen Valley and are important natural areas for the metropolitan region.

Timeline of Important Events in the Upper Perkiomen Valley

18th Century: Europeans, particularly Germans, fled religious persecution in their homelands and made a fresh start in the New World. Brethren (or Dunkers), Lutherans, members of the Reformed Church, Schwenkfelders, Mennonites, and other "peace" sects settled in Pennsylvania including the valley. Most people worked as subsistence farmers, while bartering for other goods and services.

19th Century: Industrialization quickly changed the economy of the Valley. Many mills, forges, and small factories flourished along (or near) the Perkiomen Creek, Unami Creek, and other creeks in the area. The expansion of the railroad to the region further accelerated these changes.

Although farming continued to flourish, many farmers opted to find work in cigar factories in the boroughs and others relocated to Lancaster County in search of more fertile soil.

1684: William Penn met with Delaware Chief Tamanend and signed the Shackamaxon Treaty to establish perpetual peace between Europeans and the Lenape.

1741: Marlborough and Upper Hanover Townships established.

1750: East Greenville Village established.

1737: Green Lane Forge built by Thomas Mayberry

1851: Goshenhoppen and Green Lane Turnpike (Route 29) completed.

1865: Geryville and Sumneytown Turnpikes completed.

1874: The railroad expands to the region.

1854: East Greenville Academy established

1878: Mail service comes to the area via the railroad

1875:East Greenville and Green Lane Boroughs incorporated.

1887: Pennsburg Borough incorporated.

1902: Red Hill Borough incorporated.

1899: Town & Country begins publication

1875: the Perkiomen Seminary opened, later becoming the Perkiomen School for Boys in 1916

1954: The Philadelphia Suburban Water Company created the Green Lane Reservoir by damming the Perkiomen Creek. The communities lost the legal fight to block it.

1916: Camp Delmonte acquired by BSA

1939: Montgomery County acquires property in the region to establish a regional county park

1954: Upper Perkiomen School District formed.

2001: The six municipalities of the region organized into the Upper Perkiomen Valley Regional Planning Commission to better plan for the future.

20th Century: The 20th Century brought economic downturn to the region. The decades preceding and following the start of the Great Depression brought strife: a 1921 general worker strike brought down the cigar industry, a 1930 fire destroyed a trunk factory and put 250 residents out of work, and severe floods took out most ice dams throughout the region thereby finishing off the ice industry.

World War II saw many seek work in the factories outside of the region in industrial hubs, such as Pottstown and Allentown, to aid in the war effort.

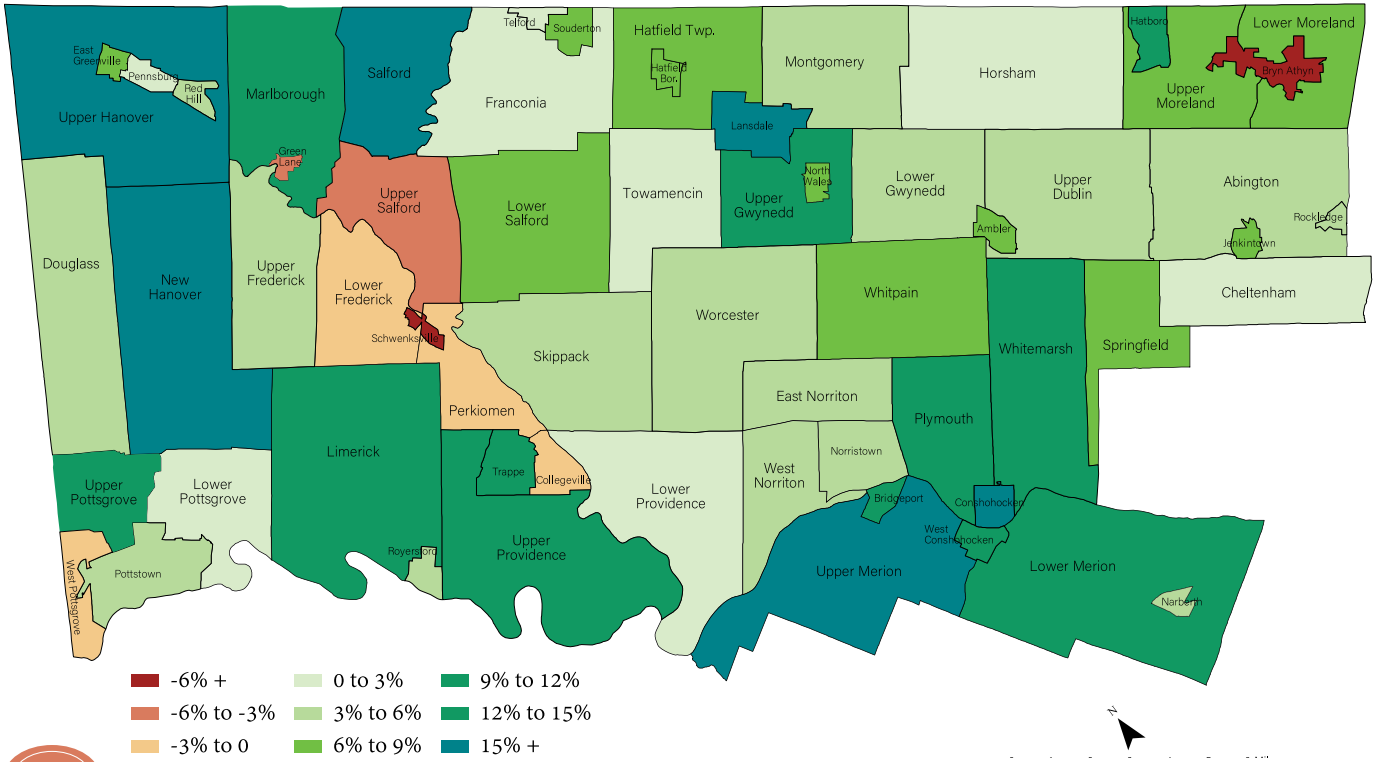
A Note on the Indigenous Peoples of the Region

The mid-Atlantic region, including the land that is now known as the Upper Perkiomen Valley, was the traditional home of the Lenape people (later known as the Delaware people). The Lenape hunted, fished, and cultivated a variety of crops including the so-called "three sisters" of maize, beans, and squash. The arrival of Europeans brought disease, famine, and war that would leave only a fraction of their people remaining by the time that William Penn arrived in 1682. During that same year, Penn and Delaware Chief Tamanend signed the Shackamaxon treaty that would ensure perpetual peace between Europeans and the Lenape. According to legend, the two men signed the treaty under the enormous "Treaty Elm" half a mile north of Center City, Philadelphia. Shortly thereafter, thousands of Europeans would arrive and further displace the native people. By the 1860s most of the remaining Lenape people were forcibly relocated to Oklahoma under the authority of the Indian Removal Act. As of 2010, it was estimated that over 11,000 Lenape lived in Oklahoma, over 1,500 in Wisconsin, and 2,300 in Canada (Ontario).

Demographics Overview

This portion of the plan seeks to highlight some of the most important demographic characteristics of the residents of the valley. Topics explored will include an overview of recent data related to population, age group trends, income and employment, educational attainment, household characteristics, housing units and housing value. Demographic data not only gives us a baseline for understanding characteristics about residents of the valley at present, but also lets us explore how things have changed over the last few decades. A thorough understanding of recent trends can give us an idea of what can reasonably be expected in the future. Throughout this section, statistics will be provided for each of the six municipalities of the valley and for the valley overall; in some cases, these are compared against Montgomery County.

Figure 1 | *2010-2020 Population Change*



The Decennial Census is the most authoritative source for complete population counts and ethnicity breakdown. We'll be utilizing the 2020 and previous Decennial Census data for population and demographic data throughout this chapter. In addition to this, we'll be using the 5-year

American Community Survey (ACS) estimates for more specific information that was not included as part of the 2020 Census questionnaire. Finally, the population and employment forecasts are provided by the Delaware Valley Regional Planning Commission (DVRPC), which acts as the Metropolitan Planning Organization for the Delaware Valley (the Counties of Philadelphia, Montgomery, Chester, Delaware, and Bucks of Pennsylvania as well as Mercer, Burlington, Camden, and Gloucester Counties of New Jersey).

Population

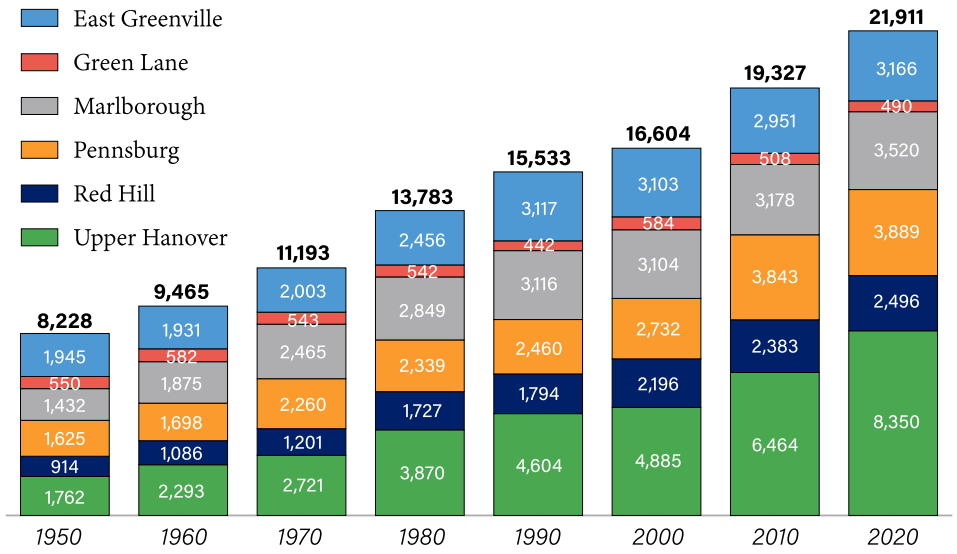
As shown in Figure 2, the Upper Perkiomen Valley Region as a whole experienced a 13.4% growth in population, an increase of 2,584 people between 2010 and 2020. Upper Hanover Township eclipsed the growth of all other municipalities in the valley with a population growth rate of 29.2% that accounted for a total of 1,886 people added over the course of the decade. Next in line were Marlborough Township (10.8%), East Greenville Borough (7.3%), Red Hill Borough (4.7%), and Pennsburg Borough (1.2%). Green Lane Borough lost population over the decade with -3.5% which accounted for 18 people. For an overview of population changes throughout Montgomery County between 2010 and 2020, refer to Figure 1.

Figure 2 | 2010-2020 Population Change

MUNICIPALITY	2010	2020	+/-	% CHANGE
East Greenville	2,951	3,166	215	7.3%
Green Lane	508	490	-18	-3.5%
Marlborough	3,178	3,520	342	10.8%
Pennsburg	3,843	3,889	46	1.2%
Red Hill	2,383	2,496	113	4.7%
Upper Hanover	6,464	8,350	1,886	29.2%
Regional Total	**19,327**	**21,911**	**2,584**	**13.4%**

Source: 2010 and 2020 Census

Figure 3 | Upper Perkiomen Valley Population, 1950-2020



Upper Hanover Township is the most populous municipality in the region at 8,350 people. The high growth rate over the last decade propelled it even further ahead of the other communities of the region. Pennsburg Borough and Marlborough Township are the next most populous, although their combined population does not match that of Upper Hanover alone (3,889 and 3,520, respectively).

Population Forecasts

The population forecasts utilized in this section were released prior to the 2020 Decennial Census data release, so there are

inconsistencies between the estimates and the reality of the 2020 data that are summarized in Figure 4. We won't go through each difference in detail, but it is clear that overall population was not anticipated to grow as fast as it did across the region. For the sake of the plan, we'll focus more on the percentage of population change as opposed to the actual figures. You can refer to Figure 5 for 5-year estimates from 2015-2050.

The overall population growth rate between 2020 and 2050 is forecast to be 8.6%, which is a few percentage points lower than the growth seen between the 2010 and 2020 Censuses. The projected growth rate for Upper Hanover is 15.3% over this same horizon, as compared to the 29.2% growth rate seen over the last decade. The growth rates for the remaining municipalities is anticipated at a much slower rate with Red Hill at 6.6%, Marlborough at 4.6%, Pennsburg at 3.9%, East Greenville at 3.8%, and Green Lane at 2.2%.

Figure 4 | DVRPC 2020 Population Forecast versus the 2020 Census Count

MUNICIPALITY	2020 POPULATION	2020 ESTIMATE	ESTIMATE VS. 2020 POPULATION
East Greenville	3,166	2,940	-226
Green Lane	490	506	16
Marlborough	3,520	3,388	-132
Pennsburg	3,889	3,848	-41
Red Hill	2,496	2,361	-135
Upper Hanover	8,350	8,038	-312
Regional Total	21,911	21,081	-830

Source: 2010 and 2020 Census

Figure 5 | DVPRC Population Forecasts, 2020-2050

MUNICIPALITY	2020	2025	2030	2035	2040	2045	2050	CHANGE 2020-2050	% CHANGE 2020-2050
East Greenville	2,940	2,946	2,961	2,975	3,012	3,022	3,051	111	3.8%
Green Lane	506	506	508	513	513	514	517	11	2.2%
Marlborough	3,388	3,397	3,438	3,465	3,499	3,520	3,545	157	4.6%
Pennsburg	3,848	3,859	3,893	3,920	3,950	3,979	3,997	149	3.9%
Red Hill	2,361	2,365	2,392	2,426	2,440	2,482	2,517	156	6.6%
Upper Hanover	8,038	8,061	8,303	8,605	8,870	9,053	9,265	1,227	15.3%
Regional Total	21,081	21,134	21,495	21,904	22,284	22,570	22,892	1,811	8.6%

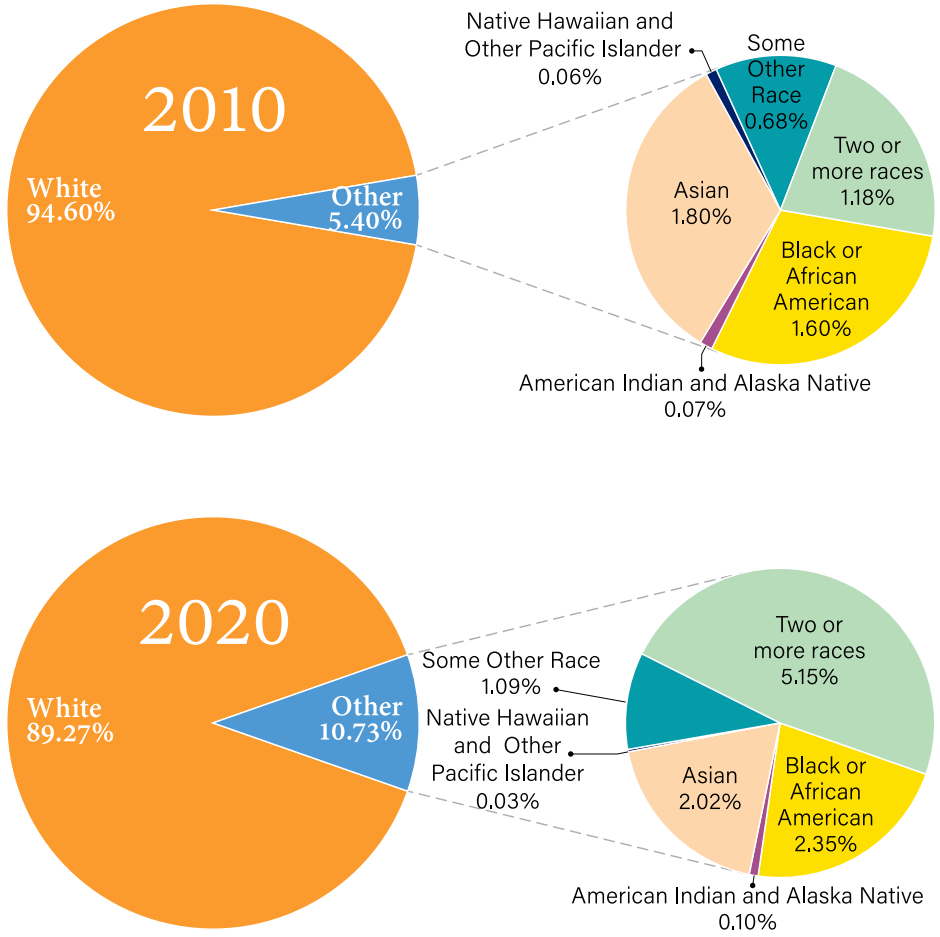
Source: DVRPC

Race & Ethnicity

The region is majority white and non-Hispanic or Latino with nearly 9 in 10 residents identifying as white. The remaining 10% of residents identify as follows: over 5% of the residents identify as two or more races (the granular breakdown of which is available in the 2020 Census redistricting data), 2.4% of residents identify as Black or African American, 2% identify as Asian, and a total of about 1.25% identify as some other race alone, Native Hawaiian and other Pacific Islander, or American Indian and Native Alaskan.

When compared to 2010, there are signs that the region is getting more diverse with time. While the white population overall has grown by 7% since 2010, it has fallen by 5% as a share of the total population of the region (from 94.6% to 89.3%). The population that identifies as two or more races has increased nearly 400%, from 228 to 1,128, which has increased its share of the regional population from 1.2% in 2010 to 5.2% in 2020. The nation overall saw a 276% increase in population that identified as two or more races over the last decade, so this increase is generally in-line with that trend. When compared to 2010 figures, the Black or African American population has increased by 67% (from 309 to 515), the population that identifies as some other race has increased by 80% (from 132 to 238), the American Indian or Native Alaskan population has increased by 57% (from 14 to 22), and the Asian population has increased by 27% (from 348 to 442). The Native Hawaiian and other Pacific Islander population has decreased by 50% (from 12 to 6). Much of the large percentage increases amount to a very small number of people, but the overall trend is something that can be expected to continue into the future.

Figure 6 | Regional Racial Breakdown: 2010 and 2020



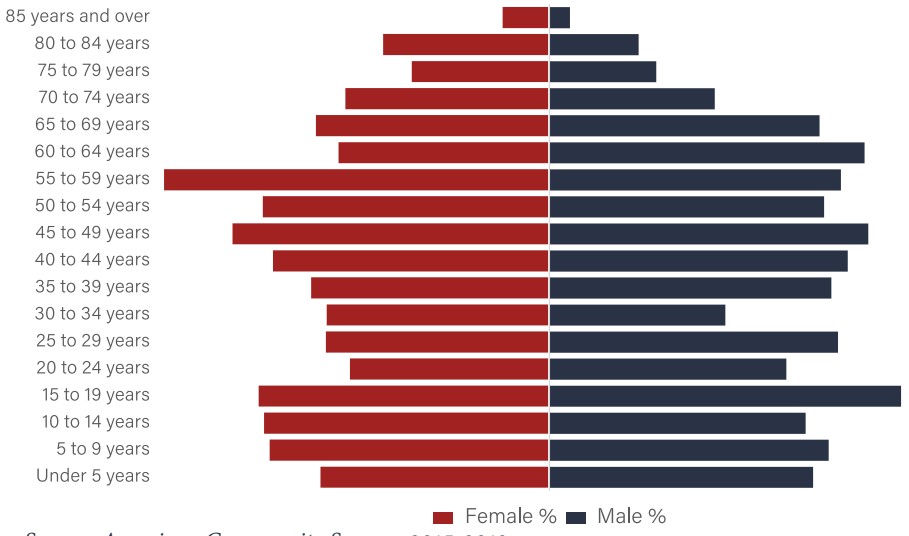
Source: 2010 and 2020 Census

The Hispanic or Latino population has doubled since 2010, with about 4.3% of the population now identifying as Hispanic or Latino (939 people). This is a significant increase since 2010, when under 500 or 2.4% of the population identified as such. Hispanic or Latino is an ethnic group, rather than a race, and therefore it is calculated separately and not included in Figure 6.

Age Group Distribution

The overall age group trends are unsurprising, given the national trends in population booms. The baby boomer generation, those born between 1946 and 1964, are all 55 and over at this point. The 2015-2019 ACS showed that 31% of the population is over 55 years old with 17% of the population over age 65. Only 23% of the population is under 18 years old. With such a large portion of the population aging, there will be increased emphasis on creating housing choices for those wishing to downsize. With a large portion of the population nearing retirement or retired already, attracting and retaining younger persons to fill jobs will become increasingly necessary.

Figure 7 | Regional Population Age Distribution



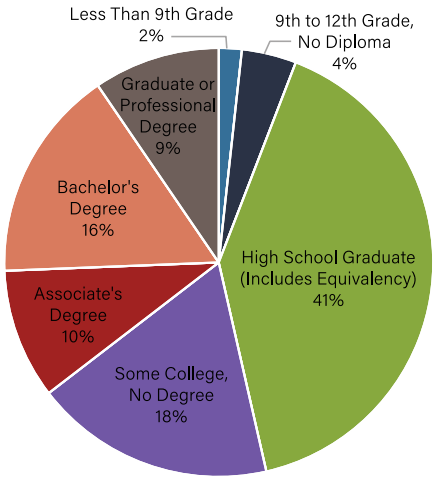
Source: American Community Survey, 2015-2019

The ACS also shows a stark contrast in the difference in median age across the region: East Greenville has the youngest population with a median of 33 years old, whereas the median in Green Lane is 51.3. Apart from those two outliers, the median ages are more clustered: 40.7 for Pennsburg, 41.5 for Marlborough, 42.9 for Upper Hanover, and 46.3 for Red Hill.

Educational Attainment

Figure 8 offers a glimpse into the overall breakdown of educational attainment across the region. When compared to Montgomery County, there are some similarities and some stark differences. According the 2015-2019 ACS Estimates, about 94% of the population of both the region and Montgomery County have at least a high school diploma. However, the region has about half as many residents holding bachelor's degrees or higher, at about 24% compared to nearly 50% for Montgomery County. When looking at median income across the county, residents with a high school diploma earn about 57% of the income earned by those holding a bachelor's degree and about 43% of those holding a graduate or professional degree. Higher educational attainment does not always ensure a higher income, but it is a fairly strong indicator for potential earnings in an ever changing economy.

Figure 8 | Regional Educational Attainment



Source: American Community Survey, 2015-2019

Employment

Employment by industry for the region and each municipality of the region is shown in Figure 10. The highest percentage of the workforce, 21.3%, is in educational services, health care and social assistance. The following industry is manufacturing, which employs about 17% of the workforce. Following these are professional, scientific, management, administrative, and waste management services and construction which account for about 12.6% and 10.8% of the workforce, respectively. All other industries each employ less than 10% of the workforce.

The U.S. Census Bureau offers a tool, known as "OnTheMap", that is grounded in ACS data and which displays the inflow and outflow of jobs within a set geography. Using this tool, we were able to see that in 2018, a mere 1,558 persons lived and worked within the region. Over 9,000 live within the region, but work outside of the region. Lastly, 5,700 people come into the region for employment. The wide variation between those who live and work in the region compared to the inflow and outflow indicates that there may be residents seeking employment outside the region when they could potentially seek employment closer to home. There may be a mismatch between the types of jobs available within the region and the local workforce. Economic and workforce development may be necessary to create jobs within the region, and additional outreach and education may be required to connect residents with jobs in the region.

The employment forecasts provided herein are from DVRPC and they project a substantial increase in employment across all communities of the region through 2050 (with a small dip across the board in 2020 due to the COVID-19 pandemic's impact on the economy). Overall growth

Figure 9 | DVPRC Employment Forecasts, 2015-2050

	2015	2020	2025	2030	2035	2040	2045	2050	CHANGE '15 - '50	% CHANGE '15 - '50
East Greenville	639	599	648	672	699	708	728	727	88	13.80%
Green Lane	192	177	202	211	213	215	214	216	24	12.50%
Marlborough	1,069	1,015	1,112	1,142	11,59	1,187	1,214	1,232	163	15.20%
Pennsburg	1,448	1,409	1,494	1,521	1,538	1,565	1,597	1,637	189	13.10%
Red Hill	627	575	663	686	707	720	746	772	145	23.10%
Upper Hanover	3,211	3,064	3,481	3,584	3,625	3,698	3,764	3,823	612	19.10%
Regional Total	7,186	6,839	7,600	7,816	7,941	8,093	8,263	8,407	1,221	16.99%

Source: DVRPC

Figure 10 | *Employment by Industry, Resident Labor Force Age 16+*

	REGIONAL TOTAL	REGIONAL %	EAST GREENVILLE	GREEN LANE	MARLBOROUGH	PENNSBURG	RED HILL	UPPER HANOVER
Agriculture, forestry, fishing and hunting, and mining	46	0.4%	19	0	25	0	2	0
Construction	1,173	10.8%	137	15	274	268	119	360
Manufacturing	1,833	16.9%	250	45	300	267	197	774
Wholesale trade	350	3.2%	70	2	74	42	24	138
Retail trade	1,038	9.5%	210	38	153	115	139	383
Transportation and warehousing, and utilities	552	5.1%	65	5	70	91	75	246
Information	220	2.0%	27	0	30	41	28	94
Finance and insurance, and real estate, and rental and leasing	553	5.1%	116	28	52	66	88	203
Professional, scientific, and management, and administrative, and waste management services	1,367	12.6%	152	35	208	225	197	550
Educational services, and health care and social assistance	2,321	21.3%	406	31	329	544	213	798
Arts, entertainment, and recreation, and accommodation and food services	682	6.3%	118	7	65	214	55	223
Other services, except public administration	549	5.0%	70	5	129	108	64	173
Public administration	192	1.8%	6	0	71	32	34	49
Total	10,876	100.0%	1,646	211	1,780	2,013	1,235	3,991

Source: American Community Survey, 2015-2019

in employment is between 13.8% (East Greenville) and 23.10% (Red Hill). Although much of the two townships are outside of growth areas, they are projected to see substantial increases in employment. So long as such growth is concentrated within growth areas, there shouldn't be a conflict with the future land use plan.

Income

The median household income throughout the region varies quite a bit, ranging from substantially lower than Montgomery County overall to substantially higher. All municipalities except for Upper Hanover Township have lower household income than the county.

Figure 11 | Income

	MEDIAN HOUSEHOLD INCOME	PER CAPITA INCOME
East Greenville	$63,017	$28,464
Green Lane	$58,417	$32,718
Marlborough	$88,589	$38,111
Pennsburg	$74,688	$29,938
Red Hill	$62,500	$33,326
Upper Hanover	$102,849	$41,555
Montgomery Co.	$91,546	$48,845

Source: American Community Survey, 2015-2019

Per capita income is calculated by combining the total income for a municipality and dividing it by the population. All communities in the region have lower per capita than the county overall. As shown earlier in this chapter, the overall age distribution skews older which has an impact on the per capita income: retired persons generally have a fixed income that is lower than when they were participating in the workforce.

Average Household Size

Montgomery County as a whole saw a 0.2% increase in average household size between 2010 and 2020, which amounted to 2.54 persons per household. The change in average household size between 2010 and 2020 varied across the region quite significantly. Pennsburg and East Greenville saw average household size decrease by 2.6% and 1.5%, respectively. The rest of the region saw modest growth between 0.3% and 4.8%.

Figure 12 | Average Household Size: 2010-2020

	2010	2020	ABSOLUTE CHANGE	PERCENT CHANGE
East Greenville	2.64	2.60	-0.04	-1.5%
Green Lane	2.41	2.41	0.01	0.3%
Marlborough	2.48	2.60	0.12	4.8%
Pennsburg	2.70	2.63	-0.07	-2.6%
Red Hill	2.17	2.22	0.05	2.5%
Upper Hanover	2.75	2.78	0.04	1.4%
Montgomery Co.	2.53	2.54	0.01	0.2%

Source: 2020 Census

East Greenville, Marlborough, Pennsburg, and Upper Hanover have larger average household sizes than the county overall. Red Hill has a significantly lower average household size than anywhere in the region and the county, at 2.22.

Figure 13 | *Median Home Value*

East Greenville	$159,900
Green Lane	$189,100
Marlborough	$284,400
Pennsburg	$205,600
Red Hill	$171,800
Upper Hanover	$283,300

Source: American Community Survey, 2015-2019

Housing Value

The median housing value varies across the region, with lower values within the boroughs. This is likely due to the fact that more single-family homes on larger lots are available in the townships than in the boroughs. The boroughs also have a greater supply of attached dwellings, such as duplexes or townhouses, which generally have a lower asking price than detached dwellings.

Housing Units

Figure 14 shows an overall increase of residential units in the region by 12.2% over the last decade. Upper Hanover saw the largest increase by far at nearly 27% or 600 new units. East Greenville saw an increase of nearly 14% or 160 units, which was in large part due to one large-scale residential development—the Willows. All other municipalities saw small gains under 5% or a negligible loss. The overall trends should be relied upon more so than the minor fluctuations in the unit count at the municipal level.

Figure 14 | *Housing Units*

	2010	2020	CHANGE	PERCENT CHANGE
East Greenville	1,173	1,333	160	13.6%
Green Lane	219	215	-4	-1.8%
Marlborough	1,361	1,425	64	4.7%
Pennsburg	1,317	1,352	35	2.7%
Red Hill	1,141	1,163	22	1.9%
Upper Hanover	2,424	3,077	653	26.9%
Region	7,635	8,565	930	12.2%

Source: 2010 and 2020 Census

Conclusion

The Upper Perkiomen Valley's location between the Philadelphia metropolitan area and the many employment and recreation opportunities of Berks, Lehigh, and Bucks Counties make it a desirable place to live and work. The region has a valuable location along the Pennsylvania Turnpike and several smaller highways, which could spur increased economic activity bringing with it employment opportunities and population growth.

The population is expected to continue to grow, with particularly large growth anticipated within the townships. This growth will need to be targeted within the growth areas in order to mitigate potential impacts on community character and strain on infrastructure. The natural limitations of the outlying areas within the townships will help with containing growth outside of the preferred development locations.

The current population is trending older, which will bring housing-related issues as the gap between available homes and the housing desires of "empty nesters" grows. It will also become increasingly necessary to retain those who have grown up in the area, or attract younger new residents, in order to both fill employment opportunities and build the community by continuing on the tradition of raising a family in the

valley. The valley appears to be suffering from a phenomenon common to many communities, which is that of “brain drain” or “youth drain” where young people who grew up in the community choose to settle elsewhere following completion of their education in pursuit of better employment opportunities.

The growth and demographic trends of this chapter indicate a need for the communities of the Upper Perkiomen Valley to coordinate on what type of residential, commercial, and industrial development they would like to see over the next few decades and where it should be targeted. By working together, the region can work towards a unified vision for community and economic development.

Chapter Two: **EXISTING LAND USE**

Introduction

Any long-range planning for the Upper Perkiomen Valley region must include a thorough understanding of existing conditions in the region. By examining the current mixture of land uses throughout the region, we gain an understanding of changes in the area and hope to get a glimpse into trends that may continue into the future. With this understanding, the communities of the region can plan for the future and make informed decisions regarding land use policy. The data within this chapter captures the existing land use patterns in the Upper Perkiomen Valley at a specific point in time—August 2021.

Land Use Categories

For the purpose of our analysis, we utilize 16 distinct land use categories. These 16 categories are primarily based on the land use classification used by the Montgomery County Board of Assessments and Appeals (BOA), however we reviewed the breakdown and updated certain parcels to reflect inaccurate or less appropriate designation. For example, a municipally owned park may have been noted as an "institutional" land use but it is more appropriately labeled as "public open space" for the purposes of this plan. Regional data was used throughout this chapter, however a summary of the six municipalities of the region are included in Table 2.1.

The 16 land use categories mentioned above are divided into three distinct land use groups: residential, nonresidential/mixed use, and open space/agriculture/undeveloped. Each of these land use groups and the land use categories that they are made up of will be examined in detail throughout this chapter. The land use groups are broken down as follows:

RESIDENTIAL LAND USE CATEGORIES

Country Residence	Single-Family Attached Dwelling	Multifamily Dwelling
Twin/Duplex	Single-Family Detached Dwelling	Mobile Home Park

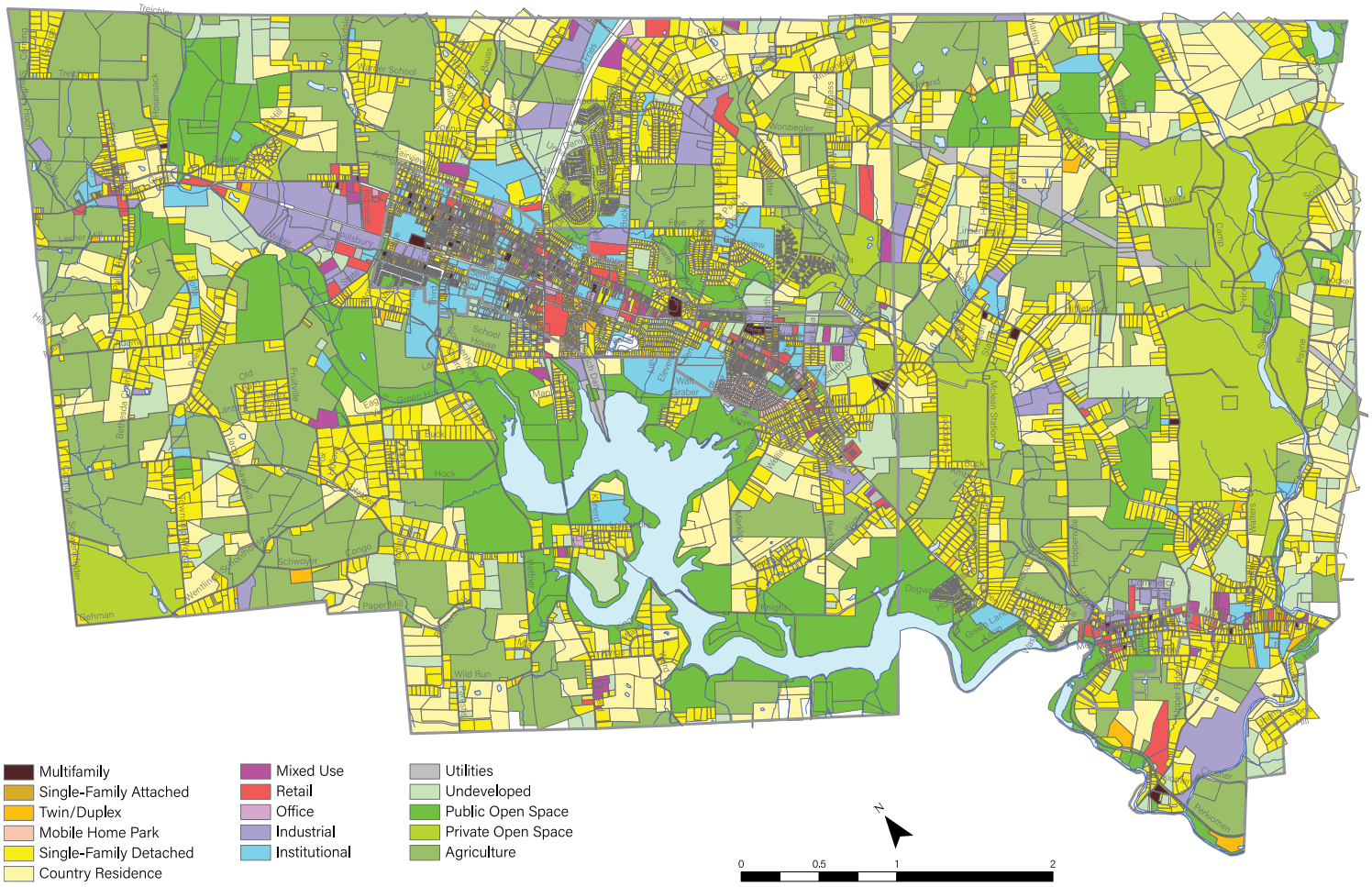
NONRESIDENTIAL & MIXED USE LAND USE CATEGORIES

Retail	Utilities	Industrial
Office	Mixed Use	Institutional

OPEN SPACE, AGRICULTURE, AND UNDEVELOPED CATEGORIES

Public Open Space	Agriculture
Private Open Space	Undeveloped Land

Figure 15 | *Existing Land Use*



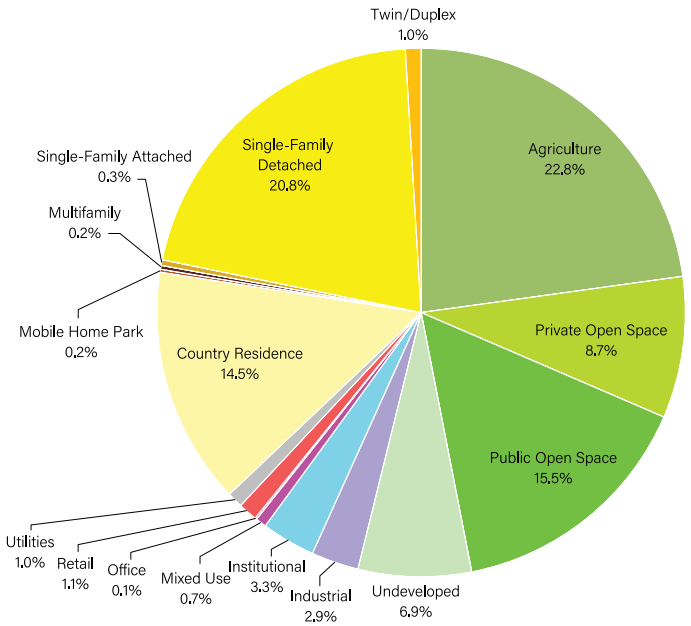
Land Use Consumption

By mapping the geographic distribution of existing land use, we get a clear visual showing where certain land uses are concentrated throughout the region. Figure 15, the existing land use map, shows the obvious conditions on the ground: commercial, industrial, mixed use, and medium-high density residential uses are concentrated in and around boroughs and villages. Larger residential lots, whether single family detached or country residences, as well as open space, agriculture, and undeveloped lots are spread throughout the two townships.

Figure 16 | Existing Land Use in the Region

	LAND USE	REGION		EAST GREENVILLE		GREEN LANE		MARLBOROUGH		PENNSBURG		RED HILL		UPPER HANOVER	
		ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%
Agriculture Open Space Undeveloped	Agriculture	5,084.0	22.8%					1,483.0	18.6%			14.4	3.9%	3,586.6	27.5%
	Private Open Space	1,930.5	8.7%	3.8	1.4%			1,476.7	18.5%	5.2	1.2%	10.4	2.8%	434.5	3.3%
	Public Open Space	3,446.5	15.5%	11.6	4.3%	54.2	27.6%	747.6	9.4%	23.6	5.4%	13.5	3.6%	2,596.0	19.9%
	Undeveloped	1,542.2	6.9%	13.0	4.8%	18.8	9.6%	659.6	8.3%	19.3	4.4%	34.1	9.1%	797.4	6.1%
Nonresidential Mixed Use	Industrial	646.2	2.9%	21.1	7.7%	9.1	4.6%	197.5	2.5%	10.4	2.4%	24.8	6.6%	383.4	2.9%
	Institutional	733.6	3.3%	59.9	21.9%	3.9	2.0%	126.8	1.6%	83.3	19.1%	65.6	17.6%	394.1	3.0%
	Mixed Use	148.4	0.7%	5.6	2.1%	5.3	2.7%	21.3	0.3%	18.3	4.2%	7.9	2.1%	90.0	0.7%
	Office	25.0	0.1%	2.7	1.0%			1.2	0.0%	6.8	1.6%	2.9	0.8%	11.3	0.1%
	Retail	255.8	1.1%	4.1	1.5%	18.0	9.2%	39.4	0.5%	43.8	10.0%	16.7	4.5%	133.9	1.0%
	Utilities	214.9	1.0%	0.4	0.1%	3.2	1.6%	141.8	1.8%	10.7	2.5%	0.2	0.1%	58.6	0.4%
Residential	Country Residence	3,234.8	14.5%					1,452.8	18.2%					1,782.0	13.7%
	Mobile Home Park	39.8	0.2%					3.2	0.0%			36.6	9.8%		
	Multifamily	51.7	0.2%	10.2	3.7%	2.9	1.5%	10.5	0.1%	13.8	3.2%	8.3	2.2%	6.0	0.0%
	Single-Family Attached	77.9	0.3%	29.7	10.9%					8.5	2.0%	17.2	4.6%	22.5	0.2%
	Single-Family Detached	4,645.0	20.8%	71.3	26.1%	73.8	37.5%	1,551.6	19.5%	133.2	30.5%	105.5	28.2%	2,709.6	20.8%
	Twin/Duplex	213.3	1.0%	39.8	14.6%	7.2	3.7%	57.3	0.7%	59.7	13.7%	15.6	4.2%	33.7	0.3%

The breakdown of existing land use may be unsurprising to anyone familiar with the region. Open space, agriculture, and undeveloped lands make up the majority of land area in the region at 53.9% of the region's total acreage (about 12,000 acres). Next are residential land uses, which make up a total of 37.1% of the land area in the region (about 8,300 acres). The largest residential uses were single-family detached dwellings and country residences at 20.9% and 14.6% of the total land area in the region, respectively; no other residential land use exceeded 1% of total land area in the region. The remaining land area of the region, 9.1%, includes nonresidential and mixed use land uses. In the following sections, we'll break down each broad category of land use in the region and take a deeper dive into the implications of current land use trends.



Agriculture, Open Space and Undeveloped Lands

This land use group is made up of agriculture, undeveloped land, and public and private open space categories. Public and private land uses are split because in many cases private open space requires permission and a fee to use the facility. Public open spaces are often available for use by the public, may be limited by hours of operation, and include both formal recreation areas and protected open space.

This group makes up the largest share of the region's acreage, at just over 12,000 acres or 53.9% of the region. Within this category, agriculture makes up just under 23% of the region's land, public open space makes up 15.5%, private open space makes up 8.7%, and undeveloped land makes up nearly 7%. When driving through the region or looking at aerial imagery, this breakdown is quite apparent.

Agriculture is quite prevalent in the townships, accounting for about 19% of Marlborough's and about 28% of Upper Hanover's acreages; only a very small portion of Red Hill has agricultural designation. Public open space is the next largest category, which includes Montgomery County's Green Lane Park (and reservoir) and the many municipal parks of the region. Private open space includes private camps and clubs as well as conserved lands owned by the Natural Lands. Undeveloped lands make up similar percentages of each community, between 4-10% of the total area, with the highest acreage percents located within the townships.

Agriculture

These parcels are either primarily or exclusively used for agricultural practices. This 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 imagery and input from municipal officials. Many parcels within this category include a residence.

Undeveloped

Undeveloped land includes properties designated as vacant land under the Board of Assessment and Appeals 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, possible for a parcel to be transferred to a new owner as a vacant lot. Some of the smaller properties may not meet minimum lot requirements for land development and/or may have natural/physical constraints on development.

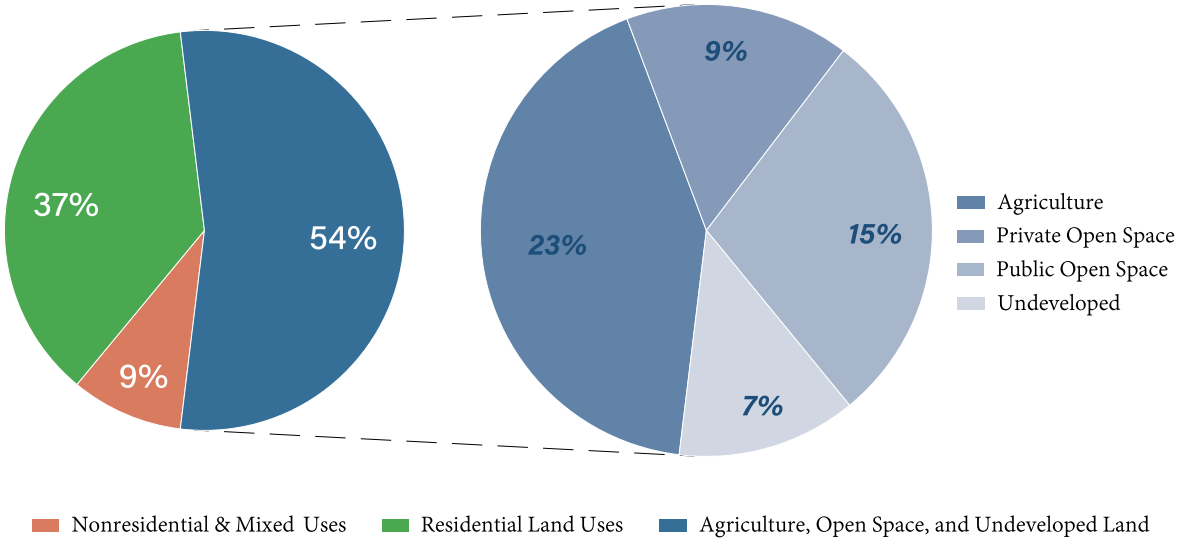
Public Open Space

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 golf courses, camps, privately preserved land, Home Owners Association (HOA) lands, and similar land 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.

Figure 17 | *Agriculture, Open Space, and Undeveloped Land Uses*



Residential Land Use

For the purposes of this plan, six distinct residential land uses are utilized. These categories are based on common, well defined styles and arrangements 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 household. It is important to note that mixed-use buildings, those containing both residential and nonresidential uses, are not covered under this section but rather under the nonresidential and mixed-use categories. The six categories are described at the end of this section.

The residential land use category totals just under 8,300 acres or 37.1% of the region's acreage. Within this category, over 95% of the acreage is made up of single-family detached dwellings including country residences. Single-family detached dwellings make up the greatest share, with 56% of this category, with country residences following at 39%, and twin/duplex make up under 3%. Single-family attached, multifamily, and mobile home parks make up a combined total of about 2% of the acreage in the region.

All country residences are located within the two townships because, generally speaking, these are the only locations with residential lots over 5 acres. Single-family detached dwellings make up high percentages across the board whether in boroughs or townships—between about 20-40% of each municipality.

Medium and high density dwellings (twins, single-family attached, and multifamily) are most prevalent in the boroughs of East Greenville, Pennsburg, and Red Hill. About 25% of residential acreage in East Greenville is made up of single-family attached dwellings and twins; this figure drops to around 16% in Pennsburg, 9% in Red Hill, under 5% in Green Lane, and under 1% in both townships. Multifamily dwellings account for just 0.2% of the region's land area and under 4% of any community's land area. Lastly, mobile home parks make up a very small fraction of acreage in the region and are concentrated in Red Hill with just under 40 acres.

Country Residence

A lot that is 5 acres or greater in size designed for and occupied exclusively as a residence for one household only and not attached to any other building or dwelling unit. It is worth noting that in some cases it became difficult to separate country residences from low-intensity agricultural uses.

Single-Family Detached (SFD)

A lot less than 5 acres in size containing a building designed for and occupied exclusively as a residence for one family only and not attached to any other building or dwelling units. This land use is distinct from the country residence category due to the differing density and character.

Single-Family Attached (SFA)

A lot containing a building designed for and occupied exclusively as a residence for one family only but which is attached to at least one other such dwelling unit. SFAs include independent outside access, have party walls in common with other dwellings, and contain at least three dwelling units. Townhouses, row houses, triplexes, and quadruplexes are typical single-family attached dwelling units.

Twin/Duplex

A lot containing a building designed for and occupied exclusively as a residence for one family only but which is attached to one other such dwelling unit. 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).

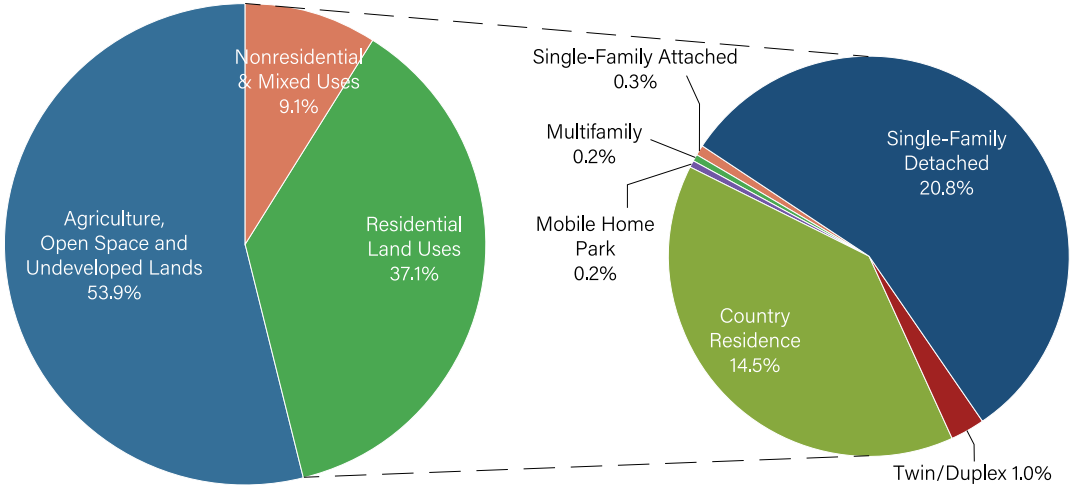
Multifamily

Multifamily 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. Multifamily 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 placed on lots owned by the mobile home owner, it is considered a single-family detached dwelling.

Figure 18 | Residential Land Use



Nonresidential & Mixed Use Land Use

Nonresidential and mixed use land uses are those that are neither exclusively residential in nature nor open space, agriculture, or undeveloped lands. The uses within this category include a wide range of forms and functions, but it was the most natural breakdown for the purposes of this chapter and plan.

The commercial and mixed use land use group makes up less than 9% of the region's overall acreage, with just over 2,000 total acres devoted to the land uses outlined above. With many public and private schools in the region, institutional makes up the largest share within this category at 36%. Closely following are industrial uses at 32%, which are primarily concentrated in and around boroughs but which are also located irregularly throughout the townships. Retail, mixed use, and offices are most densely concentrated within and around boroughs, villages, and major roadways. Utilities are spread throughout the region and, as noted above, many utilities are located within easements and thus the true acreage is not entirely accounted for.

Industrial

This category includes large industrial uses and a variety of smaller uses that are scattered throughout the region. This category includes "heavy commercial" uses, such as junkyards, due to the intensity of land use.

Institutional

Institutional uses include public and private schools, churches, cemeteries, fire companies, government uses, not-for-profit agencies, local club houses, and similar uses.

Mixed Use

This category identifies individual properties having more than one land use. Such properties have 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.

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.

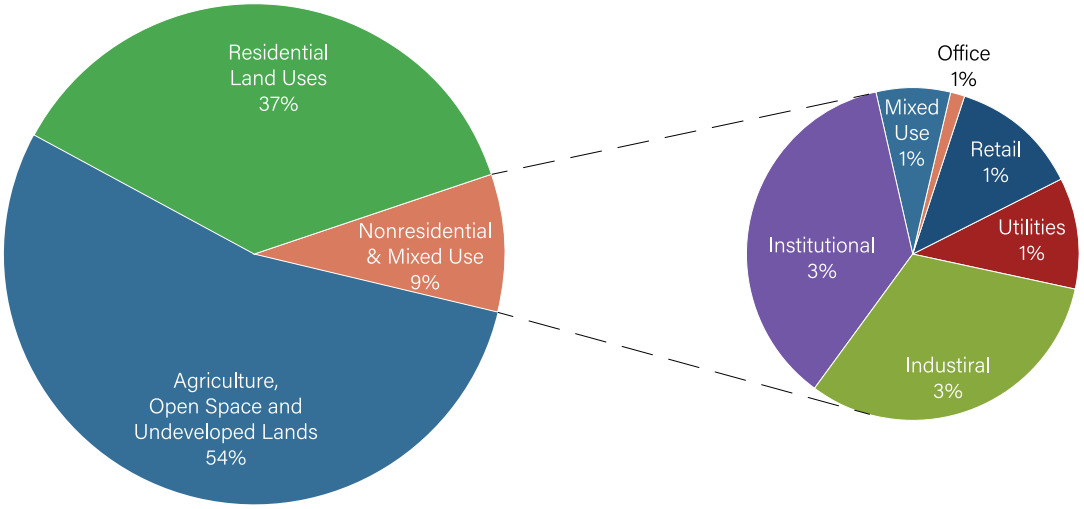
Retail

Retail includes stores, restaurants, repair shops and garages, and a variety of other commercial uses that are frequented by the general public. Many retail businesses in the boroughs are included under the mixed use category because the retail building also includes offices or dwellings.

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 19 | Nonresidential and Mixed Use Land Uses

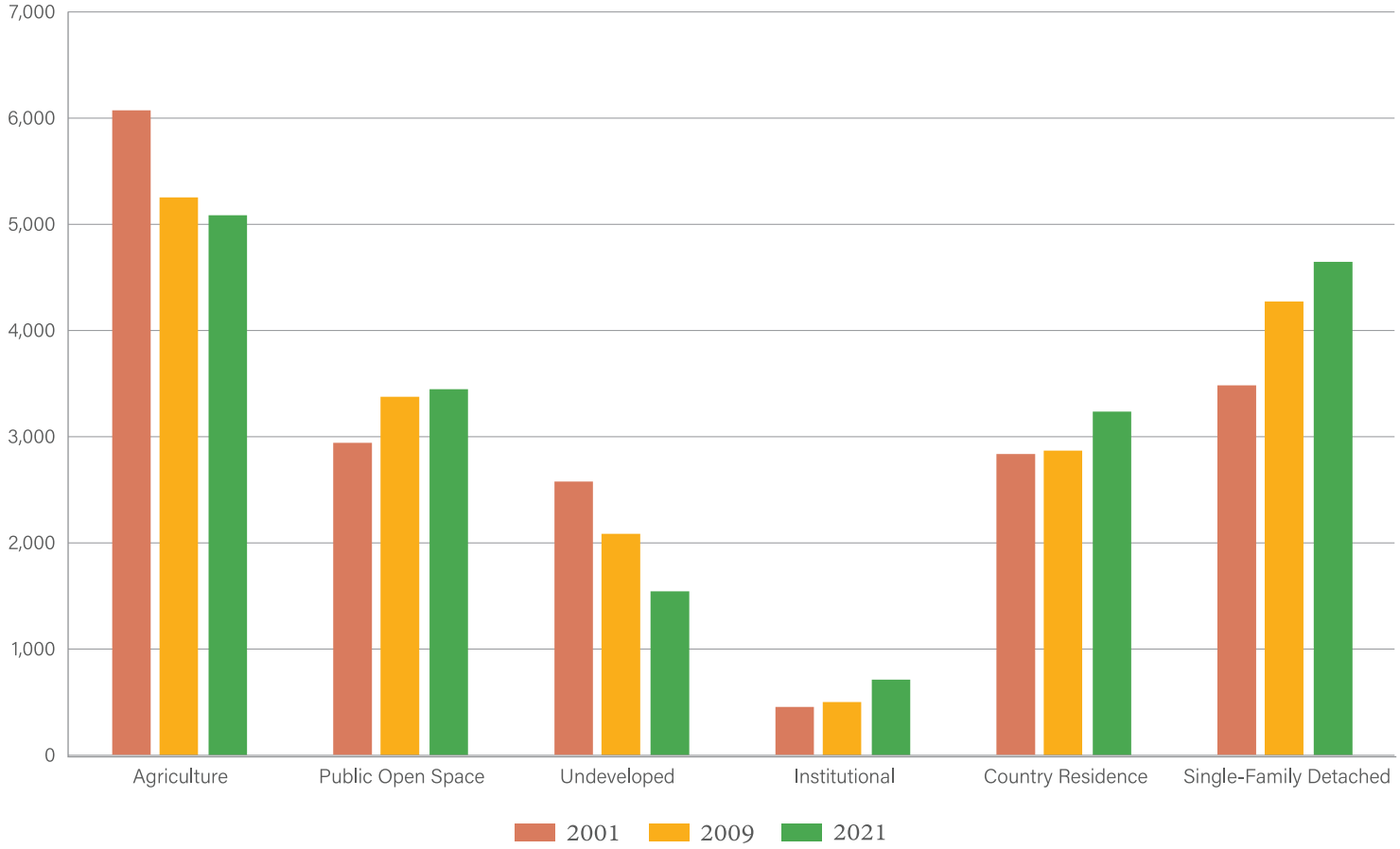


Changes in Land Use 2001-2009-2021

With two previously completed and adopted comprehensive plans, we have the benefit of looking back 20 years and examining the trends that have occurred over this horizon. Some of the significant trends are outlined in the list below and illustrated on the accompanying chart:

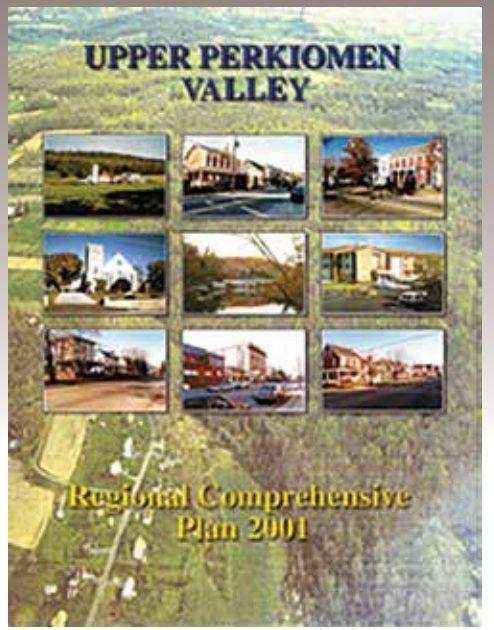
- Undeveloped land has been continually built upon and therefore seen changes in use classification over the last two decades. Between 2001 and 2009, nearly 500 undeveloped acres changed classification. Between 2009 and 2021 nearly 550 additional undeveloped acres changed classification. Throughout this timeframe, undeveloped land has been converted to just about every land use classification identified in this chapter, but the vast majority has been developed for single-family detached residential development (including country residences).
- The early 2000s brought a housing boom to the region with over 850 acres of land being developed for residential uses between 2001 and 2009. During this period, 9 out of 10 new residential acres were developed for single-family detached dwellings. Between 2009 and 2021 another 740 acres were developed for residential uses, with the bulk attributed to single-family detached and country residences. Residential development appears to have slowed down a bit between 2009 and 2021 with fewer acres being developed for lower density residential uses during this slightly longer timeframe of 12 years versus 9 years.
- The nonresidential and mixed-use group has seen significant growth over the last two decades, with institutional uses seeing particularly large gains. Since 2001, nearly 250 acres of institutional land has been developed. Over 200 of the 250 institutional acres were added since 2009, with nearly 50 acres coming with the development of the Upper Perkiomen Valley YMCA. Please note that some portion of the nonresidential gains can also be attributed to better land use classification by the BOA and MCPC since the last comprehensive plan update.
- Industrial uses are slowly losing acreage, with a 32 acre loss between 2009 and 2021. 2001 to 2009 also saw a loss of industrial land, but it was less than 10 acres. Industrial uses may be consolidating, redeveloped for other purposes, or moving out of the region. This trend could see a reversal as shipping/receiving and warehousing become more important to keeping the consumer economy running smoothly. The region overall will need to examine where such facilities should locate if there were a demand for them, and how the communities of the region can update their zoning regulations to ensure mutually beneficial development.
- Public open space increased significantly between 2001 and 2009, with an over 400 acre increase that was made possible by the region's participation in Montgomery County's open space grant program. Since the program ended about a decade ago, this trend has slowed down significantly with a 70 acre increase between 2009 and present.
- Agricultural land losses appear to have slowed significantly since 2009. Between 2009 and 2021, around 170 acres of agricultural land was lost, which amounts to about 20% of the losses that were seen between 2001 and 2009 (815 acres). Over the last 30 years, the region and the county have remained committed to preserving farmland. The County's Farmland Preservation program has preserved over 10,000 acres of farmland since its inception in 1990. Many residents in the region have opted to participate in the program, with over 1,700 acres of farmland in Upper Hanover permanently preserved. The majority of farmland in the region is not permanently preserved, but each year more farms choose to participate. For example, in 2020 a 61-acre farm in Upper Hanover was one of seven farms throughout the county to be permanently preserved.

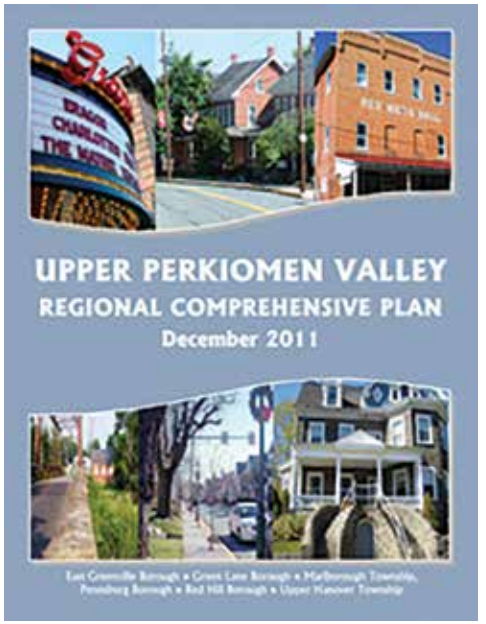
Figure 20 | *Land Use Changes: 2001, 2009, & 2021*



Source: MCPC;MCBOA

Chapter Three: **GOALS & RECOMMENDATIONS**





Introduction

The members of the Upper Perkiomen Valley Regional Planning Commission have been working toward a shared vision for the region since 2001, when the first regional comprehensive plan was drafted and the Intergovernmental Cooperative Implementation Agreement was adopted by all member communities. While the region has seen many changes over the last two decades, the regional planning commission's commitment to balancing development pressure and the desire to preserve open space and protect natural resources has held strong.

By meeting monthly to discuss land use concerns, developments of regional significance, and by collaborating on region-wide planning projects, the municipalities of the region have created a more predictable future for themselves and for one another. In looking at the dueling objectives of open space preservation and development pressure at the regional scale, the communities have been able to steer development where the necessary infrastructure is available while avoiding loss of open space. Meanwhile, farmland and open space preservation has been formalized and expanded through the targeted purchase of conservation easements for farmland and natural areas. Effective, coordinated land use policies have allowed municipalities to retain and enhance their employment centers, attract new businesses, expand their housing stock, and enhance recreational opportunities and public services for residents.

This comprehensive plan, now the third such plan for the region, is the result of the combined effort of the six municipalities of the regional planning commission. The resulting plan is the product of over a dozen working meetings where municipal representatives analyzed the ongoing trends impacting the region and discussed the long-term vision for the region. The goals outlined on the subsequent pages represent the broad aspirations for the region and set a pathway for the future. Regional planning requires municipal-level action to implement the goals

of the region, and these efforts will be discussed at regional planning commission meetings long after adoption of the comprehensive plan. Through this concerted effort, the communities of Upper Perkiomen Valley can realize their vision for the future.

Natural Resources, Parks, and Open Space Goals & Recommendations

Ensure that local laws adequately protect sensitive natural features and promote the preservation thereof

Lake Skymount, Marlborough Township

► Designate growth, conservation, and rural resource areas on the future land use map in order to promote development that occurs in a targeted, orderly, and deliberate fashion. Align municipal zoning district designations with the regional future land use plan.

► Mitigate natural land loss by promoting low-impact subdivision development regulations (e.g., cluster or conservation subdivision) and by steering development to previously developed areas, such as boroughs, as infill or redevelopment.

► Review the natural resource preservation requirements of municipal subdivision and land development ordinances. Promote a regional standard for the preservation of sensitive site features including floodplains and watercourses, wetlands and water bodies, steep slopes, woodlands, and riparian corridors.

► Evaluate municipal floodplain ordinances to ensure consistency with FEMA and DCED regulations. Consider development of a floodplain ordinance that is uniform throughout all municipalities of the region.

► Improve water quality in the region by ensuring that all municipalities in the region have riparian buffer ordinances that require the preservation of riparian zones during the development process. Consider development of a riparian buffer ordinance that is uniform throughout all municipalities of the region.

► Establish policies at the municipal and regional level to address forest and habitat fragmentation. Ensure that proper due diligence is undertaken prior to allowing the destruction of woodlands or other natural communities.

► Municipal ordinances should be reviewed and updated as needed to require the planting of street trees and other on-site trees of varying sizes and species through the land development process. When large, existing trees are proposed for removal during land development, replacement trees should be required. The region should consider creating a list of recommended and prohibited tree species, which should be informed by DCNR's list of invasive plants and by the existing mix of tree species in the region.

► Collaborate with land preservation groups, such as Natural Lands, to encourage owners of undeveloped land to allow for the purchase of

conservation easements. Prioritize areas with pristine viewsheds and natural linkages of woodlands and creek corridors.

A farm in Upper Hanover Township.

Preserve and protect agricultural land throughout the region

- Ensure the preservation of land with prime agricultural soils by zoning for limited density and by allowing or encouraging agricultural land use.
- Continue to permanently protect agricultural land by encouraging participation as in the Montgomery County Farmland Preservation program.
- Recognize farmers/families that have been integral to the region through municipal or regional recognition at set milestones (10-year, 25-year etc.) for continued ownership/operation of farms and encourage eligible farmers to apply for recognition in the PA Department of Agriculture Century and Bicentennial Farm Program.
- Ensure that eligible property owners are enrolled in the "Clean and Green" preferential tax assessment (Act 319), those properties being any that are 10+ acres in size and in agricultural use/reserve (or smaller properties that have a $2,000 annual income from agriculture) or forest reserve. Lessening the tax burden on these properties can encourage conservation/preservation to rebuff development pressure.

Continue to provide parks and recreation facilities that suit the needs of the region; explore expanding recreational opportunities

- Continue to maintain existing parks and recreation areas by municipal staff and volunteers.
- Consider the construction of new trails within existing municipally owned open space properties. The design of trails, particularly the surfacing material, will required careful consideration to avoid unnecessary impacts on potentially sensitive natural areas.
- Explore enhancements to existing parks that may be underutilized. Prioritize the replacement of outdated play equipment, the addition of loop trails internal to parks and that connect to the sidewalk network, the planting of trees and the addition of landscaping, and the addition of passive recreational amenities such as benches.
- Require recreational amenities to be provided alongside new development. Ensure that municipal ordinances adequately prescribe such requirements.
- Prioritize the addition of ADA-accessible amenities, such as pathways and play equipment meeting ADA standards.

► Encourage collaboration between the six municipalities and establish park and trail partnerships, similar to Red Hill and Upper Hanover's cooperation on Centennial Park.

Enhance connectivity between parks and neighborhoods through networks of sidewalks, bike lanes, trails, and greenways

► Create safe linkages between residential areas and parks through the provision of sidewalks of an adequate width, bike lanes or other bicycle facilities (sharrows), and trails.

► Require the provision of sidewalks, pathways, trails, and bicycle facilities as part of the land development process.

► Require the provision of streetscape enhancements during the land development process. Possible amenities may be street lighting, benches, trash/recycling bins, street trees, and bicycle racks.

► Continue to expand the greenway system through deliberate acquisition and requiring trail connections during the land development process.

Establish a regional stewardship program based on the recommendations of the Multi-Regional Greenway and Stewardship Study

► Institute the stewardship plans outlined in the study as pilot projects. Following stewardship action, monitor areas of success and failure. Adapt future stewardship plans and actions utilizing this knowledge to ensure success in all projects.

► Consider the creation of a Friends of the Upper Perkiomen Valley Group or an organization of "Friends of" groups for each of the core parks. Volunteer groups can organize work days for stewardship projects to enhance existing assets and more quickly identify issues affecting a given property than municipal staff. Local models for "Friends of" groups can be found in the Friends of Green Lane Park or Philadelphia's Friends of the Wissahickon.

► Promote parks and open space areas as locations for environmental education. Simple interpretive signage can allow passersby to appreciate the natural resources that they are enjoying. Teachers can utilize natural areas to get children into an "outdoor classroom" to enhance learning and spur appreciation for the natural environment early on.

► Train municipal staff on proactive stewardship actions such as the identification of invasive plants and pests, the proper way to apply

Bider Park, East Greenville

pesticides, and the proper way to plant and prune trees/vegetation. These actions can lessen workloads when parks require less reactive or emergency maintenance.

Community Facilities Goals & Recommendations

Coordinate water and sewer improvements at the regional level

- Align the future growth area boundary with the water and sewer service growth areas. Where water and sewer expansions are not planned, ensure that zoning and land development regulations only allow for low-density and low-intensity development that can operate with private water and septic facilities.
- With many local Act 537 plans decades old, it is recommended that all municipalities revisit their plans and update them to reflect existing conditions as needed.
- Ensure the continued operation of on-lot disposal systems through a program of continued monitoring and improvements. Municipalities with large number of on-lot disposal systems should consider a regular inspection or certification program to avoid failure of existing systems.

Green Lane Fire Company is also home to Green Lane Borough Hall

Ensure that the needs of all residents are met through municipal government, public safety agencies, and educational institutions

- Review the existing network of emergency response agencies (police, fire, and EMS) and ensure that the needs of each municipality are met.
- Explore new public safety technologies that could be deployed within the region to improve the efficiency of the transportation network; identify and apply for grant funding to acquire said technology.
- Continue to engage with the Upper Perkiomen School District in regional planning. Explore opportunities for collaboration, such as involving students in regional planning through targeted public engagement (e.g., visioning sessions).

Encourage the recycling of productive materials and the safe disposal of potentially hazardous materials

- Increase recycling rates and reduce solid waste generation across the region. Ensure that residents are fully aware of what materials may be recycled and thereby not be discarded with trash.
- Increase electronics recycling through regional collection events. Explore partnerships between municipalities, with homeowners associations or neighborhood groups, nonprofit agencies, local businesses, and community organizations.
- Review the feasibility (cost/benefit) of municipal waste and recycling programs where they do not currently exist. Municipal programs may be more cost-effective and efficient than private contracting.

East Greenville Borough Hall is located within a former church—an early example of adaptive reuse

Efficiently and effectively manage stormwater

► Update municipal subdivision and land development ordinances and zoning ordinances to limit the amount of impervious surfaces permitted for new development and require stormwater best management practices (BMPs) to ensure that stormwater is managed on-site.

► Ensure that municipal stormwater management ordinances are updated with modern best practices.

► Inventory existing municipal stormwater facilities and integrate them into a GIS database that can be easily referenced and updated.

► Consider the adoption of Official Maps at the municipal level which feature existing and proposed stormwater management facilities.

► Conduct outreach and educational events that shed light on the importance of stormwater management and the impacts of pollution.

Transportation Goals & Recommendations

Address existing concerns with the transportation network, strategically plan for future improvements, and prepare for the deployment of emerging technologies

► Continue annual municipal capital improvements to address deficiencies with roadways. Explore long-term solutions to persistent problems, such as upgrading traffic signals to be better actuated and responsive to present traffic conditions.

► Prioritize transportation improvements during the land development process to diffuse costs.

► Identify areas of the region that could see future warehousing and distribution interest; update zoning to encourage such uses within targeted areas and discourage such uses where they could adversely impact the region.

► Install electric vehicle charging stations across the region. Update zoning ordinances to require or incentivize the installation of EV charging stations and explore funding opportunities for municipalities to install charging stations at municipal facilities (e.g., parks and municipal buildings).

► Identify regionally-significant rural and scenic roadways; draft ordinances to preserve and enhance scenic corridors.

► Collaborate on a regional complete streets policy and/or adopt municipal-specific complete streets policies.

► Consider opportunities to link our communities with existing public transit systems to improve connections for employment and leisure within the greater Philadelphia region.

Maintenance of existing roadways and bridges is an ever-present objective

Improve the pedestrian and bicyclist experience in the region

- ► Develop and promote a regional multi-use trails network plan.
- ► Develop and promote a regional bicycle route map featuring existing connections and identification of future bicycle routes.
- ► Ensure that new development within the boroughs includes the provision of sidewalks that meet the best practices for the type and scale of development. Update zoning ordinances and subdivision and land development ordinances to reflect ideal development.
- ► Conduct targeted walkability studies within the communities of the region; utilize findings in pursuing grant funding to implement targeted improvements.

Construct sidewalks strategically to improve connectivity between communities, particularly between the three contiguous boroughs.

Cultural Resources Goals & Recommendations

Promote the preservation and continued use of historic structures and sites in the region

- ► Encourage owners of private property that is eligible for listing in the National Register of Historic Places to apply to be listed. Offer technical assistance (MCPC) to prospective applicants.
- ► Promote the reuse of historic buildings, especially large industrial or institutional buildings, by creating a regulatory environment that rewards adaptive reuse. Specific regulatory options may be the creation of a historic overlay zoning district that permits a wide range of uses, waives some or all parking requirements, permits building additions/expansions that do not detract from the existing building, and which generally makes the approval process smoother and more predictable for prospective developers.
- ► Preserve the integrity of intact historic neighborhoods and villages by adopting design standards for new construction that allows for the compassionate integration of new construction within the built community.

The Perkiomen Trail connects Green Lane to the multicounty trail system

Swamp Creek Road Bridge, a historic resource

Promote the history and significance of the region and its early settlers

- ► Educate the general public on the benefits of owning a property that is listed in the National Register of Historic Places.
- ► Provide targeted outreach to residents of eligible historic districts, as inventoried in this chapter. Through outreach, dispel misconceptions about the National Register and promote the benefits to property owners.

- Create a regional cultural tourism program by inventorying historic resources and creating a guidebook or similar public document to guide visitors of the region.
- Bring together local historical societies and museums, educational institutions, municipal governments, property owners, and historians to host history-focused events. Haunted history tours during the Halloween season and winter holiday events have proven to be effective in many communities across the country.
- Work with owners of historic properties to get historic site markers or interpretive signage installed on their properties.
- Consider a regional or municipal program of recognizing standout stewards of historic properties.

Economic Development Goals & Recommendations

Continue to support the redevelopment and enhancement of the Main Street corridor

- Continue to enhance the mix of uses along the Main Street corridor by ensuring that an appropriate mix of uses are permitted. Permit and possibly incentivize mixed-use development that offers upper-story apartments and street-level commercial space.
- Enhance the streetscape of Main Street by securing funding to install new benches, public trash cans, street trees, and street lamps.
- Maintain the historical architecture of the corridor by encouraging the adaptive reuse of existing buildings and by adopting design guidelines or standards. Explore the feasibility of intermunicipal, corridor-wide design guidelines.
- Pursue funding for a facade improvement program along targeted blocks.
- Due to the lack of healthcare options in the corridor, consider outreach to local healthcare systems to determine if there are regulatory or structural barriers at play. Consider incentivizing the siting of small, satellite offices in areas accessible for residents.

Large buildings such as this are ideal candidates for mixed-use development.

Promote and enhance the agricultural, environmental, cultural, and historical tourism industries in the region

- Agritourism and outdoor recreational tourism could become an economic driver in the Townships of Marlborough and Upper Hanover, but there may be barriers to such at this time. Municipalities should take a hard look at their agricultural and open space focused zoning districts and consider permitting limited commercial expansions for such facilities. Associated or complementary uses, such as cafes and brew pubs on farms, should also be permitted on a limited basis on-site and nearby to recreation and agricultural uses.

► Perhaps no region of the country can boast such a long and storied history as the Greater Philadelphia area, and the Upper Perkiomen Valley should use this link as a springboard for a regional cultural and historical tourism program. The region should lean into the history and culture of early settlers of the region, which is well documented by local organizations who can be brought in as strategic partners in this process.

Ensure the continued viability of the region's commercial and industrial operations as employment centers and as community assets.

► Consider undertaking a master planning process for the region's shopping centers.

► Plan for warehouses on Route 663 in a concerted way.

► In order to accommodate the constant changes in the industrial sector, ensure that zoning ordinances are adequately flexible in allowing new or innovative uses while considering the impacts on the community.

► Consider the long-term viability of the region's industrial zoning districts. Examine updating zoning district boundaries to reflect where industrial development is currently occurring, and study rezoning industrial districts that have not seen interest in recent years.

Housing Goals & Recommendations

Provide a variety of housing types in appropriate areas throughout the region in order to address the current and future needs of households of all types, ages, and incomes.

► Direct residential development to appropriate areas throughout the region, as determined by the future land use map. All municipal zoning ordinances must reflect the future land use goals of the regional comprehensive plan, so it is imperative that municipalities carefully consider where they will permit certain housing types. Medium- and high-density residential development should only be permitted in areas where existing public water and sewer is available or planned for, which would generally be within and around the boroughs.

► Continue to provide the region's "fair share" of high-density and multifamily residential housing within and surrounding the boroughs, where such housing types are prevalent and warranted.

► Encourage "missing middle" housing types as infill development and as part of large-scale residential development. Update the SALDO and zoning ordinances at the municipal level to calibrate how different housing types could be integrated into the existing community. When it comes to large-scale development, municipalities should consider requiring a certain level of diversity in dwelling unit type

Large-scale industrial operations are integral to the region

Above: A Northgate building under construction

Below: A completed building in Northgate

and layout. For example, a municipality may require that no more than 25% of proposed units have the same number of bedrooms.

- Identify areas of the region, such as specific municipal zoning districts, where age-restricted development could be provided. Age-restricted development should be provided in a variety of styles and layouts including condominiums, apartments, assisted living facilities, and nursing homes.
- In areas of low owner-occupancy, examine the contributing factors and potential roadblocks. Consider options that would increase homeownership rates, such as education and low-interest loans or grants assisting with closing costs.

The Willows at East Greenville provides income-restricted apartments within a National Register historic building, the Boyertown Burial Casket Company

Exposed rock outcrops along the shore of Green Lane Reservoir

Chapter Four: **NATURAL RESOURCES, PARKS, & OPEN SPACE**

Goals

Ensure that local laws adequately protect sensitive natural features and promote the preservation thereof

Preserve and protect agricultural land throughout the region

Continue to provide parks and recreation facilities that suit the needs of the region; explore expanding recreational opportunities

Enhance connectivity between parks and neighborhoods through networks of sidewalks, bike lanes, trails, and greenways

Establish a regional stewardship program based on the recommendations of the Multi-Regional Greenway and Stewardship Study

Introduction

The Upper Perkiomen Valley is defined by pristine natural environments and by the many farms and parks that dot the landscape. The region has done a remarkable job in maintaining its rural character despite continued population growth, which was made possible by the efforts of municipal leaders, community members, and through partnerships with Montgomery County and other organizations. This regional mindset endorsing the importance of open space and natural resource preservation persists today, with 39% of community survey respondents ranking natural resource preservation as one of the top five priorities for the region moving forward.

The region remains fully committed to the continued protection and preservation of natural resources while planning for future growth and development. It is no secret that development often comes at the expense of open space; however, with careful planning and an understanding of the region's natural resources, the Upper Perkiomen Valley can maintain its rural character while accommodating anticipated growth and development.

Throughout this chapter we will describe the natural systems of the Upper Perkiomen Valley, inventory and analyze the regional system of open space, review best practices in the stewardship of these important resources, and outline the region's goals and objectives as they relate to natural resource conservation, open space preservation, and the provision of outdoor recreational opportunities.

Geology

Bedrock geology is quite literally the foundation upon which all surface activity depends. The varying geology in the region has been the unseen hand that has guided the location of natural and manmade features. Geology is responsible for the location and features of surface and ground water, the topography of the landscape, the vegetation and accompanying ecosystems, and ultimately sets the pattern of human development. It is no coincidence that much of the region features low density residential development; this pattern of development is due to the limiting factors of the geology and the associated soils.

The bedrock formation in the Upper Perkiomen Valley dates back 150-180 million years to the Triassic Period. Once the bedrock formation was established, the natural forces of wind, water, gravity, and chemical activity slowly crafted the landscape that we see today. These forces created a varied and incredibly beautiful landscape that has a variety of soil types, diverse and complex ecosystems, varying slopes, and vast elevation changes ranging from 200 feet to 715 feet above sea level, a county high at the peak of Mill Hill in Upper Hanover.

Brunswick Shale

Brunswick shale is found under most of the Upper Perkiomen Valley, except where diabase intrusions are found. This bedrock is typically reddish-brown shale, mudstone, and siltstone and is moderately resistant to weathering. 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. Part of the formation can be an excellent source of lightweight aggregate and material for common brick.

Diabase

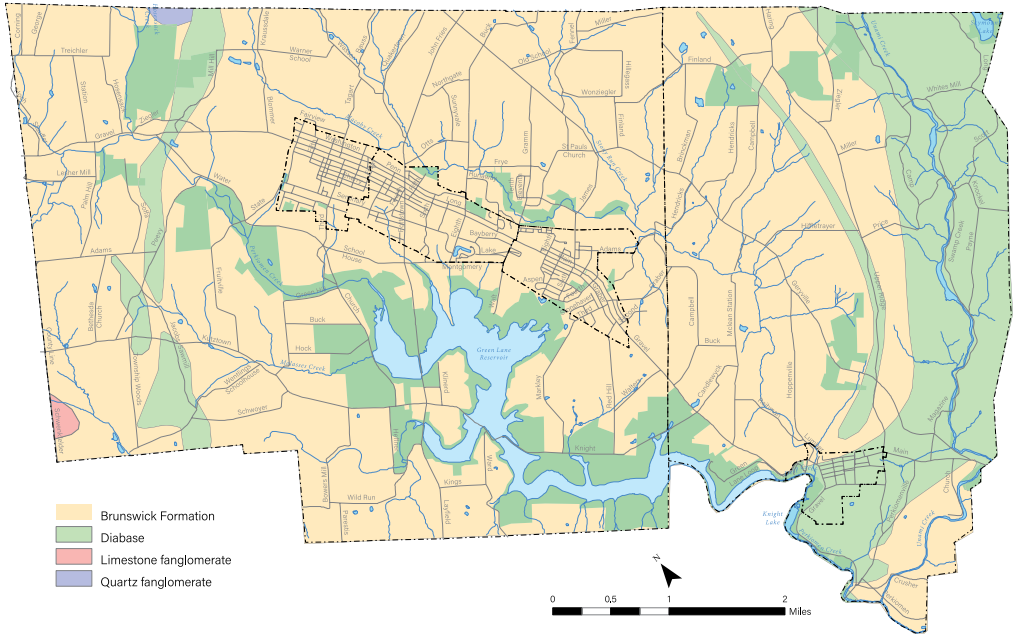
Diabase is igneous bedrock that was forced into large cracks in the surrounding Brunswick formation. Often referred to as "black granite," it is usually black, dense, and very fine-grained. The molten diabase intrusions transform adjacent areas of Brunswick shale into a hard black or gray slate known 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 erosion, weathering, water infiltration, and groundwater movement. Areas of diabase are often steeply sloped and wooded, with numerous surface outcrops and boulders. Excavation requires considerable blasting, and large boulders present special problems.

The major intrusions of diabase do not impact the Boroughs of East Greenville, Pennsburg, and Red Hill, and affect only a narrow strip through Upper Hanover, from Mill Hill to Douglass Township. However, almost all of Green Lane Borough and large areas of Marlborough Township are underlain by diabase. These intrusions have had an interesting effect on the topography of the region, creating a circle of ridges which almost entirely surrounds the Upper Perkiomen Valley regional planning area.

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. Hornfels are omitted from Figure 4.1 however, as noted above, hornfels occur in the Brunswick shale.

Figure 21 | Geology of the Upper Perkiomen Valley



Soils

Soil sits on top of bedrock and further guides the development and use of land. Soil is produced over many years as the underlying geology is weathered, breaks down, and mixes with organic materials. Soils throughout the Upper Perkiomen Valley vary in color, mineral characteristics, fertility, texture, erodibility, depth to bedrock, and depth to groundwater. Due to the interactions of these factors, soil can have a drastic impact on land use.

County, regional, and municipal officials and community members have promoted the preservation of prime agricultural soils for several decades

Agricultural Soils

Prime farmland, farmland of statewide importance, and "other land" are the three soil classifications used for determining a soil's agricultural value by the Natural Resources Conservation Service of the U.S. Department of Agriculture. Their value is based on the fertility, depth to bedrock or groundwater, texture, erodibility, slope, and the 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 requires careful crop management. Agricultural use of the "other" soils is generally limited to pasture and woodlands.

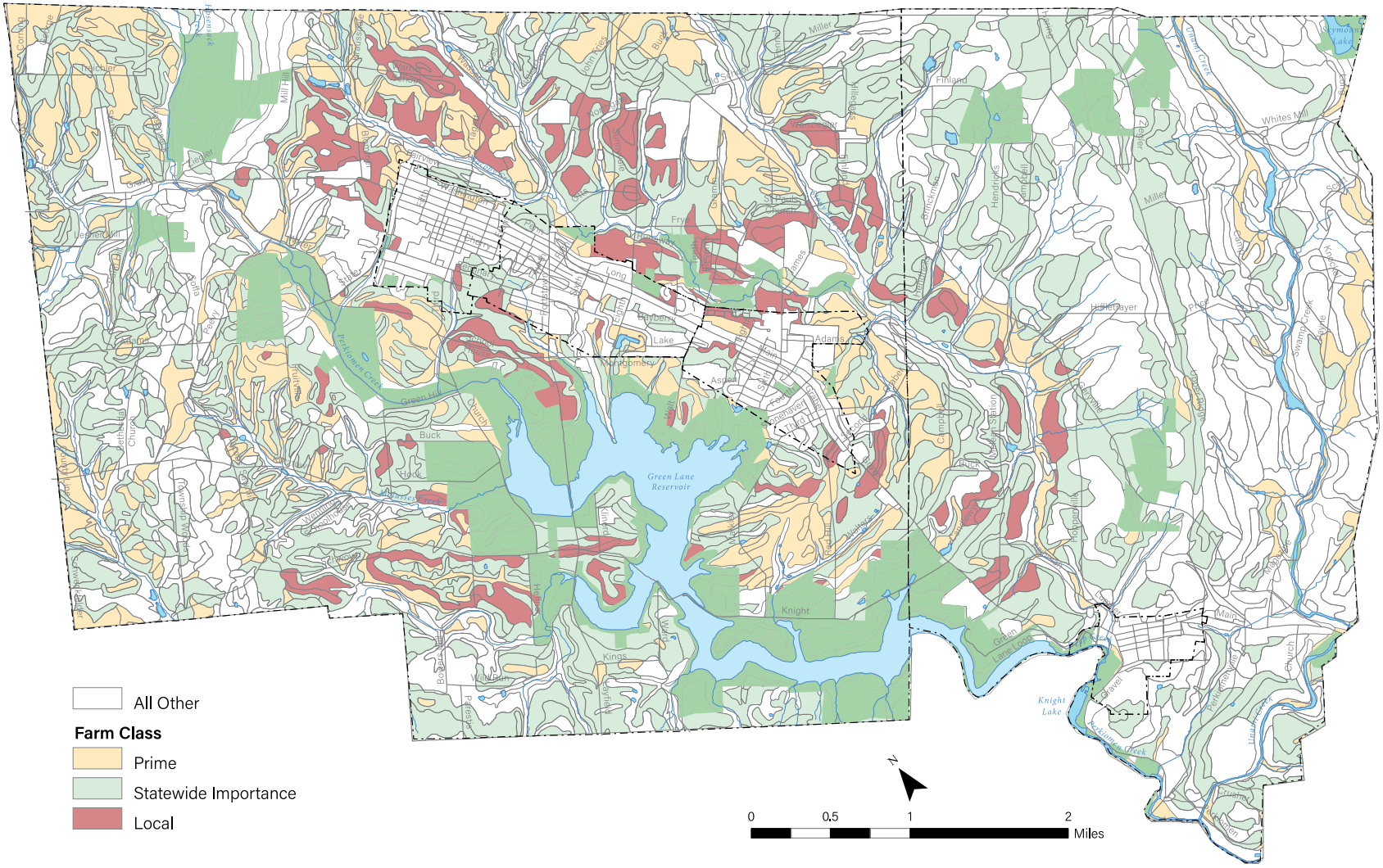
As discussed elsewhere is this plan, the preservation of agricultural land is a high priority for the region: agricultural preservation was yet another top five priority for respondents of the community survey (with 41% of respondents indicating such). The presence of productive agricultural soils is not something that can be recreated after its quality is eroded or it is put to other use. For these reasons, the communities of the Upper Perkiomen Valley need to maintain a united front and encourage the continued presence of agricultural operations in their communities.

One tool that municipalities can use to encourage agricultural use is the creation of an agricultural security area. Upper Hanover Township has nearly 3,000 acres of land within an existing agricultural security area. This district is 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 areas are eligible to sell their development rights. The development rights of many farms in Upper Hanover Township have already been sold to Montgomery County and other conservation organizations under its farmland preservation program; this program will be explored in more detail in the following chapter.

Hydric Soils

Hydric soils are those soils that are periodically wet due to poor drainage, shallow/high water tables, and slow rates of permeability. Due to these factors, the presence of hydric soil is one of the factors used to determine the presence of a wetland. Development on lands that have hydric soils is generally not preferable, given that extensive engineering is often required. Hydric soils also limit the feasibility of on-lot disposal, due to the already moist conditions of the soil.

Figure 22 | Agricultural Soil Classes of the Upper Perkiomen Valley



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 precipitation, waterways, wetlands, and groundwater supplies.

Precipitation

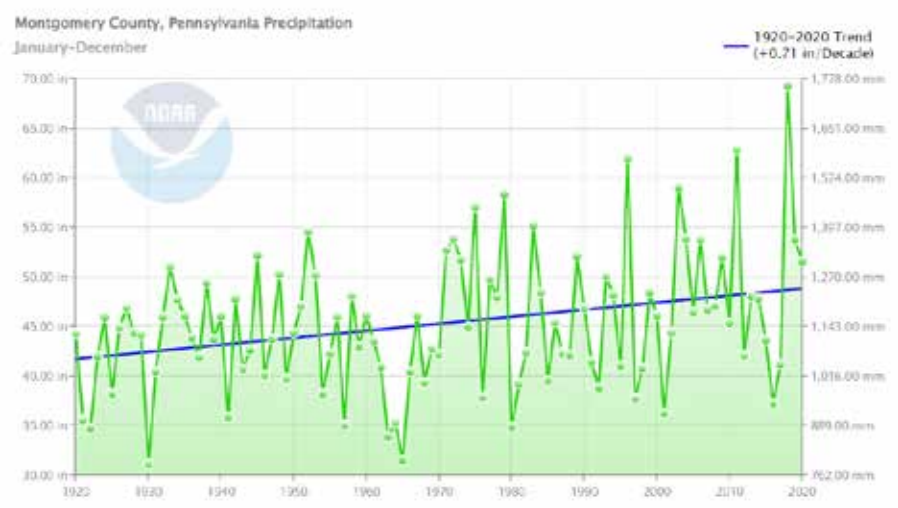
The average precipitation in Montgomery County has been 49.4 inches per year between 2010 and 2020. Of the roughly 50 inches of annual precipitation that occurs, about 25% becomes direct surface runoff, 50% evaporates or is transpired by plants, and 25% replenishes groundwater.

Over the last century, there has been an observed trend of annual precipitation increasing by 0.7 inches per decade in the county. 2018 saw the greatest precipitation in the last century at nearly 70 inches, which is about 40% more rain than the 10-year average. As extreme precipitation events continue to occur more often and in greater intensity, it will become increasingly important to properly manage stormwater.

Surface Waters

The entirety of the Upper Perkiomen Valley is located within the Perkiomen Creek watershed, which all-told encompasses over 362 square miles throughout the counties of Montgomery, Berks, Lehigh, and Bucks in Pennsylvania. Over 60% of the land area of the Perkiomen Creek watershed, about 220 square miles, lies within Montgomery County; this amounts to 45% of the land area of the county and positions the Perkiomen Creek watershed as the largest in the county. The Unami, Macoby, Hosensack, Swamp, and Skippack Creeks, the East and West Branches and Main Stem of the Perkiomen Creek, and the manmade Green Lane Reservoir are all within the Perkiomen Creek watershed.

Figure 23 | *Precipitation in Montgomery County, 1920-2020 (NOAA)*



The Ridge Valley Creek and Unami Creek, which are part of the larger Perkiomen Creek watershed, are designated as high quality waters by the commonwealth. This designation is bestowed only to those waterways that have been shown to have high water quality over the long-term, as determined by monitoring contaminants in the waters. High quality designation indicates that the waters can support the propagation of fish, shellfish, and other wildlife. The designation as a high quality waterway puts limitations on discharge into the waters, which is aimed at maintaining the high quality of the water.

Groundwater

An aquifer is a body of rock that retains groundwater. Aquifers are replenished when surface water and precipitation infiltrates the soil and it slowly seeps deep into the ground. The quantity and quality of water available for extraction is highly dependent upon the type of bedrock

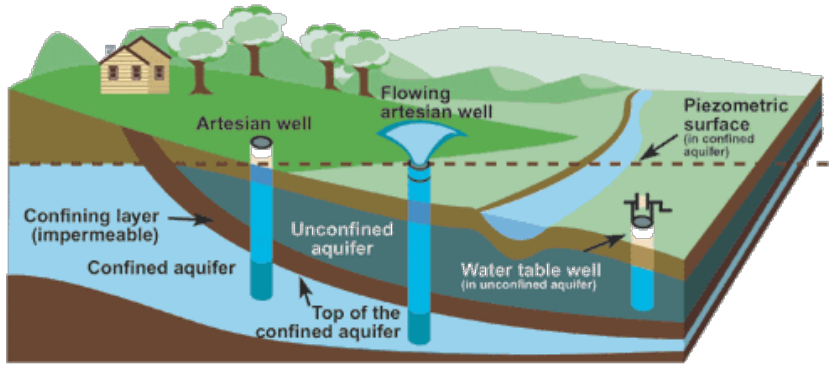
formation. The geology of the region has created a beautiful and varied landscape, but the suitability for groundwater supply vary based on the geologic formation present.

Geologic Impacts on Groundwater Supply

The Brunswick formation is relatively porous and can generally be relied upon for small to moderate quantities of groundwater. Wells drilled deeper than 200 feet into Brunswick shale can yield over 100 gallons per minute (sometimes much more). Many factors, such as spacing between wells and groundwater recharge levels, impact the availability of groundwater in Brunswick shale formations.

The diabase formation, on the other hand, is generally less suitable for groundwater capture. The formation has some fractures near the surface that allow for minimal absorption of water. Groundwater movement within diabase is slow and it is known for low well yields of under 10 gallons per minute. Fracture zones, however, sometimes represented by stream valleys or gullies provide the best locations for wells supplied by diabase aquifers.

Figure 24 | Aquifers and Wells (USGS)



Groundwater Recharge & Availability

Groundwater supplies can only remain viable so long as they receive adequate recharge and remain unpolluted. Aquifer recharge areas are those locations that allow for water to infiltrate the surface, seep into the earth, and recharge groundwater supplies (aquifers). Luckily, the remaining areas of prime aquifer recharge, such as faults in bedrock, are generally located in areas that would not be at high risk from development. These aquifer recharge areas are often located in areas featuring steep terrain, in areas that have hydric and alluvial soils that are unsuitable for development, or areas that are heavily vegetated such as forests. It is important to understand that as water penetrates the ground, it brings with it dissolved and suspended substances that may adversely impact water quality. However, as the water slowly moves through the soil much of the contaminants are filtered out and trapped, thereby removing the contamination from the water. It is of the utmost importance to public health to (1) have an adequate supply of water available to residents and, (2) to ensure that available water supplies are suitable for consumption.

On-lot wells tapping into groundwater supplies are the primary water source for Marlborough Township and Green Lane Borough, as well as portions of Upper Hanover Township. The suitability of a lot for an individual well depends greatly upon the underlying geology with specific areas of intense development being feasible over Brunswick bedrock, as explored throughout this chapter. On-lot septic systems are, perhaps surprisingly, an excellent source for groundwater recharge. These systems are designed to filter residential wastewater and allow it to return to the ground, whether through a drain field or via spray irrigation, which can replenish as much as 50% of the water that enters the system.

Although supplies may generally be adequate for individual homes, there may be periods of drought when supplies run low and some wells become dry. If wells are not drilled deep enough or are not adequately spaced, there is a higher likelihood of water supplies dwindling during these periods of drought. During the subdivision and land development process, the reviewing agencies must carefully consider the implications of the development not only on the community and its infrastructure, but also the implications for groundwater recharge areas and nearby wells.

Wetlands

Wetlands were once considered to be junk land that had little value and were often drained or filled-in, but now the true value of wetlands is on full-display in their absence. Wetlands are designated as such when the following three factors are met: hydric soil is present, hydric vegetation is present, and the area is regularly saturated with water (although saturation need not be ever-present). The US Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) is an expansive roundup of wetlands that exceed one acre throughout the country, however the NWI does not make any claim to be a complete count of wetlands. In order to get an accurate understanding of the presence and characteristics of a wetland, it is critical that a wetlands delineation study be undertaken. Wetlands delineation studies must be carried out by qualified professionals and involve extensive field work when the surveyor will determine the boundaries of all wetlands and watercourses/waterbodies and take note of the makeup of the wetlands (soils and vegetation present, etc.).

Wetlands are not only critical habitats for wildlife, but also a key "sink" for stormwater and carbon storage

Although wetlands are estimated to cover only 1.4% of the land area of the commonwealth, it is estimated that over 80% of animals listed on the Pennsylvania list of endangered and threatened species depend upon wetlands at some point during their life cycle (National Water Summary for Pennsylvania, NFWS). Alongside the global loss of wetlands over the last several decades, we have seen a continued decline in biodiversity and the rate of species extinctions is now at a pace that we have not seen in millennia.

In addition to their value as the traditional home of many species, wetlands act as enormous sinks for the storage of stormwater. The US Environmental Protection Agency reports that the hardwood-riparian wetlands along the Mississippi River once stored over two months of stormwater, but with decades of wetlands loss it can now store less than two weeks' worth. This dramatic and marked decline in stormwater retention causes flooding to be of a greater volume and flow faster, because wetlands along flowing waterways also slow down the flow of floodwaters when in their natural state. Wetlands can be constructed, however mimicking nature is no easy feat. Constructed wetlands can be an excellent way to trap and naturally filter stormwater if properly designed and maintained. The US EPA publishes *A Handbook of Constructed Wetlands*, which acts a guide for creating wetlands to manage agricultural and domestic wastewater, coal mine drainage, and stormwater generally.

During the land development process, municipalities should require that 100% of any wetlands identified in a wetlands delineation survey be retained. In addition to retaining the entirety of a wetland, it is also critically important to require at least a 25-foot buffer between the edge of the wetlands and any disturbance; this buffer area may be naturally vegetated and, if not, would generally benefit from the addition of appropriate plantings. It is important to note that the both the Commonwealth of Pennsylvania (DCNR) and the US Army Corps of Engineers have strong regulations when it comes to wetlands protection.

Floodplains & Riparian Corridors

Areas subject to flooding and riparian corridors often go hand-in-hand and are yet another important aspect of the natural systems in the region. Areas that are subject to flooding generally expand outward from watercourses into areas that either are or were riparian zones prior to human development. Areas subject to flooding should not generally be inhabited or developed due to the risk to life and property, but this has not stopped decades of building homes in the floodplain. Protection of riparian areas and flood-prone areas will, in almost all cases, reduce flood risk in nearby locations and downstream. Over half of community survey respondents indicated that they were worried about river flooding and 43% indicated that they were worried about street flooding, both of which signal community awareness of local flood risk. It is incumbent on the communities of the region to protect riparian corridors, which is the best and one of the only ways to protect residents from current and future flood hazards.

Studies show up to 88% of nitrate and 76% of phosphorus is reduced after agricultural runoff passes through a forested riparian buffer

Floodplains are the areas of land that are inundated during a flood, and a flood is defined by the Federal Emergency Management Agency (FEMA) as "a general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties." The definition goes on to state that there are four types of flooding: overflow from inland or tidal waters, unusual and rapid accumulation or runoff of surface waters from any source, mudslides, and collapse or subsidence of land along the shore of a lake or similar water body. In order to relay the potential risk of flooding in a location, FEMA categorizes flood risk in three categories, each of which has several "zones" that are noted on FEMA Flood Insurance Rate Maps (FIRMs):

- **Special Flood Hazard Area (SFHA).** The SFHA is the area that is likely to be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1% chance flood is commonly referred to as the "100-year flood" which can be deceiving, seeing as a 1% chance per year translates to a 26% chance to occur during a standard 30-year mortgage period.
- **Moderate flood hazard areas.** This area falls between the extent of the SFHA and the extent of land that has a 0.2% annual chance of a flood event being equaled or exceeded in any given year. This area is often referred to as the "500-year floodplain."
- **Areas of minimal flood hazard.** These areas that would not generally be at risk of flood events encompass everywhere else that was not accounted for in the SFHA or the moderate flood hazard area.

Flood insurance is often necessary for those who live within the SFHA. FEMA requires that a flood insurance policy is held by anyone that has their mortgage from a federally regulated or insured lender. Municipalities in Pennsylvania are required by law to adopt ordinances that address

existing structures and proposed development within the SFHA. Whenever possible, development should be discouraged in the special flood hazard area and development in the moderate flood hazard area should be limited. Municipalities should zone flood-prone areas for open space purposes and allow for only the most necessary development.

Riparian areas are the corridors that run along waterways. Riparian areas are often densely forested with a diverse understory that is home to a wide array of plants and animals. The benefits of riparian corridors are numerous: they act as filters that remove contaminants from water as it approaches and enters the associated waterway, are critical wildlife habitats, moderate water temperature, aid in groundwater recharge, and help prevent streambank erosion and the associated water quality degradation that occurs as soil and other contaminants are dissolved and suspended in the water. In order to protect these important natural resources, the Montgomery County Planning Commission recommends a buffer area of at least 75 feet in width in their 2006 *Guidebook for Riparian Corridor Conservation*. Furthermore, the guidebook includes a model ordinance for a riparian buffer overlay zoning district that municipalities can use as the foundation for their own ordinances. Riparian corridor buffer areas can be prime locations for low-impact walking or biking trails, so long as proper design is followed that does not cause any erosion or degradation of the natural community.

Figure 25 | *Recommended Riparian Buffer from Guidebook for Riparian Corridor Conservation, MCPC*

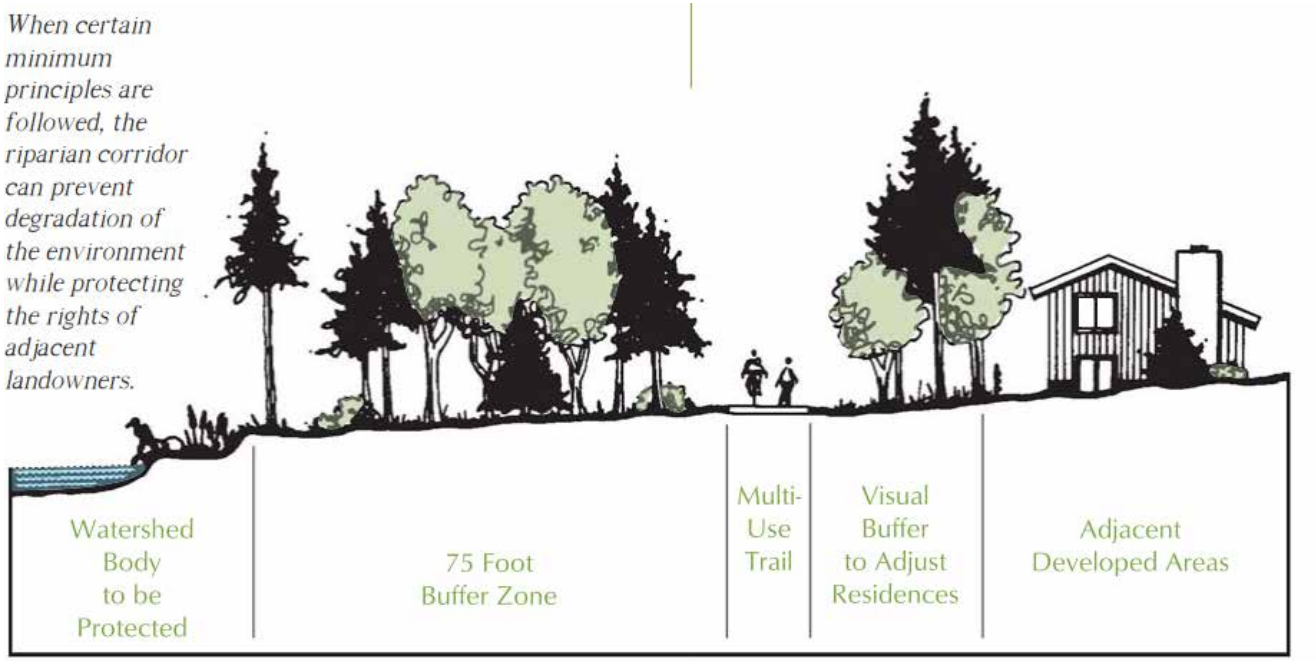
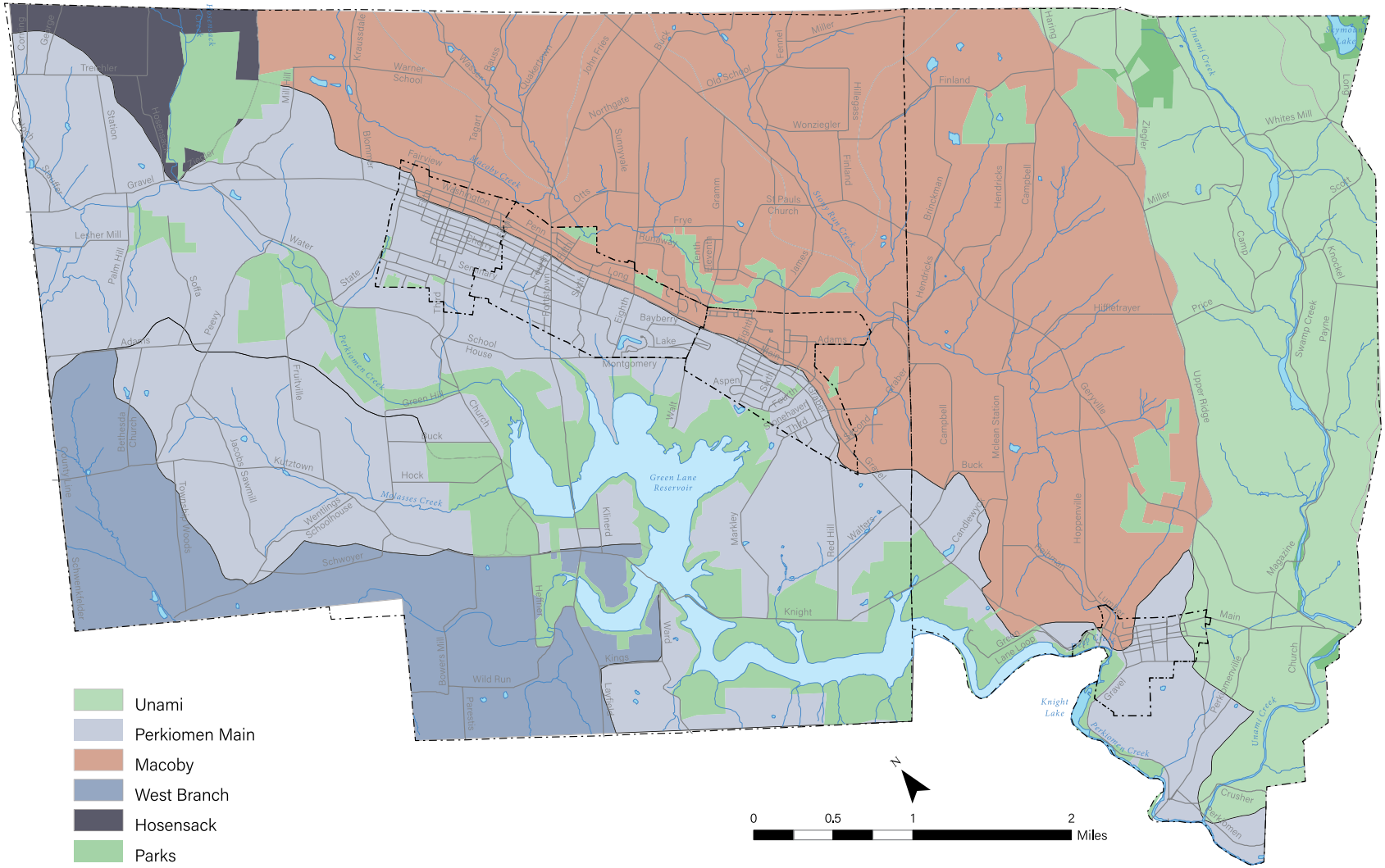


Figure 26 | *Watersheds of the Upper Perkiomen Valley*



Slopes

The slope of the landscape has a direct relation to the potential for development. The region has large areas of gentle to moderate slopes, which are generally suitable for agriculture or development. Land with a slope of 15 percent or more is generally considered steeply sloped and has limited development potential. The region features some areas with slopes that far exceed 15 percent, which are suitable mainly for open space and preservation and offer very limited development potential.

The slopes on Mill Hill are among the steepest in the region. These slopes are greater than 50 percent and are found on steep, stony land with bedrock outcrops. Steep slopes continue along the Mill Hill ridgeline, which is underlain by diabase bedrock, toward Douglass Township. The diabase bedrock and steep slopes then curve toward the south, running generally along the boundary of New Hanover Township toward Upper Frederick Township. The diabase and steep slopes continue past Green Lane Borough through Marlborough Township along the Salford Township boundary and Unami Creek into Bucks County. Other relatively narrow bands of steeply sloped land are found along watercourses of various sizes and along the banks of the Green Lane Reservoir. No significant areas of steep slopes have been identified within the four boroughs of the region.

Steeply sloped lands are natural resources that provide community character and contain most of the woodlands in the region. These concentrations of dense vegetation benefit air and water quality and provide extensive habitats for wildlife. The slopes and soils present on steep slopes exist in balance with vegetation, underlying geology, and precipitation levels. Maintaining this equilibrium reduces the danger to public health and safety posed by unstable hillsides. Generally speaking, as the slope increases, the depth of topsoil and the ability of the soil to support structures usually decreases. When runoff and sedimentation from disturbed slopes increases, public expenditure for flood control and stormwater management will also increase. Also, disturbance of steep slopes negatively impacts plant species and the wildlife, which depends on these plants. The result is destruction of unique habitats.

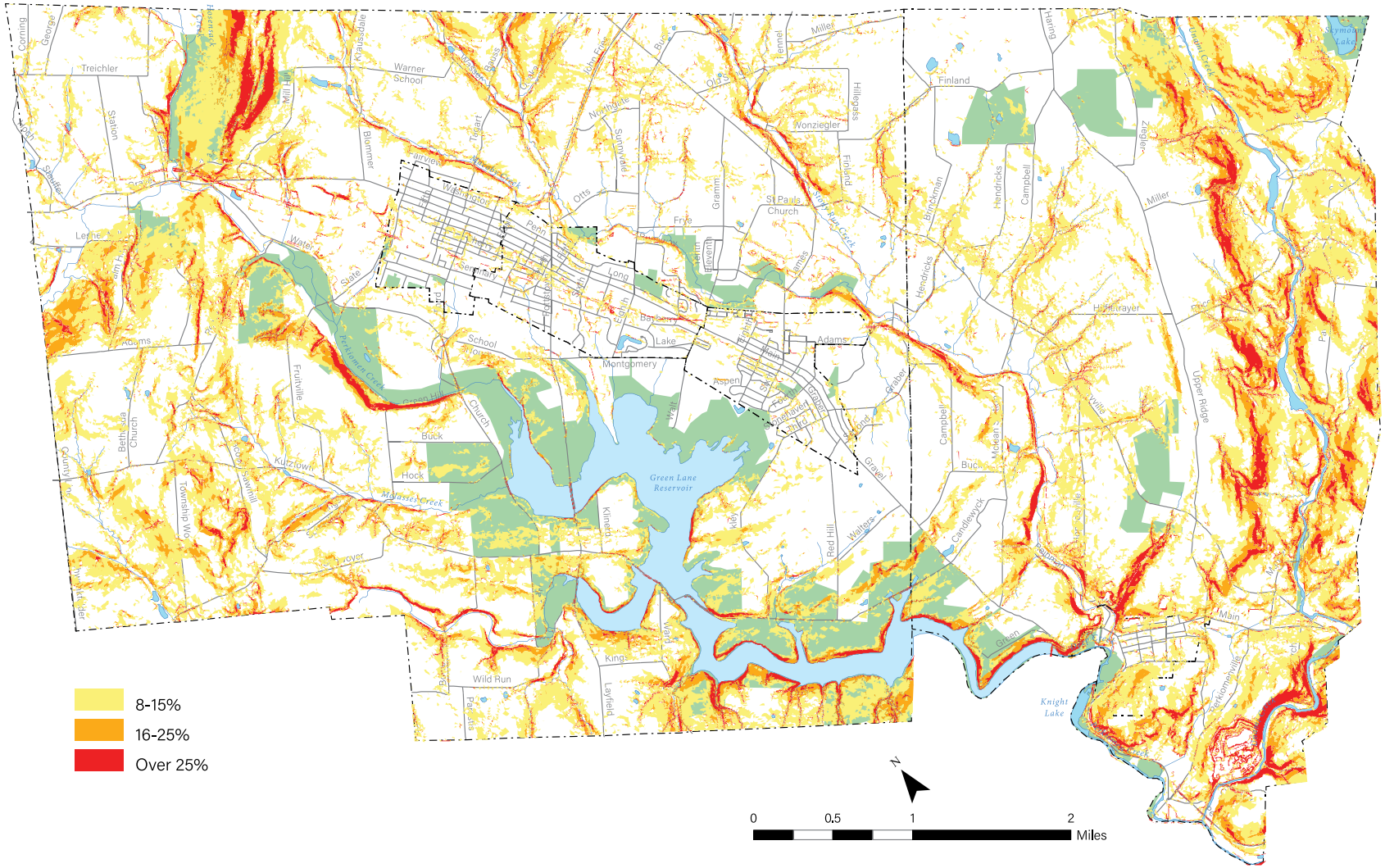
The extent of development and clearing of vegetation should be restricted on steep slopes to avoid erosion. It is not necessary to use steeply sloped areas for farming or residential development because there is sufficient land available with gentle to moderate slopes, those being between 0 and 15 percent, throughout the region. Steep slopes can be protected as part of the land development process, where it is common to require the retention of the majority or even the entirety of the areas of the site featuring steep slopes.

Woodlands & Vegetation

Woodlands and areas of dense vegetation are critical resources that offer extensive ecological services including being the natural habitats of a wide range of plants and animals, protecting water quality, and preventing soil erosion. Woodlands are also valuable as recreational lands and have intrinsic natural beauty, the value of which cannot be put in terms of dollars and cents. These benefits are evident in forests of all shapes and sizes.

The value and benefit of a woodland generally increases as it increases in area. That is to say that a larger, older forest generally has greater value than a handful of smaller woodlands that may make up the same area as the large forest. We see this phenomenon play out in real time as

Figure 27 | *Slopes throughout the Upper Perkiomen Valley*



portions of forests are destroyed to allow for development. Even if a portion of the woodland is retained, the remaining natural community is not as strong as it once was for many reasons. The interior of established woodlands are very stable environments that are home to unique plants and animals that often cannot survive when their habitats are infringed upon. Fragmented forest stands create more boundaries that transition from dense woodland to, generally, areas of less dense vegetation that can put animals at risk from predators taking advantage of the increased visibility. Without connections between fragmented woodlands, many animals may be unable to travel around their traditional breeding grounds. When roadways are built between two woodlands that were once connected, an increase in the number of animals being harmed by vehicles also increases and puts pressure on the local community. It is important to understand that impacts to one species disrupts the established food chain, which can have far reaching and sometimes unforeseen impacts.

The region has been inhabited for many centuries and, once European settlers arrived, much of the woodlands have been destroyed to allow for agriculture and development. The remaining areas of woodland are often in areas that have steep slopes, are rocky, or are too wet; this is no coincidence, as farmers throughout the centuries have avoided clearing these areas due to the fact that they would not be viable for agriculture. If you compare **Figure 27** (slopes) and **Figure 28** (woodlands), you will very quickly notice the overlap of woodlands and steep slopes. By having requirements for the preservation of steep slopes and woodlands in municipal subdivision and land development ordinances, communities can effectively preserve the valuable woodlands of the region for the enjoyment of future generations. Conservation easements are an effective way to preserve open space in perpetuity, as discussed in more detail later in this chapter.

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).

Vast swaths of hardwood forest surround the Green Lane Reservoir

THE VALUE OF TREE$

Trees Reduce Energy Bills & Moderate Temperature

Trees properly placed around buildings can reduce air conditioning needs by 30% and can save 20–50% in energy used for heating. USDA Forest Service.

If you plant a tree today on the west side of your home, in 5 years your energy bills should be 3% less. In 15 years the savings will be nearly 12%. *Dr. E. Greg McPherson, Center for Urban Forest Research.*

Trees Reduce Pollution

One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people. *U.S. Department of Agriculture.*

There are about 60– to 200-million spaces along our city streets where trees could be planted. This translates to the potential to absorb 33 million more tons of CO2 every year, and saving $4 billion in energy costs. *National Wildlife Federation.*

Trees Increase Home Values

Healthy, mature trees add an average of 10 percent to a property's value. *USDA Forest Service.*

Having large trees in yards along streets increases a home's value from 3 percent to 15 percent. *Wolf, Kathleen L, PhD, University of Washington (2007) City Trees and Property Values. Arborist News. 16, 4:34-36.*

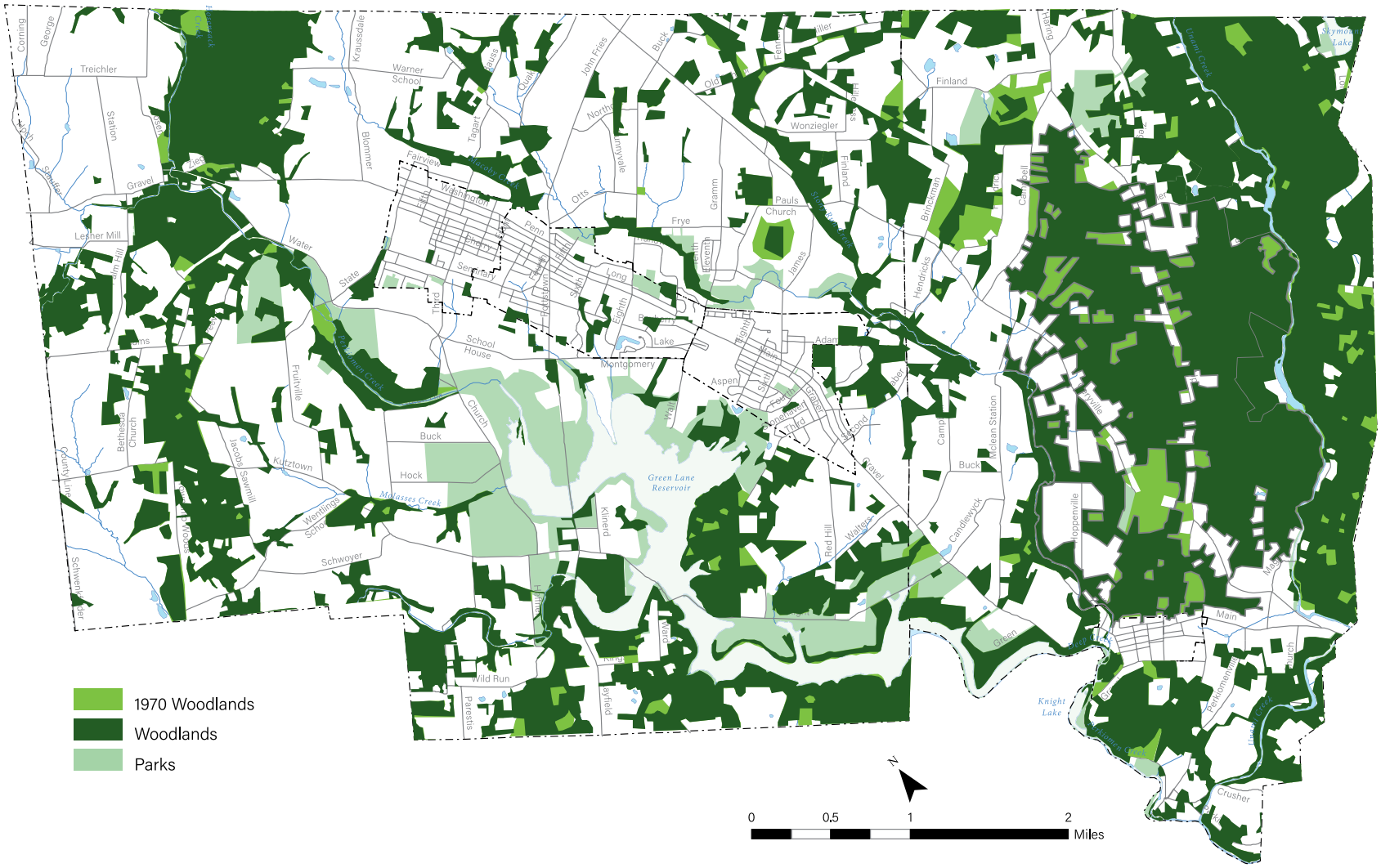
In Portland, Oregon, street trees increase the value of homes by a total of $1.1 billion, an average increase of $7,020 for each house. *Donovan, G.H.; Butry, D.T. (2010). Trees in the City: Valuing Street Trees in Portland, Oregon. Landscape and Urban Planning 94:77-83.*

Trees Capture Stormwater

A single mature oak tree can consume over 40,000 gallons of water in a year. In Pennsylvania forests, an average of 24 inches of the annual 40 inches of rainfall is taken up by trees through evapotranspiration (movement of water from the ground through the tree and leaves, evaporating back into the environment). *Penn State Extension.*

The runoff from one acre of paved parking generates the same amount of annual runoff as: 36 acres of forest; 20 acres of grassland; a 14 acre subdivision (2 acre lot); or a 10 acre subdivision (0.5 acre lots). One inch of rainfall on an acre of parking produces 27,000 gallons of stormwater. *Penn State Extension.*

Figure 28 | *Woodlands of the Upper Perkiomen Valley*



Parks and Open Space

The many unique natural features and landscapes of the valley have resulted in an extensive system of public and private open space. Public open space is primarily made up of municipal and county-owned parks and greenways, and may include publicly-owned land that is not accessible by the public. Private open space includes many other categories, such as: natural lands under conservation easements, unprotected farmland, farmland permanently preserved under the county open space program, and other undeveloped or recreational lands such as golf courses. The continued preservation, enhancement, and stewardship of public and private open space will be an integral facet of the region's long-term land use strategy.

According to the community survey, we need more…

- ***Public swimming areas (47%)***
- ***Dog parks (43%)***
- ***Cultural arts centers (34%)***
- ***Sport courts (32%)***
- ***Multi-use trails (30%)***

Note: (%) indicates the percent of respondents that selected that particular amenity out of the list of 17 options.

Public Open Space

Municipal Parks and Greenway Parks

Municipally-owned open space in the region can be separated into two basic categories: core parks and greenway parks. 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.

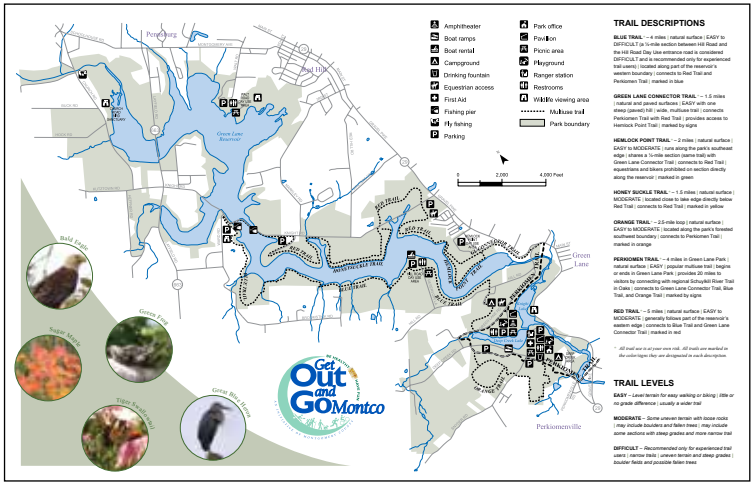
38% of community survey respondents indicated that they frequent regional parks at least weekly. This figure jumps up to 82% visiting parks on a monthly basis or more frequently. The top five parks visited were:

1. ***Green Lane Park***
2. ***Camelot Park***
3. ***Macoby Run Park***
4. ***Red Hill Park***
5. ***Finland Road Park***

County-Owned Open Space

Montgomery County owns and operates Green Lane Park, which is centrally located within the region.. The 3,400-acre park offers fishing and boating (which includes rental facilities); 50 miles of trails for hiking, biking, and horseback riding; family and group camping; picnicking facilities; and two playgrounds. In the winter, the park is open for cross-country skiing and (weather permitting) ice skating and ice fishing. Aside from recreation, the park includes abundant natural open space. With the diverse recreational opportunities available at the park, it should be no surprise that 92% of community survey respondents indicated that they visit Green Lane Park on a regular basis; combine this with the fact that 82% of respondents visit parks at least monthly, and it becomes clear just how integral this resource is to the community.

The Perkiomen Trail extends over 21 miles along the Perkiomen Creek connecting Green Lane to the north and Oaks to the south. The trail is between 10-12 feet in width and



Source: https://www.montcopa.org/DocumentCenter/View/27634/GLP-2020-Brochure?bidId

generally surfaced with crushed stone, with most of the trail built upon the former Reading Railroad tracks. The trail also links with the Schuylkill River Trail and the Audubon Loop.

Private Open Space

Sports clubs, golf courses, and Homeowner Association (HOA) open space located in residential subdivisions are all examples of private open space areas located in the Upper Perkiomen Valley Region. Private open spaces include many areas that have not been permanently protected, such as golf courses, which could potentially be sold and be developed in the future. It will be important to consider how this open space could be preserved and protected over the long term.

Figure 29 | Private Open Space Inventory

MUNICIPALITY	TYPE	ACRES
East Greenville	Private Open Space	3.8
Marlborough	Private Open Space	1,476.6
Marlborough	Preserved Farmland*	65.8
Pennsburg	Private Open Space	5.2
Red Hill	Private Open Space	13.3
Upper Hanover	Preserved Farmland*	1,762.0
Upper Hanover	Private Open Space	440.4

**Permanently preserved through Montgomery County's Farmland Preservation Program. This does not include all land that is currently utilized for agricultural purposes*

Conservation Easements

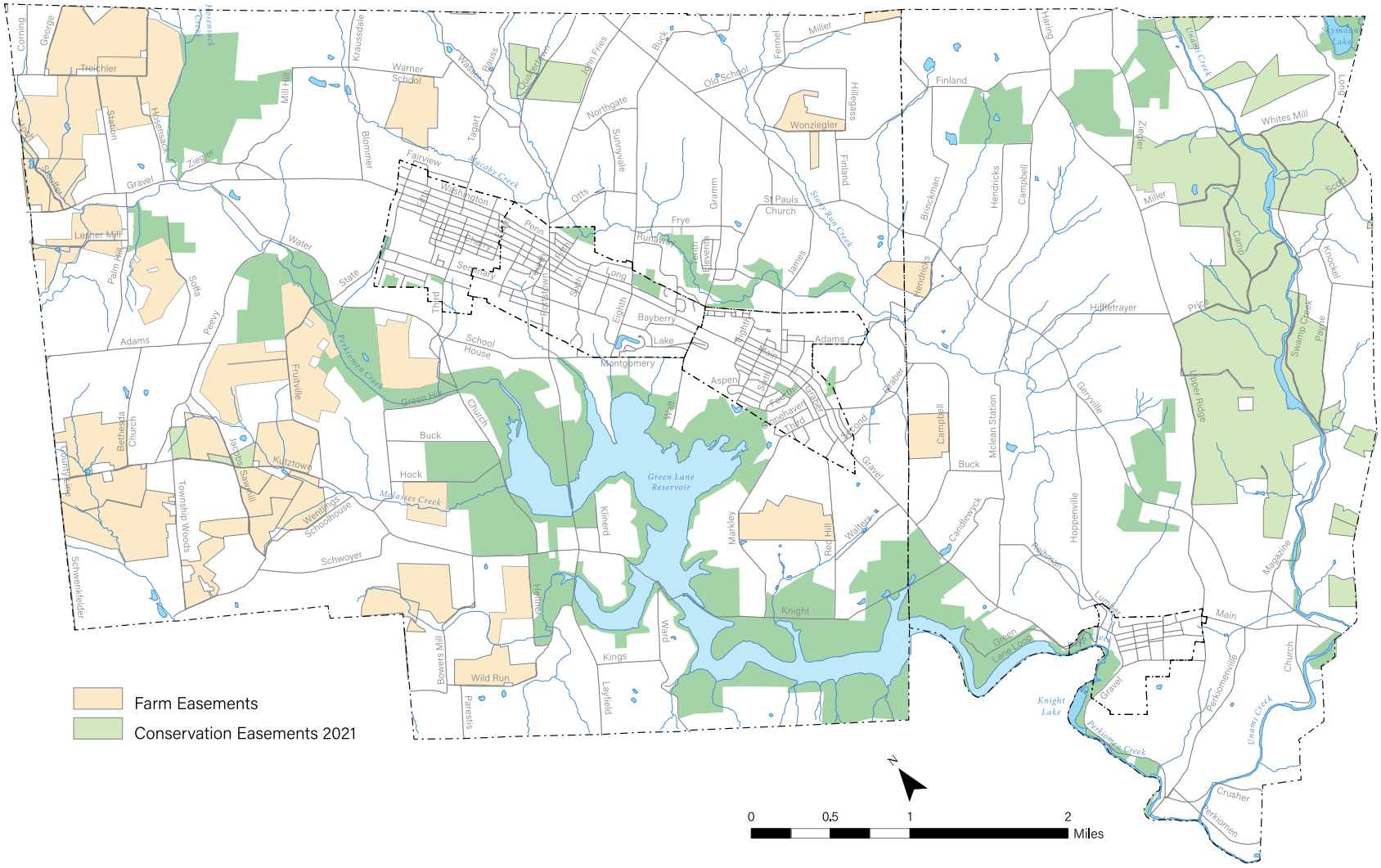
Natural Lands has been in the business of conserving open space and natural lands since the early 1950s. One of their greatest tools for preserving open space are conservation easements on parcels large and small. A conservation easement is a voluntary legal agreement between a landowner and a land trust or government agency that permanently limits the use of the land in order to protect its conservation value. The property owner generally conveys the conservation easement via donation, but sales may also occur; the donation route allows the property owner to claim a federal tax deduction. Conservation easements benefit property owners through the initial sale or tax deduction, through their continued use and ownership of their land, and reduced property taxes. Natural Lands has a conservation easement on Musser Scout Reservation, which totals over 1,200 acres. In total, Natural Lands has conservation easements on 114 acres in Upper Hanover and 2,720 acres in Marlborough (including the Scout Reservation).

Farmland

As noted in the Existing Land Use chapter, there are over 5,000 total acres of agricultural land across the region. This may seem like a large amount of farmland, but agricultural land has seen a nearly 1,000 acre loss over the past 20 years. The Montgomery County Farmland Preservation program has acted as a force to slow this trend, which has resulted in over 10,000 acres of farmland being permanently preserved throughout the county since the program's inception in 1990. As of 2020, over 1,700 acres of farmland in Upper Hanover and 65 acres in Marlborough have been permanently preserved through agricultural conservation easements. Agriculture has always been an integral aspect of the region, dating back to the

first European settlers of the region so long ago. It will become increasingly important to proactively work to protect and preserve farmland as sustained population growth continues to add to development pressure over the next several decades. The community understands the value and benefit of agricultural preservation, with over 40% of community survey respondents placing the preservation of agricultural land as a top five priority for the region over the next 20 years.

Figure 30 | Agricultural and Conservation Easements Across the Upper Perkiomen Valley



Regional Public Open Space Inventory

The following pages detail the existing open space throughout each of the six municipalities of the Upper Perkiomen Valley region.

Figure 31A | Regional Public Open Space

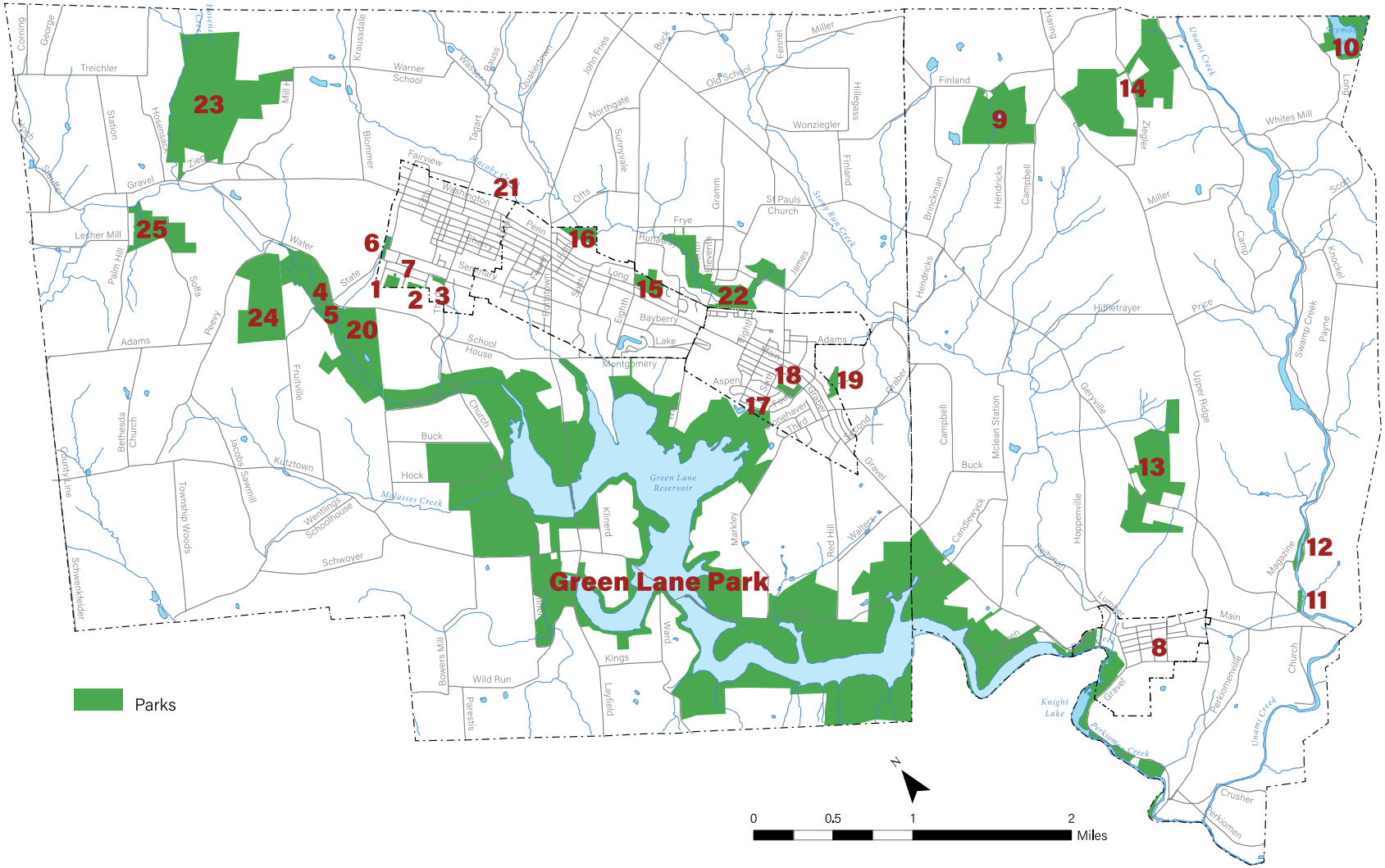


Figure 31B | Regional Public Open Space Inventory

#	NAME	TYPE	MUNICIPALITY	ACRES	AMENITIES
1	**Action Park** *524 Colonial Drive*	Core Park	East Greenville	4.2	● Skate park ● Basketball court ● Borough police station
2	**Colonial Village Open Space** *Hamilton Road*	Core Park	East Greenville	1.6	● Mowed lawn area that is open to the public ● Underutilized due to location
3	**Frederick J. Bieler Community Park** *3rd St. & Blaker Dr.*	Core Park	East Greenville	1.7	● Playground/tot lot ● Lawn area with large trees and benches ● New equipment and pathways planned for 2023
4	**East Greenville Water Authority**	Greenway	East Greenville (in Upper Hanover)	41.5	● Fishing on the Perkiomen Creek ● Hiking
5	**Former Bieler Property**	Greenway	East Greenville (in Upper Hanover)	13.7	● Perkiomen Creek and a tributary thereto ● Public access is currently prohibited.
6	**Nature Meadow** *411 6th Street*	Greenway	East Greenville	2.8	● Dense natural area along a small creek ● Sign and bench
7	**Valley Walk** *Colonial Drive & Valley Road*	Greenway	East Greenville	0.2	● Publicly-owned pedestrian connection between residential areas of the borough
8	**Isaac Smith Park** *300 Walnut Street*	Core Park	Green Lane	5.8	● Large gazebo with seating ● Playground ● Baseball field ● Basketball courts ● Large open field ● Bathrooms
9	**Finland Road Park** *3294 Finland Road*	Core Park	Marlborough	82	● Volleyball courts ● Trails ● Pavilion ● Playground ● Ice skating (winter)
10	**Lake Skymount** *3035 Long Road*	Greenway	Marlborough	31	● Fishing and non-motorized boating permitted with annual permit ● ADA-accessible fishing/observation deck with a kayak launch
11	**Swamp Creek Park** *Swamp Creek Road*	Greenway	Marlborough		● Fishing area with no facilities
12	**Unami Creek Park** *2865 Swamp Creek Road*	Core Park	Marlborough	5.8	● Playground for small children ● Pavilion ● Fishing location
13	**Weidner Farm** *Geryville Pike*	Greenway	Marlborough	103	● No active recreation planned at this time
14	**Ziegler Nature Preserve** *1799 Zeigler Road*	Greenway	Marlborough	150.3	● Undeveloped woodland with no public access currently permitted, but trails planned for the future

	NAME	TYPE	MUNICIPALITY	ACRES	AMENITIES
15	**Pennsburg Community Park & Ball Field** *8th Street*	Core Park	Pennsburg	18.3	● Softball field
16	**Pennsburg Nature Preserve** *E. 5th Street*	Greenway	Pennsburg	87	● Walking trails that run through woods, meadows, and along the Macoby Creek
17	**Red Hill Bioretention Garden** *W. 4th Street*	Greenway	Red Hill	3.7	● Stormwater management BMP project ● Passive recreation amenities, including a pathway and wildlife viewing area, are planned for the future.
18	**Red Hill & Marvin B. Godshall, Sr. Parks** *W. Fourth Street & Apple Street*	Core Park	Red Hill	5.6	● Two pavilions ● Playground ● Climbing wall ● Basketball court ● Open field
19	**Centennial Park** *332 Bitting Alley*	Core Park	Red Hill & Upper Hanover	6.5	● Gazebo with seating ● Paved and unpaved trails ● Woodlands
20	**Camelot Park** *1124 Church Road*	Core Park	Upper Hanover	92.3	● One mile walking trail ● Two softball/little league baseball fields ● Soccer field ● Tot lot ● Bathrooms and concession stand ● Picnic pavilions
21	**Kistler-Bitting Park (YMCA)** *Taggart Road*	Core Park	Upper Hanover	17.2	● Pavilion with picnic tables and benches ● Playground ● Several ball fields ● Basketball court ● Roller hockey area
22	**Macoby Run Park** *1044 East 11th Street*	Core Park	Upper Hanover	79	● Playground ● 0.6 mile walking trail ● Multipurpose field ● Gazebo
23	**Mill Hill Preservation** *Mill Hill Road & Zeigler Road*	Greenway	Upper Hanover	223.8	● A large, heavily wooded area with rugged terrain ● Marked hiking trails ● Home to the highest point in Montgomery County ● Hunting is permitted during normal state-regulated hunting seasons
24	**Peevy Road Open Space** *1100 Peevy Road*	Greenway	Upper Hanover	85.1	● Undeveloped woodland with no public access currently permitted, but trails planned for the future
25	**Soffa Road Open Space** *Soffa Road*	Greenway	Upper Hanover	45.2	● Undeveloped woodland with no public access currently permitted

Multi-Regional Greenway and Stewardship Study

Regional planning has many benefits, but perhaps the greatest benefit is the coordination of land use across an entire region; this approach allows rural communities to focus on the conservation of natural resources while steering new development into suitable areas. With planning

efforts already crossing municipal lines, it was a natural next step to start planning across regional boundaries. So, between 2015 and 2019, the 28 municipalities that make up the Upper Perkiomen Valley, Central Perkiomen Valley, Pottstown Metropolitan, and Indian Valley Regional Planning Commissions collaborated on a Multi-Regional Greenway and Stewardship Study spearheaded by Montgomery County in partnership with Natural Lands.

The goal of the Study was to delineate an interconnected conceptual greenway system spanning the four regions, identify issues and opportunities at play, develop an overarching stewardship guide, and provide specific recommendations related to particular resources. Greenways, as envisioned through this effort, are, "meant to focus on natural resource and habitat conservation as well as recreational, educational, and economic development opportunities provided by all kinds of conserved lands." Furthermore, the multi-regional greenway is made up of both "Main Street Greenways" and "Rural Greenways." The conceptual Rural Greenway system was identified through the painstaking process outlined in the following section, while Main Streets were identified as the key town and village centers that are best positioned to take advantage of the greenway system. The benefits that greenways have for the community are innumerable, for example: they make our air and water cleaner; give us places to fish and hike; make us healthier and wealthier; preserve character-defining features of the community; and they preserve and promote healthy, diverse ecosystems.

The Study culminated in four regional reports that include an overview of the Study process, goals and objectives; an overview of the region's Main Street Greenways and their associated issues and opportunities; and a discussion of the "Rural Greenway" system, the key natural resources, and the process that went into delineation of the rural greenway network. Additionally, each regional report includes Stewardship Assessments and an overarching Stewardship Guide as an appendix; the Guide includes an overview of the Stewardship Assessment process and a discussion of stewardship issues and opportunities.

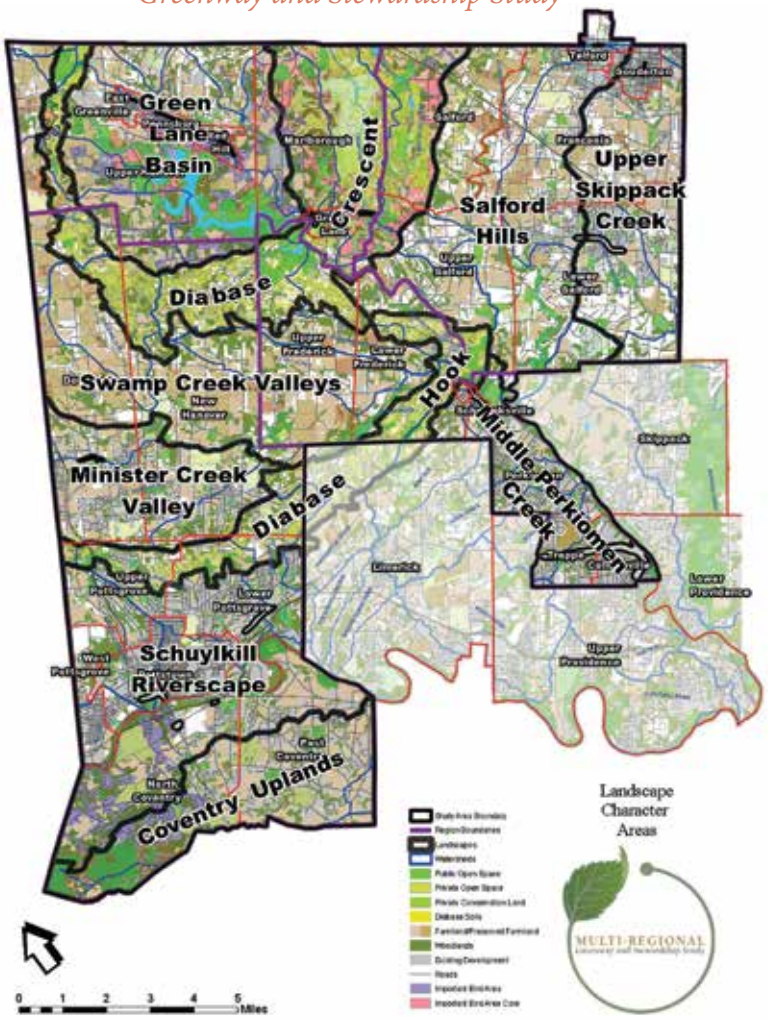
An overview of the overall Greenway delineation process, the Stewardship Guide and Municipal Assessments are provided on the following pages; for a discussion of Main Street Greenways, please refer to Chapter 8, Economic Development.

Rural Greenway Concept

The establishment of an interconnected greenway system, with the foundational understanding of the natural environment, will involve the integration of preserved parks, farmland, conservation lands, and privately-owned lands. The interconnected greenway system will share stewardship principles, relying on the landowner, whether public or private, to implement those principles to the degree they are able. Therefore, this is a strategy that will rely on landowner education and outreach to ensure each landowner has the knowledge and resources to be the best possible stewards for their lands.

In order to ensure that the rural greenway delineation process was done with a focus on the natural resources and in a consistent and uniform way across the four regions, the multi-regional landscape was split into distinctive character zones that were developed based on groupings of natural characteristics and on natural and man-made boundaries. The natural resources within a landscape character zone were assigned relative weight and priority which were used to determine the portion of a lot for inclusion in the conceptual rural greenway. In order to integrate privately-owned lands into this conceptual greenway system, lots exceeding 10 acres (over 3,000 across the four regions) were reviewed and the half (50%) of the lot that was found to have the greatest concentration of resources and provides for the greatest degree of connectivity to adjacent greenway lands was selected for inclusion in the greenway system.

Figure 32 | Landscape Character Areas, Multi-Regional Greenway and Stewardship Study



The landscape character zones included Natural, Agricultural, and Developed/Growth Areas and the factors of review included: the presence of floodplains, wetlands, steep slopes, 100-foot riparian buffer, and adjacency to preserved land or greenway area. In the Upper Perkiomen Valley, the identified landscape character zones include the Green Lane Basin, an Agricultural Landscape character zone, and the Diabase Crescent, a Natural Landscape character zone.

The Diabase Crescent character is characterized by diabase geology and soils and woodlands, which pose unique challenges to development; maintaining these essential natural features and determining the appropriate areas on a property for development was the primary goal of delineation in these areas. The Green Lane Basin is characterized by prime and state agricultural soils, current agricultural uses (including pastures), woodlands, and historic farm homes and barns; extra consideration was given to the protection of riparian buffers, slopes and scenic roads within this landscape. Developed/Growth Landscapes, which are absent from the Upper Perkiomen Valley, are generally located around boroughs and villages and contain smaller concentrations of natural features such as woodlands, wetlands, and rock outcrops. In a Developed/Growth Landscape, attention is paid to historic and cultural resource preservation, protection of scenic viewsheds and scenic roads, and roadway interconnections when delineating parcels.

Parcel-by-Parcel Delineation Process

Following establishment of the delineation criteria for each landscape character zone, a parcel-by-parcel analysis was conducted in order to create the conceptual greenway. This analysis focused upon conservation subdivision eligible parcels, primarily consisting of parcels greater than 10 acres but also including smaller parcels that were under common ownership and adjacent to conservation eligible property. The parcel-by-parcel analysis was conducted using both GIS-based natural resource mapping and the latest aerial photography available. In GIS, the natural resources of the highest value were first located, then the primary resources and important natural features specific to the landscape character zone were compared to aerial imagery. Furthermore, the parcel-by-parcel delineation process focused on the following priorities:

- **Create Contiguous Blocks of Resource Land.** The fifty-percent of each parcel to be preserved should be as contiguous as possible. This not only helps to create an interconnected greenway, but creates blocks of open space large enough to adequately protect the resource lands. Small disconnected blocks of woodland, for example, do not provide the same natural habitats or processes necessary for water quality

protection as large intact stands of woodlands. Continuous protected riparian buffers help improve water quality, reduce flood risk, and provide a healthy habitat for aquatic species. Use of the greenway system to help create a township-wide pathway system is also enhanced by connectivity. Creating contiguous greenway systems provides a healthy ecosystem for wildlife but also provides a community asset to residents and visitors to the area.

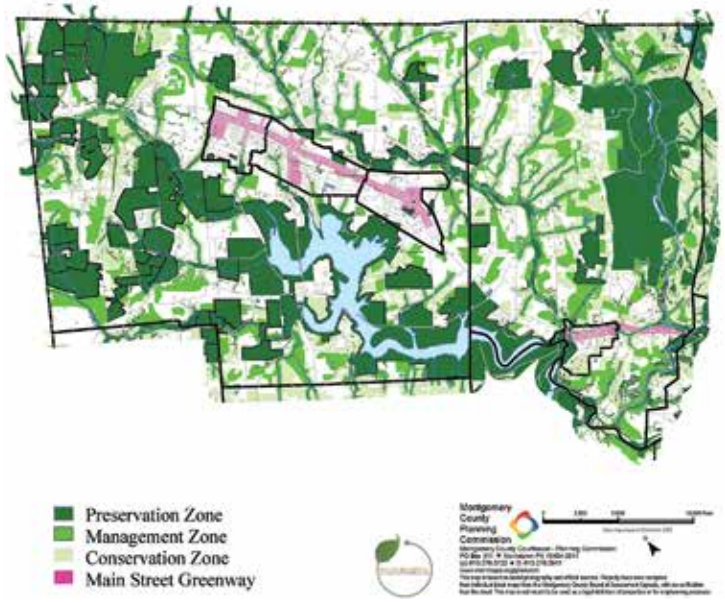
- **Protect Overlapping Resources.** For areas that have more than one high value resource, higher priority should be given to those areas over those with a single resource. Some areas have a high confluence of woodlands, wetlands, and diabase geology. These areas have the potential to provide a high level of ecosystem services and should be considered priority areas for greenway designation in a community.
- **Buffer and Expand Institutional Land Holdings.** Where developable lands are adjacent to existing parks or other institutional lands, the greenway land should expand or at least buffer these properties, especially where the greenway land may be dedicated to the township. This not only has the potential to expand the contiguous natural area, but also provide a potential opportunity for community pathways.
- **Relate Development Area to Existing Development.** The portion of the parcel reserved for development should relate to existing development on adjacent parcels. This will ensure consistency with the character of the area while preserving, in some cases, more difficult land to develop such as diabase soils, steep slopes, and woodlands.
- **Relate Development Areas between Parcels.** In order to reduce the need for permanent cul-de-sacs, and to enhance vehicular circulation throughout the townships, the portion(s) of the tracts designated for development should allow for interconnection. This will also enhance a sense of community by allowing neighborhoods to be more tied together, creating more appropriate locations for usable open space, parks, and other residential amenities.
- **Limit the Need for Long Entrance Roads.** A portion of the areas reserved for development should be located as closely as possible to the nearest road frontage. This will limit the need for long entrance roads without any dwellings, reducing development costs and creating extra impervious coverage. Reserving areas for development of sufficient size to limit the need for single-loaded streets will also contribute to site design flexibility.

Stewardship Zones and Protection Strategies

In order to tailor stewardship strategies to the appropriate resource, the conceptual Greenway System was divided into zones based upon the specific resource elements, each with a varying menu of tools and policies. The three zones include

- **Preservation Zone.** The foundation of the greenway system is the preservation zone. This involves land that has resources most protected by land use regulation, including floodplains (100-year floodplain), steep slopes (>25%), and wetlands. This zone also includes all protected land, including publicly-owned lands, as well as privately protected conservation lands and farmland. The key strategy for these lands will be local resource protection regulations and ongoing stewardship of conserved lands.

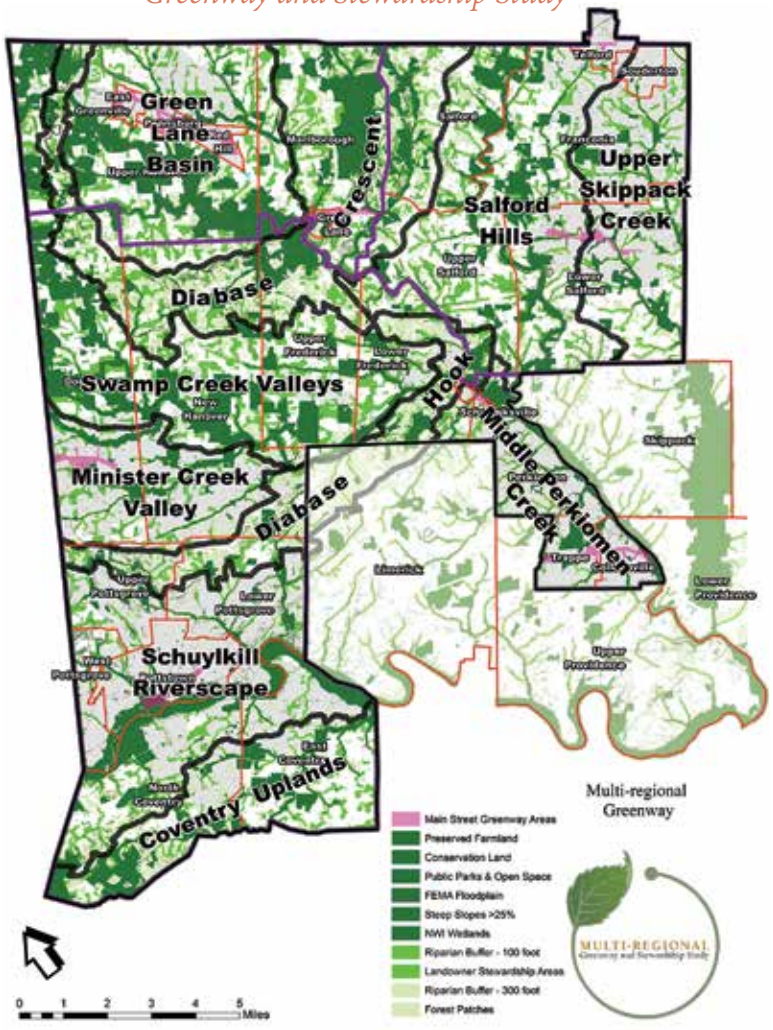
Figure 33 | Upper Perkiomen Valley Stewardship Zones, Multi-Regional Greenway and Stewardship Study



- **Management Zone.** The management zone is an area that will primarily involve the priority management lands, which are exclusively held in private ownership and include many riparian corridors (focusing on the 100-foot riparian corridor buffer). As the centerpiece of the Greenway, the priority management lands will serve as the primary connector between preserved lands and other concentrations of resources. Since these lands remain in private ownership, we will rely on the cooperation of each individual landowner to protect the natural features located in the portion of their property identified as part of this zone. Like the buffer areas, this will rely on education and outreach to develop tailored stewardship practices for these lands.
- **Conservation Zone.** The final piece of the Greenway involves the most widespread resources: the larger 300-foot riparian buffer and the remaining stands of woodlands not overlapping with the previously identified zones. The 300-foot riparian buffer, of which the first 100 feet is located in the Management Zone, is most important from a habitat standpoint. These "wildlife highways" connect larger nodes of habitat together and ensure that animals have access to the resources they need while contributing to overall biodiversity by allowing wildlife populations to mix. Large patches of woodlands, which are not captured under the previous categories, provide similar functions and value to wildlife.

When all of the Greenway zones are put together, a large interconnected system of natural features is established. The maps below show the Greenway system on both the multi-regional scale, and zoomed in for this region alone.

Figure 34 | Multi-Regional Greenway System, Multi-Regional Greenway and Stewardship Study



Stewardship Guide & Municipal Assessments

The Stewardship Guide is an integral part of the Multi-Regional Greenway and Stewardship Study. This document acts as a comprehensive guidebook that explains the stewardship assessment process and offers a detailed examination of specific elements that make for successful

stewardship of open space and greenways. The key tenets explored included:

- ► Stewardship features, issues, and opportunities
- ► Monitoring and adaptive management
- ► Volunteerism
- ► Environmental education
- ► Municipal staff training
- ► Public engagement
- ► Implementation

As a demonstration of the value of the Stewardship Guide, a Stewardship Assessment was prepared for 38 park and open space properties from across the regions; these assessments implemented the recommendations of the Guide. Stewardship assessments for the following properties in the Upper Perkiomen Valley were prepared: the Bieler Property in East Greenville, Isaac Smith Park in Green Lane, Finland Road Park and Wiedner Farm in Marlborough, the Pennsburg Nature Preserve, Centennial Park in Red Hill, and Camelot Park and Soffa Road Open Space in Upper Hanover.

The stewardship assessments are teeming with information and include a stewardship priorities and implementation schedule based on the findings of the study, a map of stewardship features and issues, a list of dominant vegetation within defined sub-areas of the site (categorized using Fike's Terrestrial and Palustrine Plant Communities of Pennsylvania), and photographs taken on-site that demonstrate the identified stewardship issues and opportunities. The most common stewardship issues included encroachment from neighboring properties, overabundant deer, invasive plants and exotic pests (Spotted Lanternfly, Emerald Ash Borer, and Hemlock Woolly Adelgid), soil erosion, gully and streambank erosion, tree regeneration issues, and nearby land uses which have the potential to impact water quality on-site. These assessments can act as case studies for the region and may act as an example for future efforts.

Figure 35 | Stewardship Features and Issues, Bieler Property

Source: Natural Lands

Stewardship is an active process of engagement with the land to direct it toward (or maintain it at) a desired state. Because natural processes in the region have been and continue to be significantly altered by human activity, natural lands left to themselves will—in most cases—become degraded and dysfunctional.

-Stewardship Guide, 2019

Recommendations

Ensure that local laws adequately protect sensitive natural features and promote the preservation thereof.

- Designate growth, conservation, and rural resource areas on the future land use map in order to promote that development occurs in a targeted, orderly, and deliberate fashion. Align municipal zoning district designations with the regional future land use plan.
- Mitigate natural land loss by promoting low-impact subdivision development regulations (e.g., cluster or conservation subdivision) and by steering development to previously developed areas, such as boroughs, as infill or redevelopment.
- Review the natural resource preservation requirements of municipal subdivision and land development ordinances. Promote a regional standard for the preservation of sensitive site features including floodplains and watercourses, wetlands and water bodies, steep slopes, woodlands, and riparian corridors.
- Evaluate municipal floodplain ordinances to ensure consistency with FEMA and DCED regulations. Consider development of a floodplain ordinance that is uniform throughout all municipalities of the region.
- Improve water quality in the region by ensuring that all municipalities in the region have riparian buffer ordinances that require the preservation of riparian communities during the development process. Consider development of a riparian buffer ordinance that is uniform throughout all municipalities of the region.
- Establish policies at the municipal and regional level to address forest and habitat fragmentation. Ensure that proper due diligence is undertaken prior to allowing the destruction of woodlands or other natural communities.
- Municipal ordinances should be reviewed and updated as-needed to require the planting of street trees and other on-site trees of varying sizes and species through the land development process. When large, existing trees are proposed for removal during land development, replacement trees should be required. The region should consider creating a list of recommended and prohibited tree species, which should be informed by DCNR's list of invasive plants and by the existing mix of tree species in the region.
- Collaborate with land preservation groups, such as Natural Lands, to encourage owners of undeveloped land to enter into conservation easements. Prioritize areas with pristine viewsheds and natural linkages of woodlands and creek corridors.

Preserve and protect agricultural land throughout the region

- Ensure the preservation of land with prime agricultural soils by zoning for limited density and by allowing or encouraging agricultural land use.
- Continue to permanently protect agricultural land by encouraging participation in the Montgomery County Farmland Preservation program.

- Recognize farmers/families that have been integral to the region through municipal or regional recognition at set milestones (10-year, 25-year etc.) for continued ownership/operation of farms and encourage eligible farmers to apply for recognition in the PA Department of Agriculture Century and Bicentennial Farm Program.
- Ensure that eligible property owners are enrolled in the "Clean and Green" preferential tax assessment, those properties being any that are 10+ acres in size and in agricultural use/reserve (or smaller properties that have a $2,000 annual income from agriculture) or forest reserve. Lessening the tax burden on these properties can encourage conservation/preservation to rebuff development pressure.

Continue to provide parks and recreation facilities that suit the needs of the region; explore expanding recreational opportunities.

- Continue to maintain existing parks and recreation areas by municipal staff and volunteers.
- Consider the construction of new trails within existing municipally owned open space properties. The design of trails, particularly the surfacing material, will required careful consideration to avoid unnecessary impacts on potentially sensitive natural areas.
- Explore enhancements to existing parks that may be underutilized. Prioritize the replacement of outdated play equipment, the addition of loop trails internal to parks that connect to the sidewalk network, the planting of trees and the addition of landscaping, and the addition of passive recreational amenities such as benches.
- Require recreational amenities to be provided alongside new development. Ensure that municipal ordinances adequately prescribe such requirements.
- Prioritize the addition of ADA-accessible amenities, such as pathways and play equipment meeting ADA standards.
- Encourage collaboration between the six municipalities and establish park and trail partnerships, similar to Red Hill and Upper Hanover's cooperation on Centennial Park.

Enhance connectivity between parks and neighborhoods through networks of sidewalks, bike lanes, trails, and greenways

- Create safe linkages between residential areas and parks through the provision of sidewalks of an adequate width, bike lanes or other bicycle facilities (sharrows), and trails.
- Require the provision of sidewalks, pathways, trails, and bicycle facilities as part of the land development process.
- Require the provision of streetscape enhancements during the land development process. Possible amenities may be street lighting, benches, trash/recycling bins, street trees, and bicycle racks.
- Continue to expand the greenway system through deliberate acquisitions and requiring trail connections during the land development process.

Establish a regional stewardship program based on the recommendations of the Multi-Regional Greenway and Stewardship Study.

- Institute the stewardship plans outlined in the study as pilot projects. Following stewardship action, monitor areas of success and failure. Adapt future stewardship plans and actions utilizing this knowledge to ensure success in all projects.
- Consider the creation of a Friends of the Upper Perkiomen Valley Group or an organization of "Friends of" groups for each of the core parks. Volunteer groups can organize work days for stewardship projects to enhance existing assets and more quickly identify issues affecting a given property than municipal staff. Local models for "Friends of" groups can be found in the Friends of Green Lane Park or Philadelphia's Friends of the Wissahickon.
- Promote parks and open space areas as locations for environmental education. Simple interpretive signage can allow passersby to appreciate the natural resources that they are enjoying. Teachers can utilize natural areas to get children into an "outdoor classroom" to enhance learning and spur appreciation for the natural environment early on.
- Train municipal staff on proactive stewardship actions such as the identification of invasive plants and pests, the proper way to apply pesticides, and the proper way to plant and prune trees/vegetation. These actions can lessen workloads when parks require less reactive or emergency maintenance.

Chapter Five: **COMMUNITY FACILITIES**

Goals

Coordinate water and sewer improvements at the regional level

Ensure that the needs of all residents are met through municipal government, public safety agencies, and educational institutions

Encourage the recycling of materials and the safe disposal of potentially hazardous materials

Efficiently and effectively manage stormwater

Introduction

A community's infrastructure and public facilities offer a wide range of benefits and directly impact both the quality of life of the region and the safety of its residents. Most new development relies upon existing infrastructure systems to access clean water and to safely dispose of waste. By setting growth boundaries, which generally align to the water and sewer system boundaries, communities can target growth only where it is

appropriate and where it would fit in with the existing community.

Apart from water and sewer infrastructure, community facilities of the Upper Perkiomen Valley Region include solid waste services, stormwater management, government facilities, emergency facilities, and educational institutions. This chapter will describe these services which have the greatest impact on the quality of life and safety of the region's residents.

Sewage Facilities

Nearly all development requires the provision of a sewage disposal system, whether it is connected to the existing sewage system or has an on-lot disposal system (septic system). The availability of capacity in the sewage system directly impacts the feasibility of development and dictates the eventual density of development. Where there are readily accessible connections, development can be expanded within the sewer boundary. The suitability of the site for on-lot septic can also impact the scale of development and generally results in large lot, residential development.

The Sewage Facilities Planning Act (Act 537 of 1966) is the backbone for sewage facilities planning in the Commonwealth. The goal of the Act 537 program is to address existing sewage disposal problems and prevent future problems through sewage facilities planning at the local level. Every municipality must develop, implement, and update an official sewage facilities plan which addresses both present and future needs. The plans include a wide range of information on existing features, both natural and man-made, and explore how future needs will be addressed. Sewage facilities plans include a future sewer growth area plan/map, which can guide the designated growth areas and future land use plan in a comprehensive plan. As noted in **Figure 36**, all plans in the region are between 15 and 50 years old.

Figure 36 | Act 537 Plan Adoption Year by Municipality

MUNICIPALITY	PLAN YEAR
East Greenville	1984
Green Lane	1974
Marlborough	1973
Pennsburg	1984
Red Hill	1984
Upper Hanover	2006

The following section will include an inventory of existing sewage facilities within the region.

Upper Montgomery Joint Authority (UMJA)

Upper Montgomery Joint Authority Wastewater Treatment Plant, located on Mensch Dam Road in Pennsburg, serves the boroughs of East Greenville, Pennsburg, and Red Hill. The 2021 Average Annual Capacity was 2.5 Million Gallons per Day (MGD), which includes an excess capacity of 0.83 MGD. Treated water is discharged to the Perkiomen Creek.

Green Lane-Marlborough Joint Authority

The Green Lane-Marlborough Joint Authority, located on Gravel Pike in Green Lane, serves Green Lane and Marlborough. The 2020 Average Annual Capacity was 0.2 MGD, which includes no excess capacity. Treated water is discharged to the Perkiomen Creek.

Upper Hanover Authority

The Upper Hanover Authority operates two treatment plants: the Macoby Creek Sewage Treatment Plant on Frye Road in Pennsburg and the Perkiomen Sewage Treatment Plant on Pillsbury Street in East Greenville. The Macoby Creek Sewage Treatment Plant serves Upper Hanover Township and had a capacity of 0.4 MGD in 2020, with no excess capacity. The Perkiomen Sewage Treatment Plant also serves Upper Hanover and had a capacity of 0.1 MGD in 2015 with no excess capacity. The Macoby Creek Sewage Treatment Plant discharges treated water to the Macoby Creek and the Perkiomen Sewage Treatment Plant discharges to the Perkiomen Creek.

Figure 37 | *Regional Water Authorities*

	UPPER MONTGOMERY JOINT AUTHORITY WASTEWATER TREATMENT PLANT (2021)	GREEN LANE SEWAGE TREATMENT PLANT (2020)	MACOBY CREEK SEWAGE TREATMENT PLANT (2021)	PERKIOMEN SEWAGE TREATMENT PLANT (2020)
Owner	Upper Montgomery Joint Authority	Green Lane - Marlborough Joint Authority	Upper Hanover Authority	
Discharge	Perkiomen Creek	Perkiomen Creek	Macoby Creek	Perkiomen Creek
PADEP Average Annual Capacity	2.5 MGD	0.2 MGD	0.4 MGD	0.1 MGD
Average Daily Flow	1.16 MGD	0.194 MGD	0.167 MGD	0.043 MGD
Three-month Average High	1.67 MGD	0.264 MGD	*Unknown*	*Unknown*
Excess Capacity	0.83 MGD	None	0.231 MGD*	None
Municipalities Served	East Greenville Pennsburg Red Hill	Green Lane Marlborough	Upper Hanover	Upper Hanover

**2022 excess capacity*

Nonmunicipal Sewage Treatment Plants

In addition to the four public sewage treatment plants, there are over a dozen privately operated sewage treatment plants. There are nine private sewage treatment plants in Upper Hanover Township and another eight in Marlborough Township.

On-Lot Disposal

Large areas of Upper Hanover and Marlborough rely upon on-lot disposal systems (septic systems). These systems are typical in less dense, more rural areas and locations where public sewer is not available. The design of on-lot sewage disposal systems depends on site conditions and the soil type underlying the lot. The Montgomery County Health Department (MCHD) must review and approve an on-lot sewage permit prior to installation. Approval starts with an application to assess the property through examining the soil and carrying out percolation tests, then the septic system design must be reviewed by MCHD, and finally sewage enforcement officers will inspect the installed system and issue final approval for use.

How to Prevent On-lot System Malfunctions

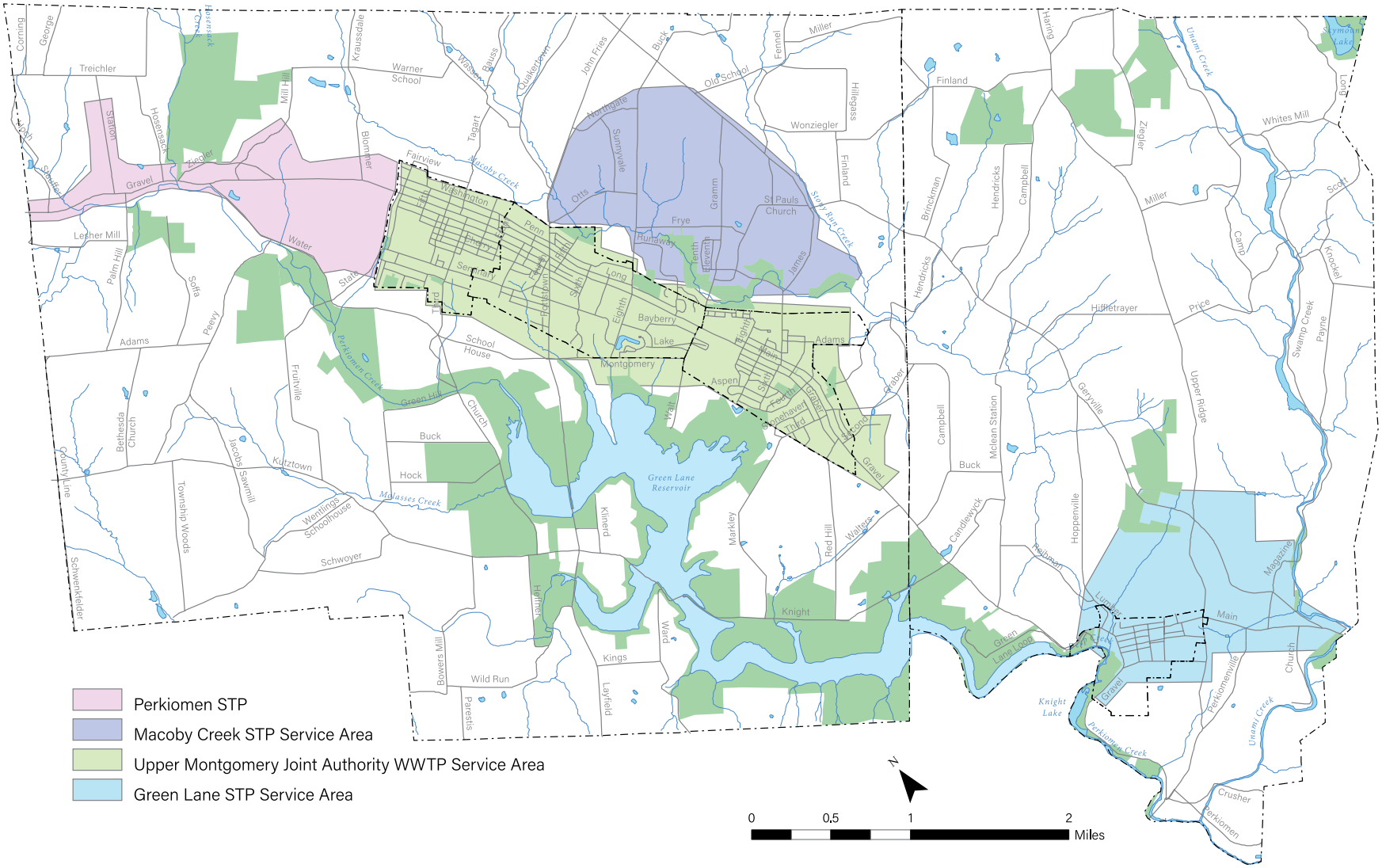
- *Conserve water and reduce wastewater entering the septic tank.*
- *Pump the septic tank every 3 years, depending upon tank size and household size.*
- *Avoid putting chemicals in the septic system.*
- *Do not dispose of bulky, slowly decomposing waste in toilets.*
- *Inspect the septic tank, pipes and drainage field annually.*
- *Maintain accurate records of the septic system (design, installation, location, inspections, pumpings, malfunctions, repairs.)*
- *Prevent stormwater from getting into the septic system.*
- *Keep heavy objects (trucks, equipment, or livestock) off of the septic system.*
- *Do not plant trees and shrubs over or close to the septic system.*

Signs of On-lot System Malfunction

- *Toilet runs sluggish.*
- *Sewer odors in the house and/or drinking water.*
- *Illness, often to household visitors.*
- *Sponginess around septic tank, distribution box or dosing tank and absorption area.*
- *Surfacing raw sewage.*
- *Dosing pump runs constantly or not at all.*
- *Dosing tank alarm light is on.*
- *Backup of sewage into laundry tubs or other fixtures.*

Source: Pennsylvania Department of Environmental Protection

Figure 38 | *Sewage Treatment Plant Service Areas*



Water Facilities

Whether it is through a private well or the public water system, a clean and consistent water supply is among the most basic necessities for every resident of the region. The Upper Perkiomen Valley is served by three water purveyors: East Greenville Borough Water Department, Red Hill Water Authority, and Upper Hanover Water Authority. The water purveyors serve parts of Upper Hanover as well as the entirety of East Greenville, Pennsburg, and Red Hill. Public water is provided to 4,538 residences and 434 nonresidential customers. The three water systems are interconnected to both ensure supply and for use in emergency situations. As of 2017, the average water use per day was use was 1.75 MGD with an excess capacity of 0.37 MGD. Both surface and groundwater are utilized to fulfill the water demand of the region.

East Greenville Borough Water Department

The East Greenville Borough Water Department sources its water from the groundwater and surface waters of the Perkiomen Creek. As of 2017, the water department served a population of about 2,951 via 1,093 residential connections and 75 nonresidential connections.

Figure 39 | East Greenville Borough Water Department Connections, 2017

MUNICIPALITY	DOMESTIC	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	OTHER	TOTAL
East Greenville	1,093	52	22	0	1	1,168

Red Hill Water Authority Connections

The Red Hill Water Authority sources its water from the groundwater of the Perkiomen Creek and from Kemerer Spring in Lehigh County. As of 2017, it served a population of about 2,382 via 1,142 residential connections and 74 nonresidential connections.

Figure 40 | Red Hill Water Authority Connections, 2017

MUNICIPALITY	DOMESTIC	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	OTHER	TOTAL
Upper Hanover	45	3	0	0	0	48
Red Hill	1,047	44	12	9	1	1,113
Upper Milford	9	1	0	0	0	10
Hereford	41	4	0	0	0	45
TOTAL	1,142	52	12	9	1	1,216

Upper Hanover Water Authority

The Upper Hanover Water Authority sources its water from wells in Berks and Montgomery Counties. As of 2017, it served 2,399 residential connections and 156 nonresidential connections.

Figure 41 | Upper Hanover Water Authority Connections, 2017

MUNICIPALITY	DOMESTIC	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	OTHER	TOTAL
Pennsburg	1,214	97	4	3	0	1,318
Upper Hanover	1,139	33	10	2	1	1,185
Hereford	46	5	0	1	0	52
TOTAL	2,399	135	14	6	1	2,555

Areas Not Serviced by Public Water

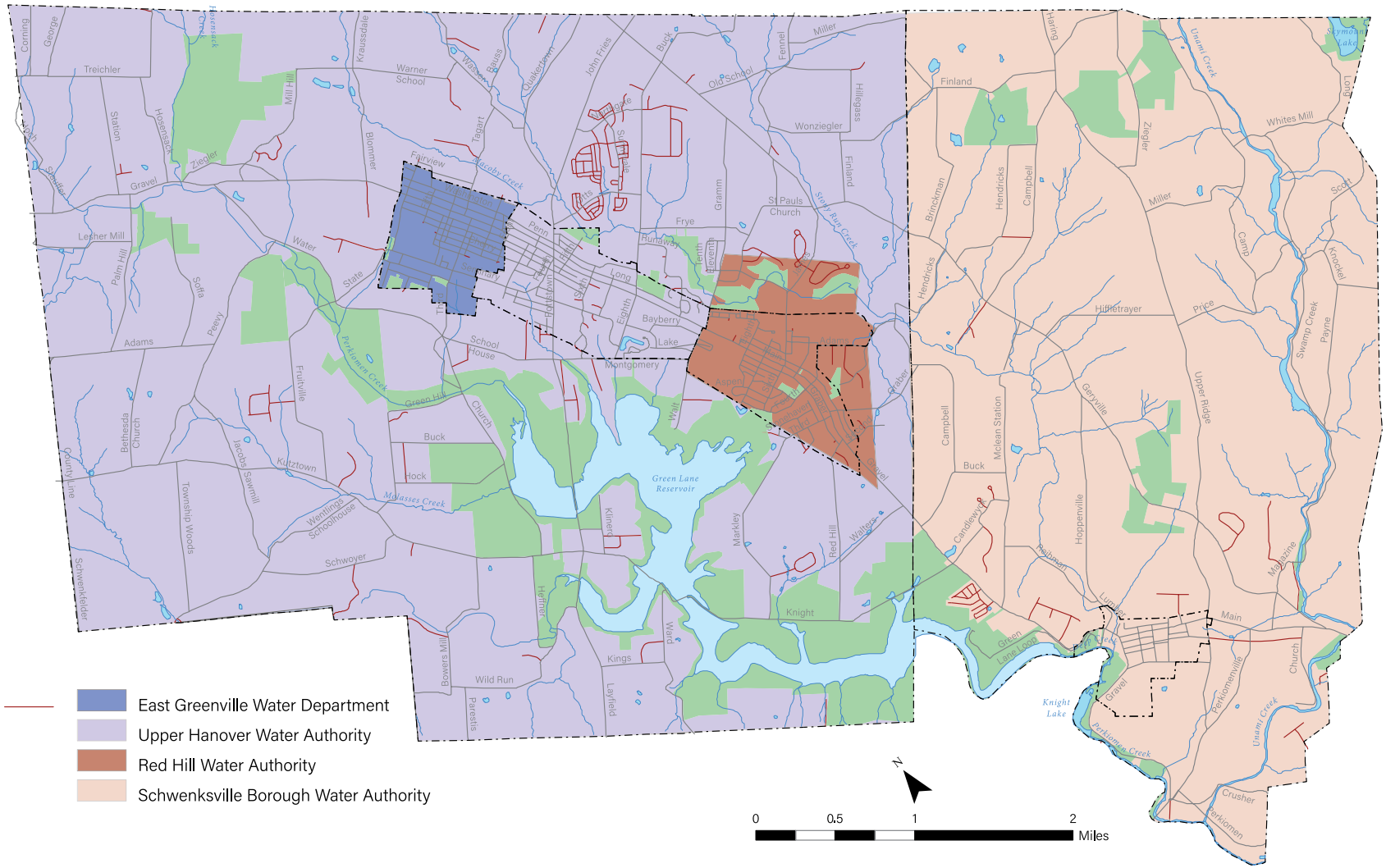
Much of region is not serviced by public water facilities, including the entirety of Marlborough Township and Green Lane Borough as well as much of Upper Hanover Township. In these areas, individual on-lot wells are necessary to meet the water demands of the existing or proposed residences and businesses. Geology is an inhibiting factor when drilling for water, particularly with much of the region lying on diabase formations, which acts as a natural constraint on dense development. With much of the region accessing groundwater, it is important that the region collaborate in ensuring adequate groundwater recharge.

Water System Expansions

Water systems should only expand to those areas where more denser development is warranted at present and in the future. Additionally, any area that is served by public sewer should be connected to the public water system. Generally speaking, the growth boundaries proposed for the region should align with the location of both water and sewer systems whether at present or in the future.

East Greenville Borough Water Department provides clean water to all residents of the borough

Figure 42 | *Water Service Providers*



HOW DO I DISPOSE OF MY E-WASTE?

DONATION

Some nonprofit organizations specialize in electronics recycling. These agencies often have their own trained staff that collects the electronics and deconstructs them to harvest valuable components. The components and metals are then sold to fund the organizations ongoing operations.

EXTEND THE LIFE OF TECHNOLOGY

The best way to reduce e-waste is to extend the life of your products. You can keep your smart phone, computers, or other electronics running longer with regular maintenance. When issues arise, consider taking your electronics to get repaired at a reputable repair shop. Something as basic as a screen replacement for a smart phone may be less than $100 at a local repair shop whereas a new phone can cost over $1,000.

RECYCLING

There are many commercial business, namely those specializing in electronics that offer e-waste recycling. Many devices are free to recycle, but some larger devices may require payment of a fee.

Many municipalities choose to partner with a commercial business or nonprofit to host e-waste recycling events. The county maintains a list of upcoming waste recycling events on their **website**.

Solid Waste Services

Solid waste includes the daily refuse and recycling generated by residential and nonresidential uses. The safe, convenient, and expeditious disposal of waste and recycling is key to keeping a community clean and safe.

East Greenville, Pennsburg, and Red Hill offer borough-wide weekly trash and recycling pickup in their respective boroughs. Green Lane, Marlborough, and Upper Hanover require residents to seek out a private trash and recycling hauler to meet their needs; Upper Hanover maintains a list of municipally-approved recycling haulers.

In 2018, Montgomery County recycled nearly 342,000 tons of material which otherwise could have ended up in landfills and not back in productive use. The high volume of recycling is in large part thanks to Pennsylvania Act 101, the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, that mandates recycling programs for all municipalities that have a population over 10,000 or a population between 5,000 and 10,000 and a population density of at least 300 people per square mile. All municipalities of the region except Upper Hanover Township have populations below 5,000, and Upper Hanover does not meet the population density threshold for Act 101 to apply.

In addition to traditional recycling, the Covered Device Recycling Act (Act 108 of 2010) establishes a recycling program for certain electronic

waste. Electronics contain a wide range of valuable and hazardous materials, which includes rare earth elements and other precious materials that were resource-intensive to extract in the first place. Recycling of these materials can avoid environmental detriment through avoiding landfills and lessening the need for new extraction of materials. Devices covered under the Covered Device Recycling Act include desktop or notebook computers, computer peripheral equipment, televisions and monitors, and printers. There are numerous locations that offer free or fee-based electronics recycling.

Montgomery County offers various programs to dispose of hazardous items that cannot be otherwise disposed of via traditional haulers. The county offers household hazardous waste collection events several times annually, where residents can dispose of chemicals, fuels, or materials that may otherwise be hazardous.

Green Infrastructure

In 2019, Congress enacted the **Water Infrastructure Improvement Act**, *which defines green infrastructure as "the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspirate stormwater and reduce flows to sewer systems or to surface waters."*

Examples of Green Infrastructure include:

- **Downspout Disconnection.** ***The practice of rerouting rooftop drainage into a rain barrel, cistern, or a naturalized area that can accept the stormwater.***
- **Rainwater Harvesting.** ***The capture of stormwater so that it is more slowly released thereby avoiding excessive runoff.***
- **Rain Gardens.** ***Generally small, depressed areas that are designed to capture rerouted stormwater and which feature water-absorbing vegetation that absorb stormwater that is slowly infiltrating the ground.***
- **Planter Boxes.** ***Simply planter boxes that replace or cover impermeable surfaces allow for stormwater to infiltrate the ground.***
- **Bioswales.** ***Similar to a rain garden, they are depressed areas that are designed to capture rerouted stormwater from a site/area.***
- **Permeable Pavement.** ***Permeable pavement allows for stormwater to infiltrate the ground rather than running off. In many cases, permeable paving can replace traditional impervious surfacing.***

Stormwater Management

Stormwater management is a key function of municipal government. Stormwater facilities include inlets and outlets, swales, piping, detention basins, and other "green infrastructure" practices. These facilities are designed to efficiently capture, store, and reroute runoff from impervious surfaces. Impervious surfaces include any surfaces that do not allow for water to infiltrate the ground at that location, which in the case of municipalities generally includes roads, sidewalks, parking lots, and buildings. Unmitigated stormwater can cause streams and rivers to flood because they are being forced to accept more stormwater than they naturally would without the presence of impervious surfaces. Localized flooding can also occur in urban settings in the form of street flooding where there are design issues that do not allow for stormwater to be transported out of the area. In addition to flooding, unmanaged stormwater can cause streambank erosion, cause excessive sediment or pollutants to enter waterways, and threaten public health and safety.

The bio-retention garden stormwater project in Red Hill was a MontCo 2040 grant awardee and acts as a demonstration of stormwater best management practices

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. Within two years of the program being initiated, counties were required to prepare watershed management plans for all watersheds within their borders as assigned by DEP. The plans were prepared in coordination with municipalities and must be reviewed at least every five years. Municipalities were then required to adopt stormwater management ordinances in accordance with the plan.

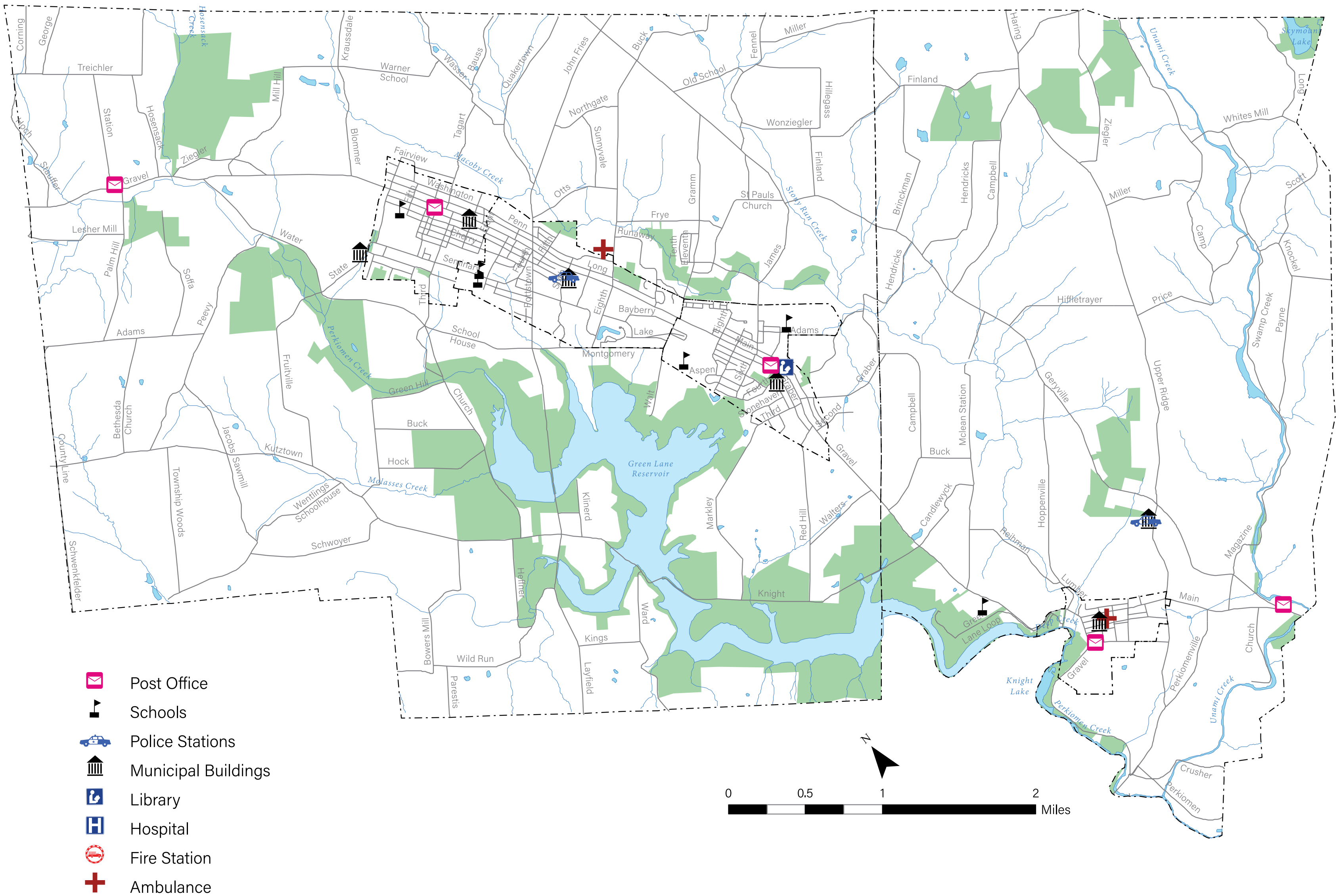
All municipalities in the region have adopted stormwater management ordinances and standards as required under the PA DEP Municipal Separate Storm Sewer Systems Program (MS4 program). The MS4 program was established to implement Phase II of the National Pollutant Discharge Elimination System (NPDES) program. The municipal stormwater discharge is authorized under NPDES permits. In addition to inspection and elimination of illicit discharge, NPDES permits require public outreach and education.

When it comes to new development, managing stormwater is incumbent on the developer. Stormwater needs to be captured and addressed on-site so that there is no adverse impact on neighboring properties and no additional strain on municipal stormwater systems. All municipal Subdivision and Land Development Ordinances (SALDOs) should have clear standards for the design of the stormwater management systems.

Government Facilities

Each Township or Borough has a municipal office in their community. Borough and township halls offer regular business hours for residents to stop in to pay their bills, submit applications, or to request assistance from their local officials. Less than 10% of community survey respondents were dissatisfied with the accessibility of township or borough officials and, apart from road maintenance and snow removal which

Figure 43 | Government and Emergency Services Throughout the Region



are discussed inthe following chapter, all community services also had similarly low dissatisfaction and high levels of either neutrality or satisfaction.

Federal government presence in the region is limited to the five Unites States Post Offices in Palm, East Greenville, Red Hill, Green Lane, and Sumneytown.

Emergency Services

The Upper Perkiomen Valley Region is well-served by fire, police, and emergency services as demonstrated by Figure 43 on the previous page.

The Pennsylvania State Police, headquartered in the Skippack Barracks, serves the communities of the Upper Perkiomen Valley. The State Police serve those communities without their own police services, but also assists the communities that do when necessary for public safety. Marlborough Township has its own police department manned by a Chief, a sergeant, and six officers. Pennsburg Borough is served by the Upper Perk Police Department, which up until recently also served East Greenville who now have their own police department. Just about half of community survey respondents indicated that they were satisfied with police services in their community.

The East Greenville Volunteer Fire Company, the Pennsburg Fire Company, and the Red Hill Fire Company provide fire services in Upper Hanover, East Greenville, Pennsburg, and Red Hill. The Green Lane Fire Company provides firefighting and rescue functions in Marlborough and Green Lane. Local fire companies are the most popular public service by far, with more than three in four community survey respondents indicating that they were satisfied with fire services and no respondents indicating that they were dissatisfied in any way.

There are no hospitals located in the region, however, there are a number of hospitals located in close proximity to the region including St. Luke's Hospital in Quakertown, Grand View Hospital in Sellersville, Lehigh Valley Hospital in Allentown and Pottstown Memorial Medical Center in Pottstown. Emergency Medical Service (EMS) providers in the region include Upper Perkiomen Valley Ambulance, which is located in Pennsburg, and Harleysville Area Emergency Medical Services in Green Lane.

Upper Hanover Township Building

Red Hill Fire Company

East Greenville Fire Company

Educational Facilities

Upper Perkiomen School District

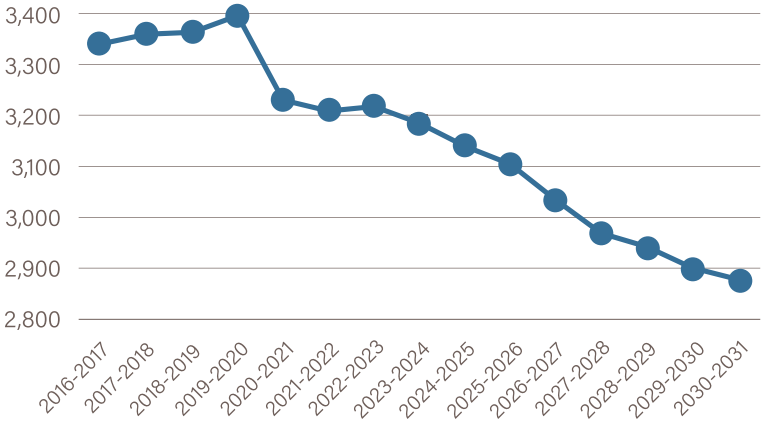
The region is served by the Upper Perkiomen School District (UPSD), which generally shares the same boundary as the region (with the addition of Hereford Township, Berks County). A representative from the UPSD often attends the regional planning commission meetings, which ensures that both parties remain "in the know" with regionally significant developments. UPSD owns and operates five schools:

- Hereford Elementary School
- Marlborough Elementary School
- Upper Perkiomen 4th and 5th Grade Center
- Upper Perkiomen Middle School
- Upper Perkiomen High School

Upper Perkiomen Middle School and High School (Source: Breslin Architects)"

The 2019-2020 enrollment in the UPSD was 3,396, but in the 2020-2021 school year enrollment dropped to 3,230 and it is projected to decline further over the next decade. The decline was likely due to the COVID-19 pandemic, which caused many school districts to move to remote/online learning. Online learning very likely limited the spread of COVID-19 among children, but it also came with social isolation and a demonstrable setback in working through standard curriculum. Due to these issues, many parents sought out private schools and home schooling. It is not known yet what share of students that left the public school system will return in the future or if the shift from public to private school will be a more permanent change.

Figure 44 | Upper Perkiomen School District Actual & Projected Enrollment, 2016-2031



Source: PA Department of Education
Note: 2021-2022 onward are projected enrollment figures

Private Schools

The Perkiomen School was founded in 1875 and now encompasses 185 acres in Pennsburg, Red Hill, and Upper Hanover. The Perkiomen School is known far and wide: in 2021, students from 12 US states and 28 countries were enrolled. The school offers education from grades 6 through 12 and had an enrollment of 292 in 2021. Of those enrolled, about half are daytime students and half reside in the many dormitories during the school year. A much smaller private school, the Red Hill Christian Schooloffers care for children as young as two months old and offers education through 6th grade.

Upper Perkiomen Valley Library

The Upper Perkiomen Valley Library, a branch of the Montgomery County-Norristown Public Library System, is located on Main Street in Red Hill. The library offers 4,000 square feet of multipurpose meeting space in addition to the 4,000 square feet that houses its large collection of books, periodicals, and DVDs. The library also hosts a wide range of educational and social activities for children, teens, and adults.

The Upper Perkiomen Valley Library, located in Red Hill, is free for use by all residents

Recommendations

Coordinate water and sewer improvements at the regional level

- Align the future growth area boundary with the water and sewer service growth areas. Where water and sewer expansions are not planned, ensure that zoning and land development regulations only allow for low density and low intensity development that can operate with private water and septic facilities.
- With many of the Act 537 plans decades old, it is recommended that all municipalities revisit their plans and update them to reflect existing conditions as needed.
- Ensure the continued operation of on-lot disposal systems through a program of continued monitoring and improvements. Municipalities with large numbers of on-lot disposal systems should consider a regular inspection or certification program to avoid failure of existing systems.

Ensure that the needs of all residents are met through municipal government, public safety agencies, and educational institutions

- Review the existing network of emergency response agencies (police, fire, and EMS) and ensure that the needs of each municipality are met.
- Explore new public safety technologies that could be deployed within the region to improve the efficiency of the transportation network; identify and apply for grant funding to acquire said technology.
- Continue to engage with the Upper Perkiomen School District in regional planning. Explore opportunities for collaboration, such as involving students in regional planning through targeted public engagement (e.g., visioning sessions).

Encourage the recycling of productive materials and the safe disposal of potentially hazardous materials

- Increase recycling rates and reduce solid waste generation across the region. Ensure that residents are fully aware of what materials may be recycled and thereby not be discarded with trash.
- Increase electronics recycling through regional collection events. Explore partnerships between municipalities, with homeowners associations or neighborhood groups, nonprofit agencies, local businesses, and community organizations.
- Review the feasibility (cost/benefit) of municipal waste and recycling programs where they do not currently exist. Municipal programs may be more cost-effective and efficient than private contracting.

Efficiently and effectively manage stormwater

- Update municipal subdivision and land development ordinances and zoning ordinances to limit the amount of impervious surfacing permitted for new development and require stormwater best management practices (BMPs) to ensure that stormwater is managed on-site.
- Ensure that municipal stormwater management ordinances are updated with modern best practices.
- Inventory existing municipal stormwater facilities and integrate them into a GIS database that can be easily referenced and updated.
- Consider the adoption of official maps at the municipal level which feature existing and proposed stormwater management facilities.
- Conduct outreach and educational events that shed light on the importance of stormwater management and the impacts of pollution.

Knight Road over the Green Lane Reservoir

Chapter Six: **TRANSPORTATION**

Goals

Address existing concerns with the transportation network, strategically plan for future improvements, and prepare for the deployment of emerging technologies

Improve the pedestrian and bicyclist experience in the region

Introduction

Transportation impacts our daily lives in many seen and unseen ways: we rely on roadways for everyday travel, but so too do the trucks that allow us to receive our online orders in a matter of days (or even hours). The transportation network needs to work for all users to keep the community and economy running smoothly. A convenient, safe, and efficient transportation network is of the utmost importance to the residents of the Upper Perkiomen Valley: more than half of community survey respondents indicated that road conditions and traffic concerns are a top priority for the region over the next 5-10 years. In this chapter, we'll review the existing transportation network and explore opportunities to create a safer and more efficient multimodal transportation network.

Vehicle Mobility

Driving is undoubtedly the primary mode of transportation in the region and, barring some cataclysmic shift, driving will remain the primary

mode of transportation into the foreseeable future. In the past, roadways were often expanded to accommodate more traffic so that drivers can get to their destination more quickly and efficiently. Now, while vehicle trip efficiency remains top-of-mind, more attention needs to be paid to the intersection of vehicles and other modes of transportation. Making transformational changes to the transportation network takes the involvement of many stakeholders and involves a long-term time horizon. Throughout this section of the plan we will take stock of existing conditions in the region, provide recommended policy goals, and outline programs that can turn a goal into reality.

Traffic Volume

Traffic volume is most commonly measured as the Average Annual Daily Traffic (AADT), which is "the typical daily traffic on a road segment for all the days in a week, over a one-year period" (PennDOT). Route 663 sees the highest traffic volume at 12,600 AADT, which should be unsurprising given that it is the main connection between the Upper Perkiomen Valley and the Pennsylvania Turnpike. Gravel Pike closely follows Route 663 with up to 11,000 AADT in some areas (with certain sections as low as 5,000 AADT). Layfield Road, Pottstown Avenue, Quakertown Avenue, and Geryville Pike follow as the remaining roadways that exceed 5,000 AADT.

The AADT for the region's roadways (2016-2021), captured by DVRPC, can be found in **Figures 45** and **46**

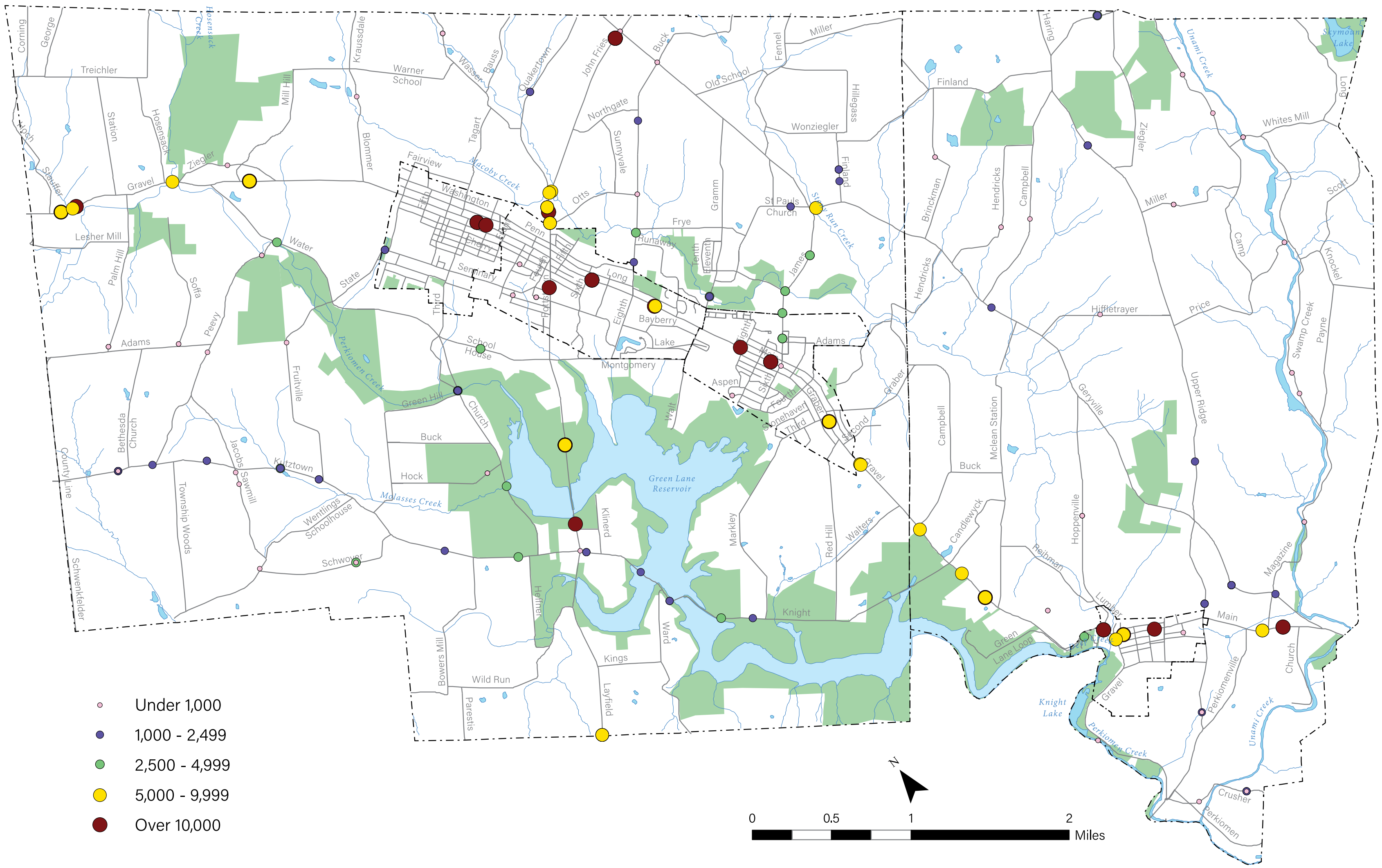
Figure 45 | *AADT in the Upper Perkiomen Valley, 2016-2021 (DVRPC)*

MUNICIPALITY	ROAD	LOCATION		DAILY TRAFFIC VOLUME (AADT)	DATE OF DATA COLLECTION
East Greenville	Gravel Pike	2nd Street	3rd Street	10,755	July 9, 2019
East Greenville	State Street	6th Street	Pillsbury Road	1,951	June 27, 2017
East Greenville	Main Street	2nd Street	4th Street	10,282	July 27, 2016
Green Lane	Main Street	3rd Street	4th Street	10,466	July 15, 2021
Green Lane	Gravel Pike	PA 29/Main Street	Lumber Street	10,982	July 9, 2019
Green Lane	Main Street	3rd Street	4th Street	9,704	July 17, 2018
Marlborough	Geryville Pike	Swamp Creek Road	Upper Ridge Road	2,165	October 28, 2021
Marlborough	Gravel Pike	Mclean Station Road	Knight Road	8,363	July 9, 2019
Marlborough	Hoppenville Road	Reihman Road	Geryville Pike	598	August 4, 2020
Marlborough	Upper Ridge Road	Geryville Pike	Camp Delmont Road	1,353	August 4, 2020
Marlborough	Upper Ridge Road	PA 63 Main Street	Geryville Pike	2,221	August 4, 2020
Marlborough	Swamp Creek Road	Camp Road	Bucks County Line	313	August 4, 2020
Marlborough	Swamp Creek Road	Magazine Road	Payne Road	220	May 14, 2019
Marlborough	Swamp Creek Road	Camp Road	Whites Mill Road	319	May 16, 2019
Marlborough	Price Road Bridge over Unami Creek	Camp Road	Swamp Creek Road	49	February 6, 2019
Marlborough	Upper Ridge Road	Finland Road	Ziegler Road	1,086	July 24, 2018
Marlborough	Geryville Pike	Swamp Creek Road	Upper Ridge Road	2,115	July 24, 2018
Marlborough	Gravel Pike	Deep Creek Road	Upper Ridge Road	6,574	July 24, 2018

Marlborough	Hendricks Road	Linsenbigler Road	Campbell Road	121	September 13, 2017
Marlborough	Easter Lane	Cul-De-Sac	Independence Drive	59	September 13, 2017
Marlborough	Miller Road	Camp Road	Upper Ridge Road	267	July 24, 2018
Marlborough	Perkiomenville Road	Old Skippack Road	Kratz Road	899	July 24, 2018
Marlborough	Upper Ridge Road	Ziegler Road	Campbell Road	1,678	July 25, 2017
Marlborough	Upper Ridge Road	Perkiomenville Road	Green Street	931	July 25, 2017
Marlborough	Gravel Pike	Upper Ridge Road	PA 63 Main Street	6,097	July 25, 2017
Marlborough	Gravel Pike	McLeans Station Road	Knight Road	9,586	July 27, 2016
Pennsburg	Main Street	10th Street	8th Street	9,002	July 9, 2019
Pennsburg	2nd Street	Cherry Street	Dotts Street	181	September 13, 2017
Pennsburg	3rd Street	Washington Street	Seminary Street	631	September 13, 2017
Pennsburg	Seminary Street	PA 663 Pottstown Avenue	4th Street	247	July 25, 2017
Pennsburg	Main Street	7th Street	PA 663 Pottstown Avene	10,101	July 27, 2016
Red Hill	6th Street	PA 29 Main Street	Red Hill Line	3,948	July 25, 2018
Red Hill	Aspen Circle	7th Street	8th Street	77	September 13, 2017
Upper Frederick	Hill Road	Green Lane Road	Green Lane Park Road	1,855	July 9, 2019
Upper Frederick	Green Lane Road (Bridge Over Deep Creek)	Deep Creek Road	Creek Lane	577	February 6, 2019
Upper Hanover	Church Road Bridge	Green Hill Road	Goschenhoppen Church Road	1,669	August 5, 2021
Upper Hanover	Finland Road	Geryville Pike	Hillegass Road	1,812	July 15, 2021
Upper Hanover	Quakertown Avenue	Ott Road	Quakertown Road	6,852	August 31, 2021
Upper Hanover	Quakertown Avenue	Ott Road	Quakertown Road	7,284	August 31, 2021
Upper Hanover	Layfield Road	Kutztown Road	Maple Lane	10,797	July 15, 2021
Upper Hanover	Gravel Pike	Station Road	Toll Gate Road	8,952	August 31, 2021
Upper Hanover	Gravel Pike	Walters Road	2nd Street	7,058	July 9, 2019
Upper Hanover	Kutztown Road	Jacobs Sawmill Road	Township Woods Road	1,571	August 11, 2020
Upper Hanover	Gravel Pike	6th Street	Palm Hill Road	7,608	August 4, 2020
Upper Hanover	Wasser Road	Ridge Way	Lehigh County Line	41	August 1, 2019
Upper Hanover	Wasser Road	Ridge Way	Lehigh County Line	54	August 1, 2019
Upper Hanover	Gravel Pike	Stauffer Road	Berks County Line	5,053	July 25, 2019
Upper Hanover	Gravel Pike	Stauffer Road	Berks County Line	5,078	July 25, 2019
Upper Hanover	Kutztown Road	Township Woods Road	Berks County Line	824	July 25, 2019

Upper Hanover	Kutztown Road	Township Woods Road	Berks County Line	763	July 25, 2019
Upper Hanover	Jacobs Sawmill Road	Wentling Schoolhouse Road	Kutztown Road	186	June 12, 2019
Upper Hanover	Knight Road	Pa 663 Layfield Road	Markley Road	1,820	July 11, 2019
Upper Hanover	Buck Road (Bridge Over Macoby Creek)	Runaway Drive	Frye Road	3,604	February 6, 2019
Upper Hanover	11th Street Bridge over Macoby Creek	Macoby Creek Way	Woodbridge Lane	1,170	February 6, 2019
Upper Hanover	Geryville Pike (Bridge Over Stony Run)	Finland Road	James Road	6,082	February 6, 2019
Upper Hanover	Knight Road (Bridge Over Green Lane Reservoir)	Ward Road	Markley Road	2,677	February 5, 2019
Upper Hanover	Knight Road (Bridge Over Green Lane Reservoir)	View Road	Ward Road	2,483	February 5, 2019
Upper Hanover	Peevy Road (Bridge Over Perkiomen Creek)	Adams Road	Water Street	772	February 5, 2019
Upper Hanover	6th Street	Red Hill Line	James Road	3,225	July 25, 2018
Upper Hanover	Congo Road	Perkiomen Creek Bridge	Kutztown Road	860	September 6, 2018
Upper Hanover	Pottstown Avenue	Otts Road	Quakertown Road	7,907	August 23, 2018
Upper Hanover	Pottstown Avenue	Otts Road	Quakertown Road	9,154	August 23, 2018
Upper Hanover	Layfield Road	Kutztown Road	Maple Lane	9,600	July 31, 2018
Upper Hanover	Gravel Pike	Station Road	Toll Gate Road	8,535	July 31, 2018
Upper Hanover	John Fries Highway	Quakertown Road	Geryville Pike	12,600	September 13, 2017
Upper Hanover	St. Pauls Church Road	Slotter Road	Geryville Pike	1,394	September 13, 2017
Upper Hanover	School House Road	Landis Road	West Fourth Street	2,705	September 13, 2017
Upper Hanover	Soffa Road	Adams Road	Dead End	202	September 13, 2017
Upper Hanover	Hock Road	Church Road	Gene Road	146	September 13, 2017
Upper Hanover	Gravel Pike	6th Street	Palm Hill Road	9,282	July 25, 2017
Upper Hanover	Palm Hill Road	Adams Road	PA 29 Gravel Pike	697	July 25, 2017
Upper Hanover	Kutztown Road	Congo Road	Jacobs Sawmill Road	1,712	July 25, 2017
Upper Hanover	Congo Road	Perkiomen Creek Bridge	Kutztown Road	4,228	July 25, 2017
Upper Hanover	Church Road Bridge	Green Hill Road	Goschenhoppen Church Road	1,568	July 27, 2016
Upper Hanover	Finland Road	Geryville Pike	Hillegass Road	1,725	July 27, 2016
Upper Hanover	Gravel Pike	Walters Road	2nd Street	8,906	July 27, 2016

Figure 46 | AADT throughout the Upper Perkiomen Valley



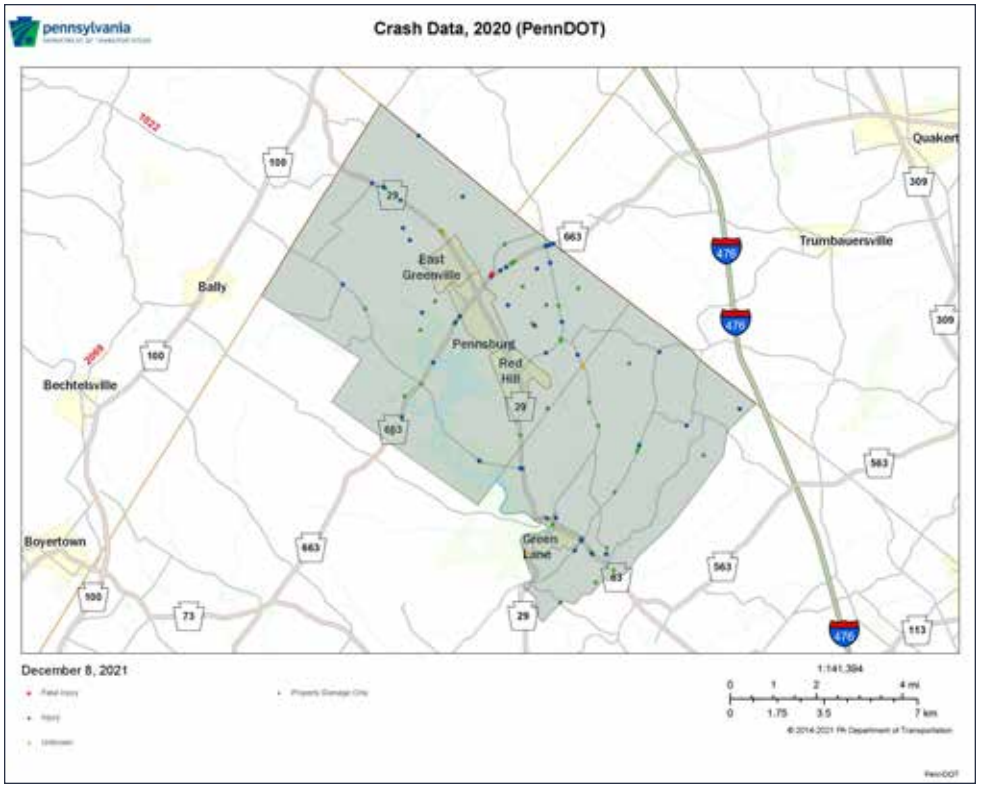
Road Ownership

PennDOT has jurisdiction over the entirety of John Fries Highway (Route 663), Gravel Pike (including where it is Main Street), Pottstown Avenue, Quakertown Avenue, Kutztown Road, Layfield Road, Swamp Creek Road, Upper Ridge Road, as well as sections of 4th Street (Red Hill), 6th Street (Red Hill), Congo Road, Crusher Road, Finland Road, Hoppenville Road, Jacobs Sawmill Road, Lumber Street, Miller Road, Park Road, Seminary Street (Red Hill), State Street (Red Hill), Wentlings School Road, Whites Mill Road, Bethesda Church Road, Palm Hill Road, and Adams Street. Montgomery County owns 75 miles of roadways throughout the county, which includes a six mile section of Geryville Pike between Marlborough and Upper Hanover Townships. All remaining roadways in the region are either under municipal or private ownership, with the vast majority being municipal.

Vehicle Crashes (PennDOT)

In 2020, there were a total of 91 vehicle crashes reported in the region. More than half of vehicle crashes involved injury and one life was tragically lost as a result. The fatal crash occurred on Quakertown Road in Upper Hanover, near the intersection with Route 663. Multiple crashes occurred at the intersection of Sumneytown Pike and Upper Ridge Road in Green Lane as well as at the intersection of Geryville Pike and Route 663. Traffic concerns with Route 663 seem to be of particular concern to the region's residents, as demonstrated through the community survey: 50 out of 124 write-in responses to an open-ended question about transportation concerns involves Route 663, and of those, 22 were related to the intersection of Route 663 and Geryville Pike.

Figure 47 | *Crash Data, 2020 (PennDOT)*



Functional Roadway Classification

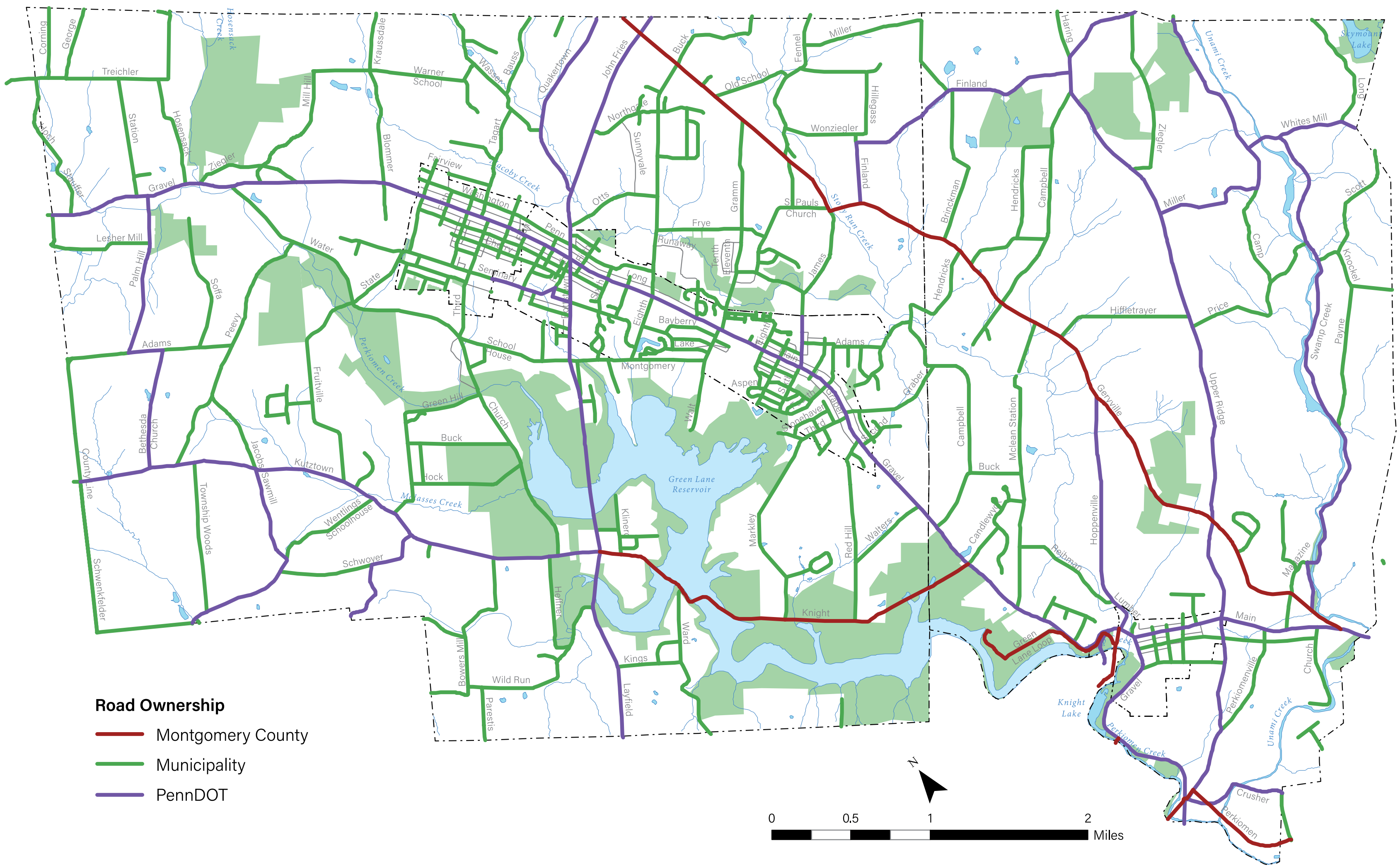
Principal Arterials

A principal arterial is a major highway that is not part of the interstate highway system. Principal arterials generally have two to four travel lanes and serve as connections for longer trips through the region. Two principal arterials serve the Upper Perkiomen Valley: State Routes 29 and 663. Both routes connect the valley to major transportation and employment centers and carry significant amounts of traffic. Based on past and ongoing trends, it is safe to assume that much new development within the region will be targeted along Routes 29 and 663.

Minor Arterials

Minor arterials interconnect with and augment principal arterials in serving major activity centers, but generally serve trips of more moderate

Figure 48 | Road Ownership in the Upper Perkiomen Valley



lengths. They are spaced at intervals consistent with population density and carry traffic within or between several municipalities. Furthermore, they link other areas not connected by principal arterials and provide key connections between roads of higher classification. The Upper Perkiomen Valley's minor arterials include Kutztown Road, Knight Road, and Geryville Pike.

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 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 Upper Perk Valley include Upper Ridge Road, Finland Road, James Road, and Crusher Road.

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 Upper Perkiomen Valley are Hill Road, Quakertown Road, Wentling Schoolhouse Road, and Congo Road.

Local Roads

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 Upper Perkiomen Valley are considered local roads. A number of the local roads are narrow, without shoulders and some may be constructed with soil aggregate.

Roadway Design Standards

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 below in **Figure 49** 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 49 | *Roadway Design Standards*

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	**300'**								
Urban		4-6	12'	N/A	10'-12'	N/A	N/A	N/A	12'
Rural		4-6	12'	N/A	10'	N/A	N/A	N/A	12'
ARTERIALS Principal									
Urban	**80'-100'**	2-5	12'-14'	11'-12'	8'-10'	8'-10'	5'-6'	5'	5'-8'
Rural		2	12'-14'	11'-12'	8'-10'	N/A	5'-6'	5'	5'-8'
ARTERIALS Minor	80'-100'								
Urban		2-5	12'-14'	11'-12'	8'-10'	8'-10'	5'-6'	5'	5'-8'
Rural		2-3	11'-14'	11'-12'	4'-10'	N/A	5'-6'	5'	5'-8'
COLLECTORS									
Urban	60'-80'	2-3	11'-14'	10'-12'	6'-10'	8'-10'	5'-6'	4'	5'-8'
Rural Major	60'-80'	2	11'-13'	10'-12'	6'-10'	GNA	5'	GNA	GNA
Rural Minor	60'	2	10'-12'	NA	2'-8'	GNA	5'	GNA	GNA
LOCAL ROADS	**50'**								
Urban		[Total Cartway Width 26 to 30 Feet]						4'	4'-8'
Rural		[Total Cartway Width 20 to 20 Feet]						GNA	GNA

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. N/A – Not Applicable.

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

Adding sidewalks or bike lanes to roadways was a high priority for 36% of community survey respondents and a medium priority for another 38% of respondents. Streets with sidewalks and bike lanes are just part of what a complete street could look like in the Upper Perkiomen Valley.

Complete Streets

Complete streets are an integral part of creating an equitable multimodal transportation network. Complete streets are streets that are designed to be safe and comfortable for users of all ages and abilities, regardless of their mode of transportation. The goal of a complete street is to place pedestrians, bicyclists, transit riders, and drivers on equal footing when historically vehicles were given primacy over other users. Complete streets include a wide range of concepts involving the design and planning of the transportation system as well as the way in which the transportation system operates. Because there is no "one size fits all" when it comes to complete streets, it is necessary for states, regions, counties and municipalities to come up with a complete streets policy that fits their needs and the goals for the community.

The streetscape in East Greenville is particularly attractive for pedestrians.

Complete streets are catered to community context and, because of this, they are just as feasible and valuable to a rural community as they are for urban or suburban communities. A complete street in a developed urban or suburban setting may include sidewalks, crosswalks (or maybe raised crosswalks), bicycle lanes, curb bumpouts, pedestrian refuge islands, extensive landscaping and streetscaping, and modified vehicle driving lanes. A complete street in a rural setting may utilize the roadway shoulder for pedestrians and bicyclists, or it may simply have signage indicating that drivers should be mindful of bicyclists and pedestrians. Complete streets are calibrated to the community context and must, by design, have flexibility and many alternative options to meet the goal of improving mobility for all users.

Municipal-level complete streets policies can be an effective tool in creating an equitable transportation system for its residents. A municipal complete streets policy gives the municipality the ability to require certain improvements as part of the land development process. Smart Growth America, an innovative urban development non-profit, has identified the following ten aspects of an ideal complete streets policy:

1. **Vision and intent:** Includes an equitable vision for how and why the community wants to complete its streets. Specifies need to create complete, connected, network and specifies at least four modes, two of which must be biking or walking.
2. **Diverse users:** Benefits all users equitably, particularly vulnerable users and the most underinvested and underserved communities.
3. **Commitment in all projects and phases:** Applies to new, retrofit/reconstruction, maintenance, and ongoing projects.
4. **Clear, accountable expectations:** Makes any exceptions specific and sets a clear procedure that requires high-level approval and public notice prior to exceptions being granted.
5. **Jurisdiction:** Requires interagency coordination between government departments and partner agencies on complete streets.

6. **Design:** Directs the use of the latest and best design criteria and guidelines and sets a time frame for their implementation.
7. **Land use and context sensitivity:** Considers the surrounding community's current and expected land use and transportation needs.
8. **Performance measures:** Establishes performance standards that are specific, equitable, and available to the public.
9. **Project selection criteria:** Provides specific criteria to encourage funding prioritization for complete streets implementation.
10. **Implementation steps:** Includes specific next steps for implementation of the policy.

Montgomery County has adopted a complete streets policy, which guides the decision-making process for county-owned roads. The document sets the vision, guiding principles, implementation strategies, performance measures, and exceptions to the policy all in less than 10 pages. Therein lies the beauty of a complete streets plan: the policy doesn't need to be long in order to have a drastic impact. In many ways, the complete streets plan reflects the concept of complete streets overall in that context is of the utmost importance and it is impractical to have one set of design standards for all roadways.

Roadway Improvements

MontCo Pikes Initiative

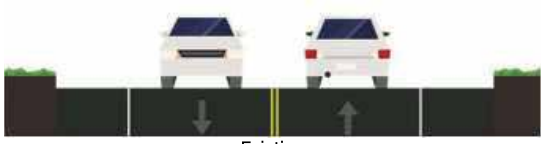
Montgomery County Planning Commission recently completed a plan, known as the *MontCo Pikes Initiative*, which envisions future improvements to county-owned roadways. As shown on **Figure 48** the county owns a six mile portion of Geryville Pike; but that's not all-- the county owns another 69 miles of roadways including portions of Easton Road, Butler Pike, Germantown Pike, Sumneytown Pike, and Swamp Pike. The planning process has involved working with municipal officials to take stock of existing corridor conditions, assess traffic and safety concerns, and anticipated future travel needs. The final plan will include a long-term vision for each corridor that includes the proposed design of the roadways.

Figure 50 | *Geryville Pike Potential Future Cross Sections*

Future typical cross sections have been prepared that address current deficiencies and serve the future needs of Geryville Pike. The cross sections consider Montgomery County's Complete Streets Policy, existing constraints, stakeholder public input, and recommendations from previous planning studies.

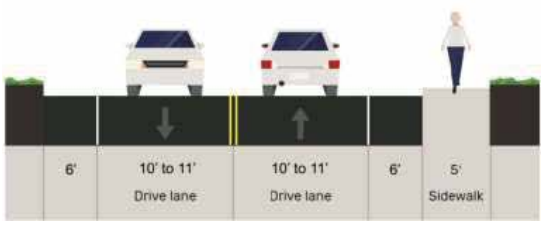
PA 663 to Magazine Road

Proposed



Existing

Magazine Road to Sumneytown Pike



Proposed

Existing

As shown in **Figure 50**, the proposed improvements to Geryville Pike are broken down into two sub-areas: PA 663 to Magazine Road and Magazine Road to Sumneytown Pike. The first section, PA 663 to Magazine Road, is proposed to have a six-foot-wide shoulder on each side of the roadway with drive lanes of 10-11 feet. The second section, Magazine Road to Sumneytown Pike, has a similar design with the addition of six-foot-wide sidewalks on one side of the roadway.

Transportation Improvement Program

The Transportation Improvement Program (TIP) is the region's capital budget for allocating federal and state transportation funding to priority projects over a 12-year period. State and Federal law requires the preparation of a TIP to receive federal and state transportation funds. The TIP allocates funding for all phases of capital projects along interstate highways, state and local roads, and transit systems.

Every two years, DVRPC adopts a TIP that covers four fiscal years. In July of 2020, the DVRPC Board approved the Fiscal Year 2021 TIP for the five counties in Southeastern Pennsylvania, identifying capital projects which will take place between 2021 and 2024. Two projects in the Upper Perkiomen Valley are included in the 2021-2024 TIP:

Figure 51 | 2021-2024 TIP Projects

MUNICIPALITY	MPMS#	PROJECT NAME	DESCRIPTION	ESTIMATED COST
Upper Hanover	16,408	Fruitville Road Bridge Over Perkiomen Creek (CB #232)	Replacement of the bridge over the Perkiomen Creek.	$7,254,000
Pennsburg	57,849	PA 29, Main Street Bridge Over Reading Railroad Tracks (Removal)	Removal of the bridge on Main Street over the former Reading Railroad tracks.	$4,583,000

Scenic Roadways

Many of the roadways throughout the region traverse beautiful natural and agricultural landscapes. These rural roadways give the community its unique sense of place and enhances the experience of residents and those passing through the region. Upper Hanover and Marlborough Townships should discuss the potential for regulations aimed at preserving these rural resources.

In order to preserve the existing beauty of rural roadways, the following techniques can be employed through municipal land development regulations:

- **Dimensional requirements.** Traditional rural communities feature large lots with deep setbacks. Municipal zoning ordinances can require wide, large area lots with deep front yard setbacks to mimic the existing conditions in the corridor. Furthermore, keeping developable area low on large lots maintains the large swaths of open space that create the scenic conditions in a rural community.
- **Driveway requirements.** A hallmark of rural roadways is that driveways are few and far between. Denser development can be permitted when it is required to utilize shared driveways so that the overall appearance of the corridor remains the same. As noted above, driveways should generally be longer and provide access to development set back from the road.
- **Open space and landscaping.** Both municipal zoning ordinances and subdivision and land development ordinances (SALDO) can require the retention of existing vegetation and require the installation of new landscaping. SALDOs can prescribe a percentage of existing natural features that are retained on-site following development. In the case of unique or fragile areas, such as areas with steep slopes or wetlands,

100% of the existing features can be required to be kept. In the case of woodlands or other vegetated areas, a balance must be struck that allows for development but which also retains the overall integrity of the ecosystem. A common element of the SALDO is to require the replacement of large-caliper trees with new trees elsewhere on-site.

- **Signage.** It's no secret that rural areas traditionally did not have illuminated or animated signage. In keeping with this, signage can be limited in area and design through zoning regulations. Existing, desirable signage within the corridor can be used as a template for allowable signage in the corridor.
- **Roadway design.** Generally speaking, rural roadways are narrower than newly built (or re-built) roadways. In many cases there are obstacles to widening rural roadways, which can be natural (e.g., a stream) or man-made (e.g., a stone wall). Pedestrians, bicyclists, or perhaps even horses and other livestock may also make use of rural roadways. In lieu of sidewalks, which are generally incongruous to a rural roadway, wide shoulders or off-street (e.g., a trail) pedestrian and bicyclist facilities can be installed. The SALDO can prescribe the overall roadway design to match desirable conditions on the specific roadway.

Preparing For Electric Vehicles

Electric vehicles (EVs) get their power from a battery rather than from gasoline or diesel, and are propelled by electric motors instead of internal combustion engines. Some EVs are available in a hybrid option, which can make use of both a traditional fuel and electrical energy. Because there is no internal combustion of fuel, EVs do not produce any tailpipe emissions that diminish local air quality. Pollution from manufacturing and electricity generation are certainly still a factor so long as our energy system is dependent on fossil fuels, but the pollution is generally far less than that of a traditional internal combustion vehicle. As wind and solar power continue to make up a larger share of our energy system, EVs will have smaller and smaller carbon footprints.

Most EVs on the market have ranges over 200 miles on a single charge and, according to the 2017 Household Travel Survey (US DOT FHWA), 85% of households travel less than 100 miles per day—a range that an EV can easily handle in a single charge. EVs can generally be charged with a standard 120 volt outlet, but lack of EV charging stations away from the home is undeniably an inhibiting factor in the widespread use of EVs. Even if a household generally travels within range of a charge on a typical day there are times when longer trips are necessary. So long as charging stations are few and far between, there will continue to be lower numbers of electric vehicles on the road than traditionally fueled vehicles.

To pave the way for the proliferation of electric vehicles, municipalities can add language to their zoning ordinances to require or incentivize

Over 85% of community survey respondents ranked fixing sidewalks as a medium to high priority. Increasing the visibility of pedestrians at crosswalks was also a medium to high priority for 73% of survey respondents. Sidewalks and crosswalks near schools and along Main Street in East Greenville, Pennsburg, and Red Hill were of particular concern to area residents.

electric vehicle charging stations. For example, a community may require one electric vehicle charging station per a certain number of parking spaces in a new parking lot. To turn this requirement into an incentive, the community could instead treat electric vehicles as two (or more) parking spaces for the calculation of meeting minimum parking requirements. Atlanta, GA passed an ordinance in 2017 requiring that new homes be equipped with the necessary electrical connections to be "EV ready" for future retrofits. There are many creative ways to incentivize electric vehicle charging stations without being heavy handed. And, with the lifetime cost-to-own electric vehicles already being lower than traditional vehicles, the market may soon demand that EV charging stations be provided at retail stores and many other locations to keep the customer happy.

Pedestrian & Bicyclist Mobility

Walkability

The boroughs of East Greenville, Pennsburg, and Red Hill have well established sidewalk networks that run throughout the majority of streets within each borough (see **Figure 52**). A portion of Green Lane Borough has sidewalks, however much of the borough lacks sidewalks. Very small areas of Upper Hanover and Marlborough Townships have sidewalks, which is neither surprising nor particularly detrimental given the relatively low density of development.

For those who cannot drive, such as children, households without access to a car, or people with health conditions that do not permit driving, sidewalks can be essential to their mobility. Those that don't have access to a personal vehicle may depend on public transit, which there is no option for in the region, so walking may be the only way for them to get to and from work, doctors' appointments, the grocery store, or anywhere else that they may need to frequent. Dense areas of the region, particularly the boroughs and villages, should work toward creating an accessible and equitable pedestrian network.

This difficult crossing for pedestrians, near the UPV Chamber of Commerce in East Greenville, includes curb bumpouts, painted crosswalks with signage, detectable warning plates at curb ramps, decorative paving, and pedestrian-operated flags. The flags were recently added as a way to aid pedestrians in getting drivers' attention—an innovative fix!

Sidewalk Location and Design

Sidewalks and crosswalks are the most important aspect of a walkable community. Sidewalks should always be considered part of new development or redevelopment, even if there is limited connectivity in the immediate area. Commercial, mixed use, and medium- to high-density residential development should almost always provide sidewalks as part of the land development process; areas where residential density is lower than one dwelling unit per acre do not generally require sidewalks.

It is critical that users of all abilities are considered when designing a sidewalk. Sidewalks designed for a range of users are

Figure 52 | *Upper Perkiomen Valley Sidewalk Network (DVRPC)*

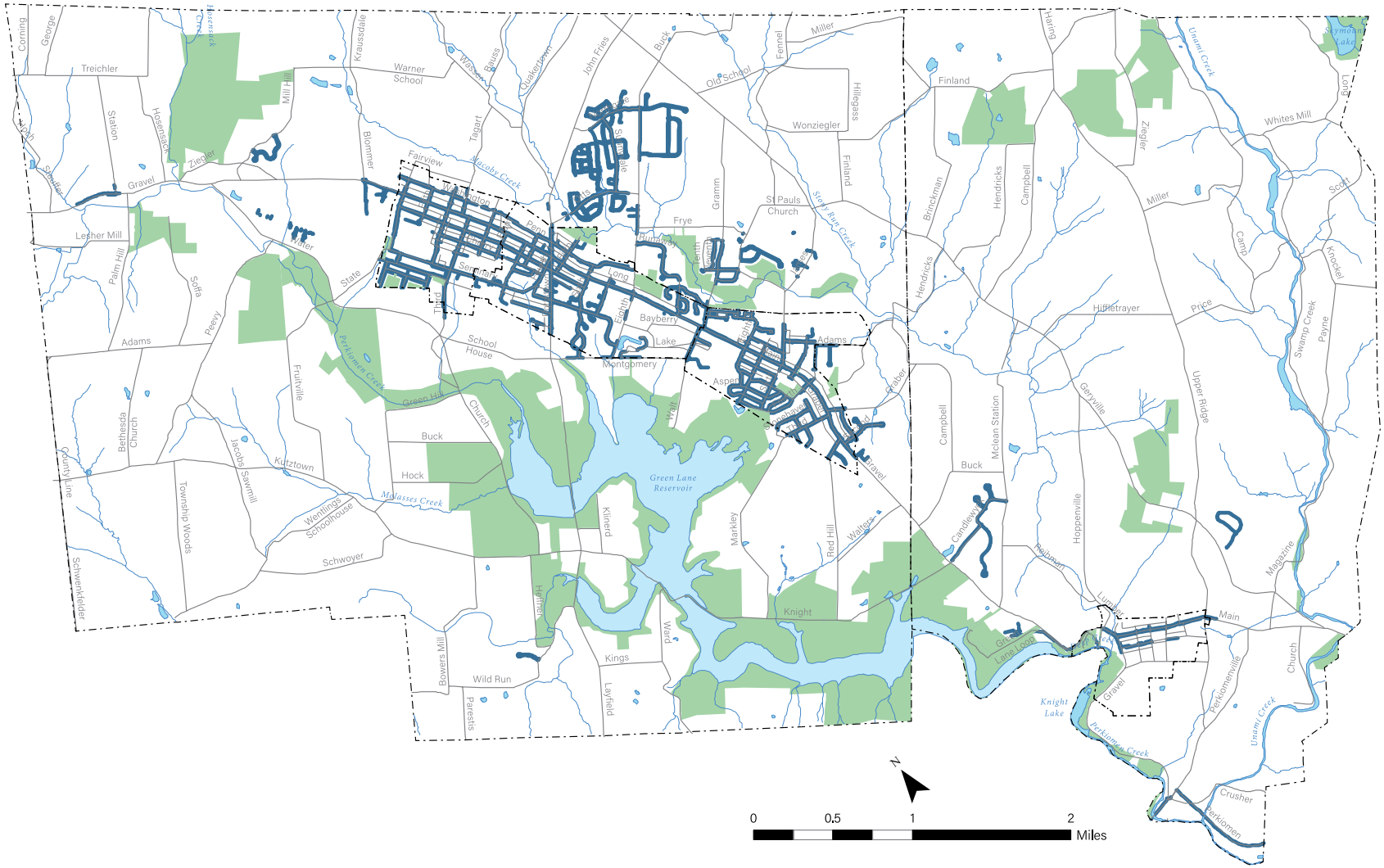
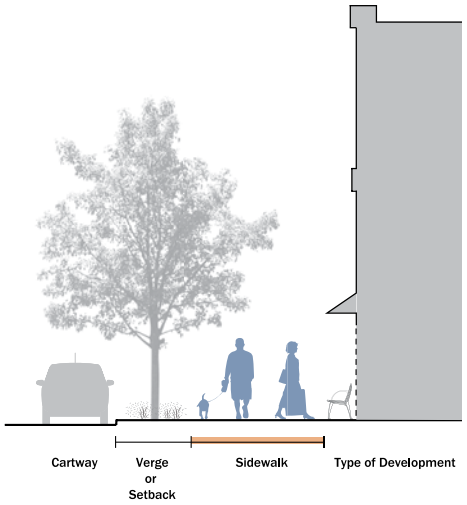


Figure 53 | *Sidewalk Location Guidelines by Type of Development, Walk MontCo (2016)*

Sidewalk Location Guidelines by Type of Development

TYPE OF DEVELOPMENT	SIDEWALK LOCATIONS FOR NEW DEVELOPMENT*	SIDEWALK LOCATION FOR EXISTING DEVELOPMENT*
▪ Commercial, Office, and Industrial ▪ Residential (along arterial roads)	Both sides of streets.	Both sides of streets. Every effort should be made to add sidewalks where they do not exist and complete missing links.
▪ Residential (along collector roads)	Both sides of streets.	Apartments, townhouses, or twins—both sides of street. Single family detached homes—prefer both sides of streets; require at least one side.
▪ Residential (along local streets)		
– More than 4 units/acre	Both sides of streets.	Prefer both sides of streets; require on at least one side.
– 1-4 units/acre	Prefer both sides of streets; require at least one side.	Prefer both sides of streets*; require on at least one side or 6 foot shoulders* on both sides.
– Less than 1 unit/acre	One side of street preferred, shoulder on both sides required.	One side of street preferred, at least 6 foot shoulders on both sides.



TYPE OF DEVELOPMENT	VERGE WIDTH	SIDEWALK WIDTH
CENTRAL BUSINESS DISTRICT SIDEWALKS	5′	8′
COMMERCIAL, OFFICE, AND INDUSTRIAL SIDEWALKS OUTSIDE OF CENTRAL BUSINESS DISTRICT	5′ - 8′	5′
RESIDENTIAL SIDEWALKS ALONG MAJOR STREETS	5′ - 8′	5′
RESIDENTIAL SIDEWALKS ON LOCAL STREETS WITH MORE THAN 4 HOMES PER ACRE	2′	5′
RESIDENTIAL SIDEWALKS ON LOCAL STREETS WITH 4 HOMES PER ACRE OR LESS	2′	4′ - 5′

more comfortable and will encourage additional users to choose to walk to their destination. In most cases, sidewalks should be a minimum of five feet wide. Wider sidewalks allow pedestrians to walk side-by-side and allow others to pass comfortably. Sidewalks less than five feet wide can feel less comfortable for multiple users, but four feet wide sidewalks can be effective in lower density settings.

Pedestrians are likely to avoid walking in areas that do not give them a safe, convenient, and direct route to their destination. Crosswalks can act as key linkages across busy roadways to safely get a pedestrian to their destination. Crosswalks should be painted in places that make sense for both the pedestrian and drivers, are of a prominent style that is both easily recognized and aesthetically pleasing, and have good sight distance for vehicles approaching the crosswalk. Crosswalks should, where feasible, be well-lit by street lights and have signage or flashing lights to alert drivers of the upcoming crosswalk.

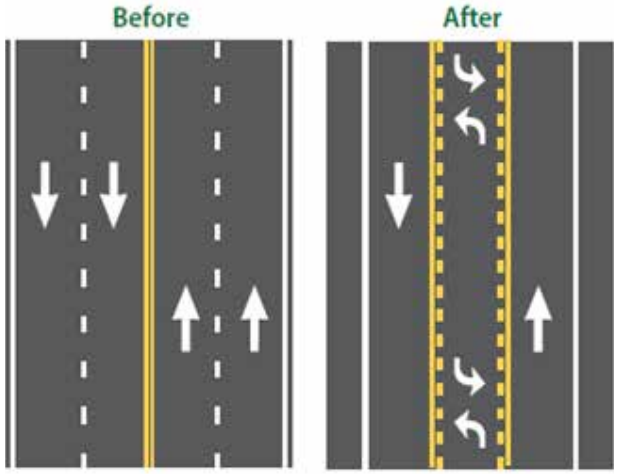
The streetscape in business districts play a key role in the success of the district and in the character of the community. Sidewalks should be at least 8 feet wide in walkable commercial areas and have extra space for additional features like street trees, benches, waste receptacles, and outdoor dining. These streetscape features have the added benefit of separating pedestrians from traffic, which improves the feeling of safety. Pedestrians are far more comfortable on a sidewalk when they are physically separated from traffic.

Walkability Studies

Walking should be safe, easy, and convenient for people of all ages and abilities. Unfortunately, there are often gaps, deficiencies, or even hazards in pedestrian infrastructure that impact the pedestrian experience. A community walkability study can be an invaluable tool in identifying and addressing issues with the pedestrian network. The goal of a walkability study is to take inventory and analyze the existing conditions within a set study area by applying a standardized set of criteria. Staff or trained volunteers can walk around the study area and take note of conditions that might not be easily identifiable without being on the ground. Key factors may include the presence or absence of sidewalks, the design and state of sidewalks, the presence of crosswalks, and any other contextual factors that impact pedestrian safety and comfort. Walkability studies can culminate in a recommended plan of action to address deficiencies, namely corrective maintenance and improving connectivity.

Walk MontCo

Montgomery County completed a county-wide walkability study in 2016, *Walk MontCo.* The study focuses on walkability issues and opportunities throughout the county. The study includes general recommendations to improve walkability in various areas (e.g., a central business district or a neighborhood) and includes specific recommendations for four focus areas. *Walk MontCo* also includes information on potential funding sources to implement walkability improvements at the municipal level.



Typical Road Diet, FHWA

Safe Transportation for Every Pedestrian (STEP)

PennDOT is a champion for FHWA's Safe Transportation for Every Pedestrian program, an innovative and systematic application of cost-effective pedestrian safety improvements. PennDOT focuses on the following STEP applications:

1. **Rectangular Rapid Flashing Beacons (RRFB).** A RRFB includes two rectangular-shaped yellow indicators, each with an LED array, which flash with high frequency when activated (generally by a pedestrian-controlled button). RRFBs are best utilized at mid-block or uncontrolled crossing locations because they draw attention to crosswalks and pedestrians.
2. **Leading Pedestrian Intervals (LPI)**. Traditional signalized intersections generally allow pedestrians to cross at the same time as vehicles getting a green light to turn. LPI refers to a three to seven second window that allows pedestrians to start crossing a roadway before vehicles get a green light. LPIs help reduce conflicts between pedestrians and left- or right- turning vehicles and can provide enhanced safety for slower moving pedestrians. LPIs have been shown to reduce pedestrian-involved crashes by 13% (PennDOT).
3. **Crosswalk Visibility Enhancements.** Improving and enhancing crosswalk lighting, signage, and markings draws attention to pedestrians and can help pedestrians identify safe crossings. Enhancements may include high visibility markings of crosswalks, parking restrictions near crosswalks, advanced "stop" or "yield" markings, signs, and curb bumpouts/extensions. Visibility enhancements can reduce crashes by 23-48% (PennDOT).

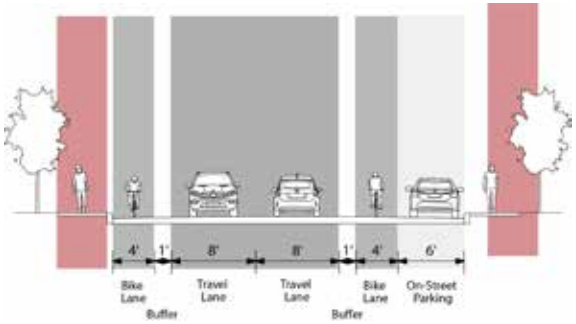
4. **Raised Crosswalks.** Raised crosswalks are generally painted or constructed of a high-visibility material that draws attention to them. Raised crosswalks can keep pedestrians at the same grade as sidewalks, which both improves accessibility and increases visibility of pedestrians. Raised crosswalks can also act as a form of speedbump, which slows vehicle traffic.
5. **Pedestrian Crossing/Refuge Islands.** Medians can be designed as refuge areas for pedestrians, thereby reducing the time and distance that a pedestrian is in the roadway and drawing attention to pedestrians.
6. **Road Diets.** A typical road diet converts an existing four-lane, undivided roadway to two through-lanes and a center, two-way left turn lane. This reduces the number of lanes that a pedestrian needs to cross and the reclaimed roadway can be used to construct bike lanes, wider sidewalks, or add on-street parking. Road diets can be quite cost-effective if only pavement markings are required to implement the reconfiguration. Road diets are estimated to reduce total crashes by 19% in urban areas and as much as 47% in suburban areas (PennDOT).

Bicycle Routes

Bicycling is a key aspect of a multimodal transportation network. In addition to being a highly popular form of recreation, bicycling can also be an important mode of transportation for certain people. Bicycle trips can likely replace shorter vehicle trips, which would result in less cars on the road, less energy use, and less pollution. Respondents of the community survey were split fairly evenly between ranking adding new bike lanes as either a medium to high priority or a low to non-priority. Some respondents chose to add comments related to their response, which included the perception that there simply isn't enough space for bike lanes on the region's roadways despite the fact that they may be desirable.

Without the proper infrastructure, bicyclists can be vulnerable when sharing the roadway with vehicles. With proper planning and design, roads can become more welcoming and safe for bicyclists. Some simple fixes to make bicyclists safer on the road include:

- **Signage.** The main purpose of signage is to alert drivers to the fact that bicyclists may be on the road. Signage could include bicycle route signage (similar to street signs), "share the road" or similar message to alert drivers to the potential presence of bicyclists, or on-road painted symbols like "sharrows."
- **Bike lanes.** Bike lanes are the ideal solution for roadways that can (a) physically accommodate the width and (b) would benefit from separating bicycle traffic from vehicle traffic. Roadway shoulders can be utilized as bike lanes in many situations, but it is important that the shoulders remain free from debris that could pose a safety hazard. Where bike lanes are infeasible, sharrows can be utilized to indicate that bicyclists and vehicles need to share the road with one another.



Source: East Greenville Borough SALDO

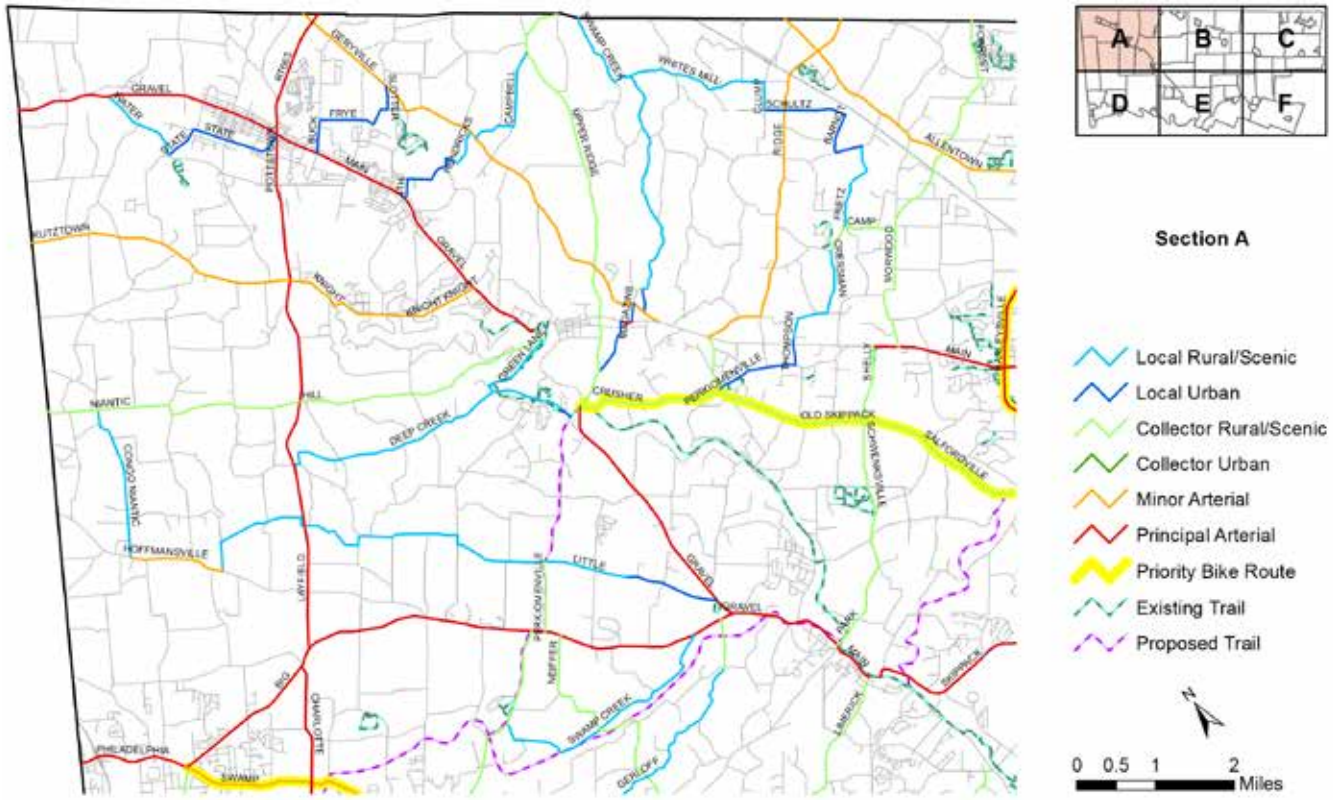
Bicycle infrastructure can be required as part of the zoning and land development process. Certain types of land uses, particularly commercial and residential uses, can be required to provide a certain number of bicycle parking spaces; it can be required that parking lots include bicycle parking spaces. Bike lanes could also be an integral part of roadway design during the subdivision and land development process, however this would generally only come into play where new roadways are proposed.

Bike MontCo

Bike MontCo, Montgomery County's bicycle plan, was adopted in 2018 after an extensive planning process. The plan proposed key policies to address the needs of bicyclists in the county. The plan culminates in a proposed network of designated bicycle routes, which was based on a handful of factors including road conditions and desirable destinations. The planned bicycle network totals 783 miles, which includes 37 miles on county-owned roads, 160 miles on municipal roads, and 586 on PennDOT roads.

Within the Upper Perkiomen Valley, bicycle routes are proposed for the length of Gravel Pike, Kutztown Road, Layfield Road, Pottstown Avenue, John Fries Highway, Geryville Pike, Upper Ridge Road, as well as smaller segments which are all displayed in **Figure 54.**

Figure 54 | *Proposed Bicycle Network, Bike MontCo (2018)*



Trails

Trails are generally thought of as recreation resources, but they can also be an alternative and attractive means of transportation. Trails can be planned in such a way that they are the most direct and efficient connection between Points 'A' and 'B' and can connect destinations that don't have sidewalk or bike lane connections.

The Upper Perkiomen Valley has the benefit of being the home of Green Lane Park, which features over 25 miles of trails. The longest trail within the park, the Green Lane Loop Trail, connects to "The Circuit" via the Perkiomen Trail. The Perkiomen Trail follows the path of the Perkiomen Creek 19 miles south where it meets the Schuylkill River Trail near Valley Forge National Park. The trail is a key connector which links the Upper Perkiomen Valley to Philadelphia—plus many other communities and trails along the way.

Many municipal parks also feature trails or even a network of trails, however interconnections are needed to maximize their benefit to mobility. The Upper Perkiomen Valley is in the process of creating a regional greenway plan that will address interconnections and filling in existing gaps.

Trail Design

Trails range in design based on their intended use. Trails may be designed for pedestrian, bicyclist, and equestrian traffic or they could be focused on a specific type of user. *Walk MontCo* prescribes the best practices for trail design, which are included on the following page, but some key takeaways are:

- Trail width should generally be between 8 to 12 feet, depending on the anticipated amount of traffic and the types of users permitted.
- Trail surfacing should be macadam or hard cinder pavement. This is obviously not the case for less formalized hiking trails, which will generally be unfinished, or perhaps consist of gravel or woodchips.
- Trails that see a lot of traffic and particularly different types of users should include center stripes to indicate the flow of traffic. In some cases, it may become necessary to allow for only one type of user on a trail, such as a pedestrians-only trail, and create an alternative route for other types of users.

The Circuit is Greater Philadelphia's multi–use trail network connecting people to jobs, communities, parks, and waterways. Governments, nonprofits, and foundations have collaborated to complete over 300 miles of the envisioned 750-mile regional network. More miles are added to the network each year.

Learn more at CircuitTrails.org.

In August 2016, DVRPC undertook a bicycle traffic count for the Perkiomen Trail between Crusher Road and the Unami Creek Bridge. During that timeframe, an average of 246 bicycles per day were counted.

Figure 55 | *Trail Design Guidelines, Walk MontCo (2016)*

STANDARD DESCRIPTION		TRAIL CLASSIFICATION TYPE			
CRITERIA OUTLINE		MULTIUSE	PATHWAY	RETROFIT SIDEWALK	ON ROAD IMPROVEMENTS FOR BICYCLISTS
Trail Width (75′ trail corridor width minimum)	Desirable	12′	6′	10′-12′ (multi-use w/o bike lane: two-way shared use)*	Bike Lane: 6′-5′
	Minimum	8′-10′	4′	6′-8′ (multi-use with bike lane: two-way shared use)**	Bike Lane: 4′
Trail Shoulder Width	Desirable	4-5′	2′	4′ (multi-use w/o bike lane: two-way shared use)	Road Shoulder: 8′-6′
	Minimum	2′	2′	2′ (multi-use with bike lane: two-way shared use)	Road Shoulder: 4′
Trail Surface Type***	Desirable	Macadam	Cinder/ Macadam	Concrete	Macadam
	Acceptable	Cinder	Cinder	Macadam (if acceptable by local zoning regulations)	Macadam
Trail Grade (longitudinal slope)	Desirable	1%-3%	1%-3%	1%-2%	--
	Maximum	5%	5%	5%	--
Trail Surface Grade (cross slope)	Desirable	1%	1%	1%	--
	Maximum	2%	2%	2%	--
Vertical Clearance	Desirable	10′	10′	10′	--
	Minimum	8′	8′	8′	--
Horizontal Clearance (edge of trail vegetation clearance)	Desirable	4-5′	2′	4′	--
	Minimum	2′	2′	2′	--
Design Speed (mph)	Desirable Grades	20	3-7	8-15	25-30
Viewshed (linear feet) {line of sight within a corridor}	Desirable	200′-175′	75′	200′-175′	--
	Minimum	150′	50′	150′	--

* 6′ (typical ped. sidewalk)
** 4′ (typical ped. sidewalk)
*** Macadam should be considered for trail grades over 2%

All Trail Surface Depths are assumed @ 2-4″ and Trail Sub-base Depths are assumed @ 4-8″.

E-Commerce

E-commerce, the process of selling and purchasing goods and services online, has become an integral part of our lives. Many retailers offer free or low-cost home delivery in as little as a few hours. This system is extremely convenient for the consumer and, thanks to that, it has sped the decline of brick-and-mortar retail.

Many consumers do not think twice about how such swift delivery is possible. Fast delivery options are available thanks to retailers systematically placing warehouses and shipping hubs in strategic locations.

The increase in warehouse and shipping hubs has a clear and large impact on the land use side of things, but perhaps just as large of an impact is felt in the transportation network. Large trucks are needed to transport goods to warehouses that are closer to consumers. Then, smaller delivery trucks are needed to get the goods to your front door in a fast and efficient manner.

Dense urban and suburban locations will need to address increased delivery vehicles on narrow streets and figure out where they can safely park while delivering packages. Rural communities will have to grapple with increased truck traffic and the many impacts that that can bring.

Freight

The region is served by a single rail line, which is operated by the East Penn Railroad. The 286,000 pound capacity track connects Pennsburg, East Greenville, and Upper Hanover to rail lines in nearby Berks and Lehigh Counties. The rail line is limited in the area it serves, which makes it necessary that trucks handle the vast majority of freight transport.

The region is located in close proximity to I-476, the Northeast Extension of the Pennsylvania Turnpike, which sees very high traffic volumes for both personal vehicles and commercial traffic. The region's proximity to I-476 and the relative ease for on/off traffic positions the region as a location of current and future warehouse and transportation business interest. Future development brings with it traffic concerns, but this can be mitigated through proper planning before and during the land development process.

An East Penn Railroad Train parked in Pennsburg Borough

Recommendations

Address existing concerns with the transportation network, strategically plan for future improvements, and prepare for the deployment of emerging technologies

- Continue annual municipal capital improvements to address deficiencies with roadways. Explore long-term solutions to persistent problems, such as upgrading traffic signals to be better actuated and responsive to present traffic conditions.
- Prioritize transportation improvements during the land development process to diffuse costs.
- Identify areas of the region that could see future warehousing and distribution interest; update zoning to encourage such uses within targeted areas and discourage such uses where they could adversely impact the region.
- Install electric vehicle charging stations across the region. Update zoning ordinances to require or incentivize the installation of EV charging stations and explore funding opportunities for municipalities to install charging stations at municipal facilities (e.g., parks and municipal buildings.)
- Identify regionally-significant rural and scenic roadways; draft ordinances to preserve and enhance scenic corridors. Collaborate on a regional complete streets policy and/or adopt municipal-specific complete streets policies.
- Consider opportunities to link our communities with existing public transit systems to improve connections for employment and leisure within the greater Philadelphia region.

Improve the pedestrian and bicyclist experience in the region

- Develop and promote a regional multi-use trails network plan.
- Develop and promote a regional bicycle route map featuring existing connections and identification of future bicycle routes.
- Ensure that new development within the boroughs includes the provision of sidewalks that meet the best practices for the type and scale of development. Update zoning ordinances and subdivision and land development ordinances to reflect ideal development.
- Conduct targeted walkability studies within the communities of the region; utilize findings in pursuing grant funding to implement targeted improvements.
- Construct sidewalks strategically to improve connectivity between communities, particularly between the three contiguous boroughs.

The Bauern Freund Print Shop was built in 1838 by Enos Benner, a German-American Publisher.

Chapter Seven: **CULTURAL RESOURCES**

Goals

Promote the preservation and continued use of historic structures and sites in the region

Promote the history and significance of the region and its early settlers

Introduction

Cultural resources are the combination of significant events and places that define the identity of the region. Appreciation and preservation of cultural resources helps to keep the history of the region alive into the modern day. Significant structures, buildings, and sites can act as a reminder of the past which can be given new life with proper care. The Upper Perkiomen Valley's storied past has left behind a plethora of cultural resources that we will examine throughout this chapter.

National Register of Historic Places

The most coveted accolade for a historic site in the United States is listing in the National Register of Historic Places. The National Register of Historic Places is the federal list of places that are worthy of preservation and recognition at the national level. Following the passage of the National Historic Preservation Act of 1966, the National Parks Service (NPS) was tasked with administering the national program to identify, evaluate, and

One in three community survey respondents felt that historic preservation should be a top priority for the region over the next 5-10 years.

Palm Schwenkfelder Church

protect the archaeological and historic resources of the United States of America. The process to get listed includes the following steps:

1. **Determination of Eligibility Request.** A property owner or another entity on their behalf (historical society or preservation group, government agency, etc.) submits a determination of eligibility request to the State Historic Preservation Office (SHPO). Here, the SHPO is nested within the Pennsylvania Historical & Museum Commission.

2. **Eligibility.** A committee of SHPO staff reviews the submission material and determines eligibility based on National Register criteria. The SHPO may request additional information from the applicant during this phase, however SHPO has a 60-day window to respond to evaluation requests from the public and 30 days to respond to federal agencies. If eligibility cannot be determined, the applicant can choose to go through an appeals process to continue.

Eligible properties are those meeting the National Register Criteria for Evaluation. In addition to being old enough to be considered historic, generally at least 50 years old, the property must:

   a. be associated with events that have made a significant contribution to the broad patterns of our history; or

   b. be associated with the lives of a person significant in our past; or

   c. embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

   d. have yielded or may likely yield information important in history or prehistory.

3. **Nomination.** If a property is determined to be eligible and the property owner consents, the property may be formally nominated for the National Register. SHPO staff will conduct review of the nomination documentation and conduct site visits. Following this review, the SHPO will submit the nomination to the state Historic Preservation Board.

4. **Historic Preservation Board Review.** The Pennsylvania Historic Preservation Board meets three times annually (February, June, and October) to consider whether the submitted nominations meet the national criteria and to determine if the nomination will be submitted to NPS. If the board accepts the nomination, they will submit it the Keeper of the National Register. If the board rejects the nomination, then the appeal process may be initiated.

5. **National Park Service Review.** Finally, NPS staff will review the submitted nomination. If NPS determines that the nomination is complete, the property will be listed in the National Register of Historic Places and an announcement indicating the listing will be posted to the NPS website. In the event that NPS determines that there are deficiencies with the nomination, NPS will work with the SHPO to clarify any issues.

The process to get listed in the National Register of Historic Places can be resource intensive, but the benefits are manifold. In addition to the honor of being listed, there are financial incentives to pursue listing. National Register listing unlocks grant funding and the Federal Historic Preservation Tax Incentive, which has proven to be an astoundingly successful incentive to rehabilitate and reuse historic structures. The NPS reports that since 1976, federal tax incentives have leveraged over $102 billion in private investments to preserve over 45,000 historic properties.

Contrary to popular belief, listing in the National Register of Historic Places puts very little burden on the property owner. If a private owner is using private funds, they are able to make any alterations to, or even demolish, their historic property while only requiring local permitting. If federal funding is allocated to a property listed in the National Register of Historic Places, then formal review may be required. Local ordinances offer more substantial protection of cultural resources and can even be used to prevent the demolition of significant sites; this will be discussed in more detail under the *Preservation Trends & Strategies* section in the coming pages.

Historic Sites & Districts

Throughout this section we will list the historic sites in the region that have been listed in the National Register of Historic Places and those sites that have been determined to be eligible for listing. The 2011 *Upper Perkiomen Valley Regional Comprehensive Plan* included dozens of additional sites that have been determined to have local historic or cultural value through previous planning efforts (pages 70-82). Those locally-significant sites are valuable resources for the community and should be reviewed for eligibility for inclusion in the National Register, however they have not been included in this plan.

The National Register of Historic Places defines a historic district as, "a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. In addition, historic districts consist of contributing and non-contributing properties. Historic districts possess a concentration, linkage or continuity of the other four types of properties. Objects, structures, buildings and sites within a historic district are usually thematically linked by architectural style or designer, date of development, distinctive urban plan, and/or historic associations." To expand upon this definition, contributing structures in a historic district are historically significant in their own right whereas noncontributing structures are generally not (or may have their significance from a time period other than that of the district). There is currently only one listed historic district in the region, that being the Red Hill Historic District, however there are several other eligible historic districts that have not yet been nominated.

Photograph of the Rieth Homestead included with the National Register Nomination Form, 1973

Listed Historic Resources

Andreas Rieth Homestead (Marlborough Township)

The Andreas Rieth Homestead, built during the early to mid-18th century, is located on Geryville Pike to the east of Macoby Creek. Two structures are located on the site, which includes the Rieth Farmhouse and a much smaller farmhouse. The Rieth Farmhouse is a 2 ½ story Federal style farmhouse, which was originally constructed in the traditional style of a German farmhouse. Although expanded/altered towards the end of the 18th Century, the result remains a significant architectural marvel. The smaller structure on the property is a 1 ½ story stone barn that appears to have been originally constructed and utilized as a farmhouse, or perhaps a combination of barn and residence. The interior of the barn, at the time of listing, had degraded to the point where few features remained intact. The Andreas Rieth Homestead was listed in the National Register of Historic Places in 1973.

Andreas Rieth Homestead, 2022

Bauern Freund Print Shop, 2022

Bauern Freund Print Shop (Marlborough Township)

The Bauern Freund Print Shop, circa 1838, is a 2 ½ story shop associated with the career of German-American educator and printer Enos Benner. Benner published a weekly newspaper called *Der Bauern Freund* (*The Farmer's Friend*) between 1828 and 1858. The building itself, designed by an unknown architect, has the appearance of a Philadelphia rowhouse, however the commercial use and rural setting adds a unique dimension to the property. A significant number of political, educational, and religious texts were published in the shop in addition to *Der Bauern Freund*. The Bauern Freund Print Shop was listed in the National Register of Historic Places in 1982.

Swamp Creek Road Bridge (Marlborough Township)—South

The Swamp Creek Road Bridge, circa 1892, is of stone arch construction and carries Swamp Creek Road over the Unami Creek. The bridge was built by Thomas McAdams and features 3 spans. The Swamp Creek Bridge was listed in the National Register of Historic Places in 1988.

Swamp Creek Road Bridge (Marlborough Township)—North

The Swamp Creek Road Bridge, circa 1910, carries Swamp Creek Road over the Unami Creek. The design of the bridge is attributed to George P.F. Wanger, the engineer for Montgomery County, and it was built by James M. Smith. The bridge has 3 spans, and is 98 feet long by 22 feet wide. The Swamp Creek Bridge was listed in the National Register of Historic Places in 1988.

Swamp Creek Road Bridge – South

Swamp Creek Road Bridge – North

The rehabilitated Boyertown Burial Casket Company

Boyertown Burial Casket Company (East Greenville Borough)

The Boyertown Burial Casket Company building, circa 1880, is located at 401 West 4th Street in East Greenville. The primary building varies in height between 1, 3, and 5 ½ stories and is composed of red brick. Substantial additions were constructed in 1919, 1922, and 1925 that retained the overall style of the original building and remarkably do not detract from the character. In addition to the primary structure, there is a two-story brick building (circa 1942, likely for lumber storage/staging) and a truck terminal (circa 1955). The building has recently been extensively rehabilitated and adapted for use as a multifamily residential development, known as the Willows at East Greenville. The Boyertown Burial Casket Company was listed in the National Register of Historic Places in 2017.

William and Caroline Schall House (Green Lane Borough)

This Federal style stone mansion was constructed around 1835 at the intersection of Perkiomenville, Gravel, and Sumneytown Pikes. The house is 'L' shaped, 2 ½ stories in height (28 feet), and the footprint measures 53 feet by 50 feet. The exterior is two-foot-thick exposed fieldstone, which was covered in plaster and white washed until 1986 when the plaster was removed. A small wash house is also located on the property that is also a contributing structure. There are also two noncontributing buildings on the property: a small workshop and a small garage. The William and Caroline Schall House was listed in the National Register of Historic Places in 2007.

William and Caroline Schall House as viewed from Main Street, 2022

Red Hill Historic District

The Red Hill Historic District was listed in the National Register of Historic Places in 1985. The district contains 163 contributing buildings, which includes residences of varying architectural styles, including: brick, Gothic Revival, Queen Anne, and craftsman bungalows. The Red Hill Fire House, the Hillegass House, and a few cigar factories are located within the district.

Eligible Historic Districts & Sites

The following districts, buildings, sites, and structures have been determined to be eligible for the National Register of Historic Places by the State Historic Preservation Office. In some cases, eligibility was determined long ago but listing was never pursued. With some of the groundwork laid, moving from eligibility to nomination and listing may be within reach.

Perkiomen Railroad District—Emmaus Junction to Perkiomen Junction (Multi-Municipal)

This potential historic district traverses 19 municipalities along the Perkiomen Railroad.

Philadelphia and Reading Railroad District (Multi-Municipal)

This potential historic district traverses the 295 municipalities encompassing the Philadelphia and Reading Railroad network.

Pennsburg Historic District

This potential historic district does not yet have a defined boundary.

Sumneytown Historic District (Marlborough Township)

This potential historic district encompasses 61 structures in Sumneytown.

Palm Historic District (Upper Hanover Township)

This potential historic district encompasses 65 structures in the Village of Palm.

Perkiomen Bridge Number 99 (Marlborough Township)

Circa 1810 and 1839, this bridge now carries the Perkiomen Trail over the Perkiomen Creek.

Bridge Number 154 (Marlborough Township)

Circa 1884, this small bridge crosses the Macoby Creek by McLean Station Road in Marlborough.

Jacoby House (Marlborough Township)

Constructed around 1790, this large house is a prime example of the architecture styles of its time.

Tohickon Tribe/Order of Red Men (Green Lane Borough)

Built 1906-1907, the Tohickon Tribe improved Order of Red Men met at this late Victorian, brick-construction building.

Red Men's Hall in Green Lane is now operated as a museum by the Goschenhoppen Historians, 2022

Macoby Archaeological Site (Upper Hanover Township)

Due to the sensitive nature of archaeological resources, no information is publicly available regarding this resource.

Palm Schwenkfelder Church (Upper Hanover Township)

This Gothic Revival Church, circa 1910, is located on Gravel Pike in Upper Hanover and standards as a pristine example of Gothic Revival architecture in the region.

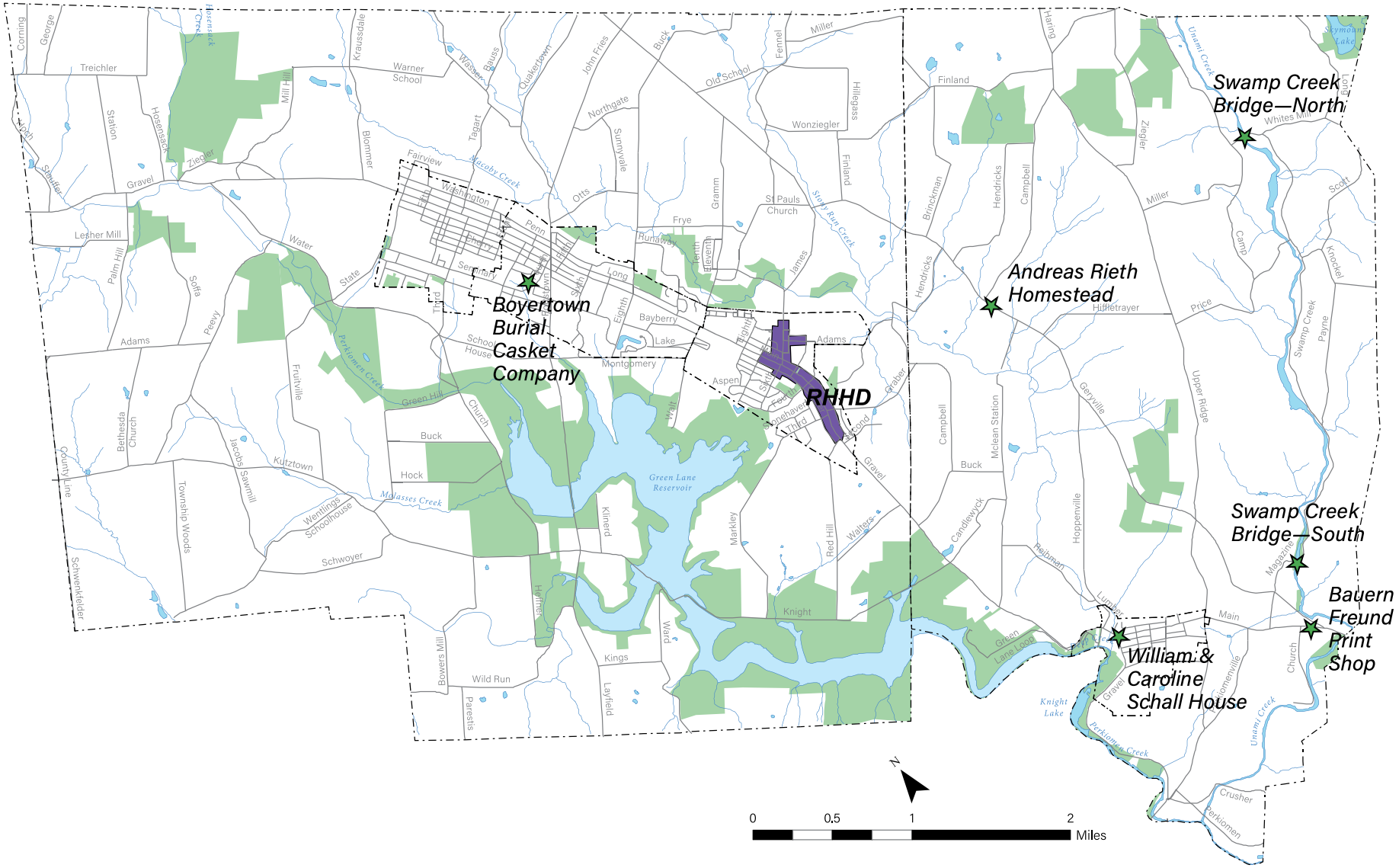
Bridge No. 232 (Upper Hanover Township)

This large steel truss bridge on Fruitville Road was originally constructed in 1905 and altered in 1962-1963. The bridge totals 626 feet in length, but is merely 16 feet in width. The truss was constructed by Eyre Construction and the masonry was completed by J.M. Smith.

Bridge 209 (Upper Hanover Township)

This metal truss bridge, circa 1880, carries Peevy Road over the Perkiomen Creek. It was designed and built by Columbia Bridge Works of Dayton, Ohio. It is 102 feet in length and about 16 feet wide, allowing for a single lane of traffic.

Figure 56 | National Register Historic Sites and Districts



In Your Backyard: Boyertown Burial Casket Company

The successful conversion of the Boyertown Burial Casket Company factory, located at 401 W 4th Street in East Greenville, from a derelict factory into an apartment building is a local success story for adaptive reuse. The developer converted the former factory into a mixed-income apartment building with a total of 71 units, which is now known as the Willows at East Greenville.

In order to make the project a reality, the borough amended their zoning ordinance to allow for residential conversions in buildings over 50 years old within the Limited Industrial zoning district. For their part, the developer applied for and received historic tax credits to make the project more economically viable.

The beautiful new apartments feature large factory windows, exposed brick, high ceilings with exposed rafters, and other design features indicative of the past use.

Preservation Trends & Strategies

Apart from listing in the National Register, which as noted above does not offer comprehensive protection of a historic site, there are many techniques that can be employed to preserve cultural resources at the local level. In addition to discussing specific regulatory options, we'll also provide an overview of a few ongoing trends in the historic preservation realm.

Adaptive Reuse

Preserving older buildings and adapting them to a new use has been an ongoing trend in the development community for several decades and that trend shows no sign of slowing down. Older buildings may be illustrative of the community's identity but their disuse or underuse has caused them to fall short of their potential and may have even made them a blight on the community. Developers see the unique architectural styles and materials, which are difficult or impossible to replicate today, as an asset and opportunity to create something new and distinct. The rehabilitation of large buildings, such as industrial factories or cultural/institutional campuses, into multifamily residential or mixed-use development has been a particularly attractive prospect. Adaptive reuse of properties listed in the National Register of Historic Places may be eligible for federal tax credits or other financial incentives, such as grants.

Legislative action will likely be necessary in order to promote adaptive reuse across the region, which can come in the form of modest text amendments to the zoning ordinance. Generally speaking, zoning ordinances should be amended to include provisions that make adaptive reuse of a building more attractive than demolition and new construction. We'll expand on this in the next section.

Zoning Ordinance Incentives for Adaptive Reuse

In order to make adaptive reuse an attractive prospect to developers, it is important that the zoning ordinance allows for opportunities that yield a better return on their investment. Montgomery County Planning Commission's report *Rethinking Institutional Uses: Embracing our Past and Investing in Our Future* has many examples of innovative ways that communities can promote the reuse of important buildings in their community. Some examples of zoning regulations that encourage adaptive use are:

- **Allowing new or innovative uses.** Finding the right use or mix of uses for a historic property is the first step to creating a successful project. Allowing for a wide array of residential and non-residential uses can allow the developer to get creative and maximize utilization of the property. Niche commercial endeavors, like artisan manufacturers or artist studios, can fit well within former factories.
- **Allow for flexible dimensional standards.** Many historic properties do not conform to the modern zoning requirements, which can limit their potential for development. Allowing more flexibility with lot size, yard requirements, building and impervious coverage, and height maximums can turn a potential hardship into an opportunity. Traditionally, nonconformities and expansions thereof require an application the Zoning Hearing Board with no guarantee of the sought outcome; taking the Zoning Hearing Board out of the approval process creates more certainty for the developer.
- **Award density bonuses**. Traditionally, zoning ordinances place a cap on the maximum permissible residential density. Allowing increased residential density for a specific purpose has become a common practice to incentivize the type of development that the community is seeking, often affordable housing. When it comes to adaptive reuse of historic properties, a one-size-fits-all approach to density will likely not create the best development. Allowing for increased residential density in adaptive reuse projects will likely yield a higher return on investment for the developer and therefore can be a powerful incentive.
- **Lessen parking requirements.** Because parking takes up so much area and is so expensive, high minimum parking requirements can make or break the development balance sheet. When utilizing an existing building, a developer may be granted a waiver for a certain amount of parking; this could be a standard waiver or it may be subject to Zoning Hearing Board review and approval. A parking waiver may remove the minimum parking requirement altogether or be set at a certain percentage of the normal parking requirement. In addition to waiving parking requirements, the zoning ordinance can allow the property owner to utilize on-street parking or publicly available parking within the vicinity of the site. Generally speaking, a developer understands the demand for parking that their project will create and works to meet that threshold regardless of any parking waivers.

The region has retained much of its historic housing stock. Many homes feature unique architectural details

Overlay Zoning

An overlay zone is one which effectively floats over the underlying zoning districts and which has a specific purpose, such as historic preservation. A historic district as an overlay district can be used as a way to allow for additional uses or more flexible dimensional requirements in a targeted area or it can be used to add additional standards for those properties within the zone, which may either be voluntary or mandated. For example, a historic preservation overlay district may permit a residential density bonus if you make use of an existing building; however, it would likely be an option to demolish the existing building and be limited by the standard maximum permitted residential density.

Historical Architectural Review Boards (HARBs)

The Pennsylvania Historic District Act of 1961 empowers, "counties, cities, boroughs, incorporated towns and townships to create historic districts within their geographic boundaries providing for the appointment of Boards of Historical Architectural Review; empowering governing bodies of political subdivisions to protect the distinctive historical character of these districts and to regulate the erection, reconstruction, alteration, restoration, demolition or razing of buildings within the historic districts." The act also prescribes the composition of the HARB and the procedures for designating the boundaries of historic districts. HARBs have been used most effectively throughout the county and state in preserving the integrity of our historic communities. HARBs operate similarly to a Zoning Hearing Board or Planning Commission in that they hold regular meetings and review proposals based on a standardized set of criteria.

Design Standards

Design standards can be employed to protect the historic character of a community. Design standards are generally applied to a specific area, such as a zoning or historic district, and they aim to reflect the existing built environment. Design standards can include provisions that limit the alterations permitted to existing buildings, or they can be geared toward making new development blend in with the built community.

Alterations to existing buildings, such as expansions, can have a drastic visual impact on the building and can degrade the historic property if not executed properly. Regulations can be adopted that limit the scope and location of alterations or additions to historic structures. It is fairly common to only permit expansions to the side, rear, or behind an existing building so that the front façade and view from the public realm remains unchanged.

The design of new buildings that are adjacent to historic resources can also be dictated by design standards. Infill development, which is the construction of new buildings on vacant properties within a built-out area, can negatively impact existing communities and their historic resources if the scale or design of infill buildings are incongruent with the existing pattern of development. Dimensional standards in the zoning ordinance can define the building envelope and siting requirements, and design standards can add an additional layer by defining certain architectural requirements. It is common practice to list the acceptable (and prohibited) building materials, to define the minimum acceptable window area for ground-level storefronts, and to set out required architectural features to ensure an aesthetically pleasing building. In a historic district, an acceptable palette of colors may even be adopted based on the traditional paint colors during the period of significance.

Historic Tax Credits

The Federal Historic Preservation Tax Incentive Program, often referred to more simply as the Historic Tax Credit (HTC) program, is administered by the National Parks Service in collaboration with State Historic Preservation Offices. The program provides up to a 20% federal tax credit to property owners that substantially rehabilitate a historic building (listed in the National Register) for a commercial or income-producing use. In order to receive the incentive, the developer must submit to the National Parks Service to (a) certify that the building is historic and therefore eligible for HTCs and (b) that the rehabilitation meets the

NPS standards. Between 1976, when the program was initiated and 2020, the NPS reports that over 46,000 projects have been completed and over $109 billion in private investment has been leveraged.

Recognition & Signage

Historic markers and interpretative signage is a simple way to draw attention to a historic resource. Having your property recognized as a valuable resource that played a role in the history of the community can build pride for both the owner and the community as a whole. Signage may be as simple as the year of construction, or it may include a description of the significance of the resource. Interpretative or educational signage has become increasingly popular as a way to highlight an important place and educate the general public.

The Pennsylvania Historical and Museum Commission (PHMC) has a historical marker program that allows citizens to apply for an aluminum marker. Selected sites must be associated with a figure, event, organization, or innovation that has significance to the commonwealth or the nation (not the local community). Over 2,000 markers have been installed throughout the commonwealth, with 61 in Montgomery County alone.

Historical Societies in the Region

Schwenkfelder Library & Heritage Center

The goal of the Schwenkfelder Library & Heritage Center is to teach visitors about the lives of early settlers in the region, particularly the Schwenkfelders. Schwenkfelders were a Protestant group that fled religious persecution in Europe and settled in the region in the early 18th century. The museum has many artifacts that one would find in the home of a Schwenkfelder, ranging from farm tools to household goods. Items in the museum date between 1700 and the early 1900s. The facility also offers a library where one can search out their family tree by examining various texts and historical records. The Schwenkfelder Library & Heritage Center also offers public events for children and adults year-round.

Schwenkfelder Library & Heritage Center, 2020 Montgomery Award Winner

The Goschenhoppen Historians

The Goschenhoppen Historians operate two museums out of the Red Men's Hall in Green Lane, which happens to be eligible for listing in the National Register. The shining jewel of the museum is Ziegler Parlor and its namesake Ziegler pipe organ, which is one of only four known remaining pipe organs built by John Ziegler in Skippack (circa 1830). The museum has several rooms that mimic the homes of early Germanic immigrants in the region. The museum also features dozens of artifacts including farm, textile, and woodworking tools as well as household items.

Mission of the Schwenkfelder Library & Heritage Center (2016)

The Schwenkfelder Library & Heritage Center, with its internationally recognized collections and research facilities, engages visitors in exploration of the themes of religious freedom, tolerance, migration, and heritage in their own lives and the lives of their families through the stories of the Schwenkfelders and the Pennsylvania Germans of the Perkiomen region—people whose bonds of faith, families, and community tell a fundamental American story.

Recommendations

Promote the preservation and continued use of historic structures and sites in the region

- Encourage owners of private property that is eligible for listing in the National Register of Historic places to apply to be listed. Offer technical assistance (MCPC) to prospective applicants.
- Promote the reuse of historic buildings, especially large industrial or institutional buildings, by creating a regulatory environment that rewards adaptive reuse. Specific regulatory options may be the creation of a historic overlay zoning district that permits a wide range of uses, waives some or all parking requirements, permits building additions/expansions that do not detract from the existing building, and which generally makes the approval process smoother and more predictable for prospective developers.
- Preserve the integrity of intact historic neighborhoods and villages by adopting design standards for new construction that allow for the compassionate integration of new construction within the built community.

Promote the history and significance of the region and its early settlers

- Educate the general public on the benefits of owning a property that is listed in the National Register.
- Provide targeted outreach to residents of eligible historic districts, as inventoried in this chapter. Through outreach, dispel misconceptions about the National Register and promote the benefits to property owners.
- Create a regional cultural tourism program by inventory historic resources and creating a guidebook or similar public document to guide visitors of the region.
- Bring together local historical societies and museums, educational institutions, municipal governments, property owners, and historians to host history-focused events. Haunted history tours during the Halloween season and winter holiday events have proven to be effective in many communities across the country.
- Work with owners of historic properties to get historic site markers or interpretive signage installed on their properties.
- Consider a regional or municipal program of recognizing standout stewards of historic properties.

The Pennsburg Square Shopping Center meets many of the shopping needs of the residents of the region

Chapter Eight: **ECONOMIC DEVELOPMENT**

Goals

Continue to support the redevelopment and enhancement of the Main Street corridor

Promote and enhance the agricultural, environmental, cultural, and historical tourism industries in the region

Ensure the continued viability of the region's commercial and industrial operations as employment centers and as community assets

Introduction & Existing Conditions

Over the last few decades, the world economy has experienced dramatic events that have altered the economy at all levels. In the late 2000s, the country was devastated by a recession caused by the collapse of the housing market. More recently, the global economy weathered the tough economic times that occurred during the COVID-19 pandemic that featured high unemployment and low consumer spending. It appears that the worst days of the pandemic are behind us, but the global economy is still recovering and adapting to the potentially permanent changes to how we work and interact with the economy. These earth-shattering events are indicative of the fact that the economy can be shifted dramatically by factors

out of our control, but there are also a great many pieces of the economy that can be controlled at the local level. Throughout this chapter we will review the existing economic conditions of the region, and then explore how certain facets of the local economy can be enhanced through collective action in the region.

Median and Per Capita Income

The median and per capita income varies across the region, however all but one municipality feature a median income lower than that of Montgomery County. Upper Hanover Township is the one exception to this trend, with a median household income about $10,000 higher than that of the county; the per capita income, however, is significantly below that of Montgomery County. The median income in Marlborough Township was very near the county median income, but the per capita income was around $10,000 lower than the county figure. The four boroughs experienced substantially lower median and per capita incomes than the townships and the county. The divide between boroughs and townships in the region is a trend that is also observed across the county.

Figure 57 | 2020 Median & Per Capita Income

	MEDIAN HOUSEHOLD INCOME	PER CAPITA INCOME
East Greenville	$63,017	$28,464
Green Lane	$58,417	$32,718
Marlborough	$88,589	$38,111
Pennsburg	$74,688	$29,938
Red Hill	$62,500	$33,326
Upper Hanover	$102,849	$41,555
Montgomery County	$91,546	$48,845

Source: American Community Survey, 2015-2019

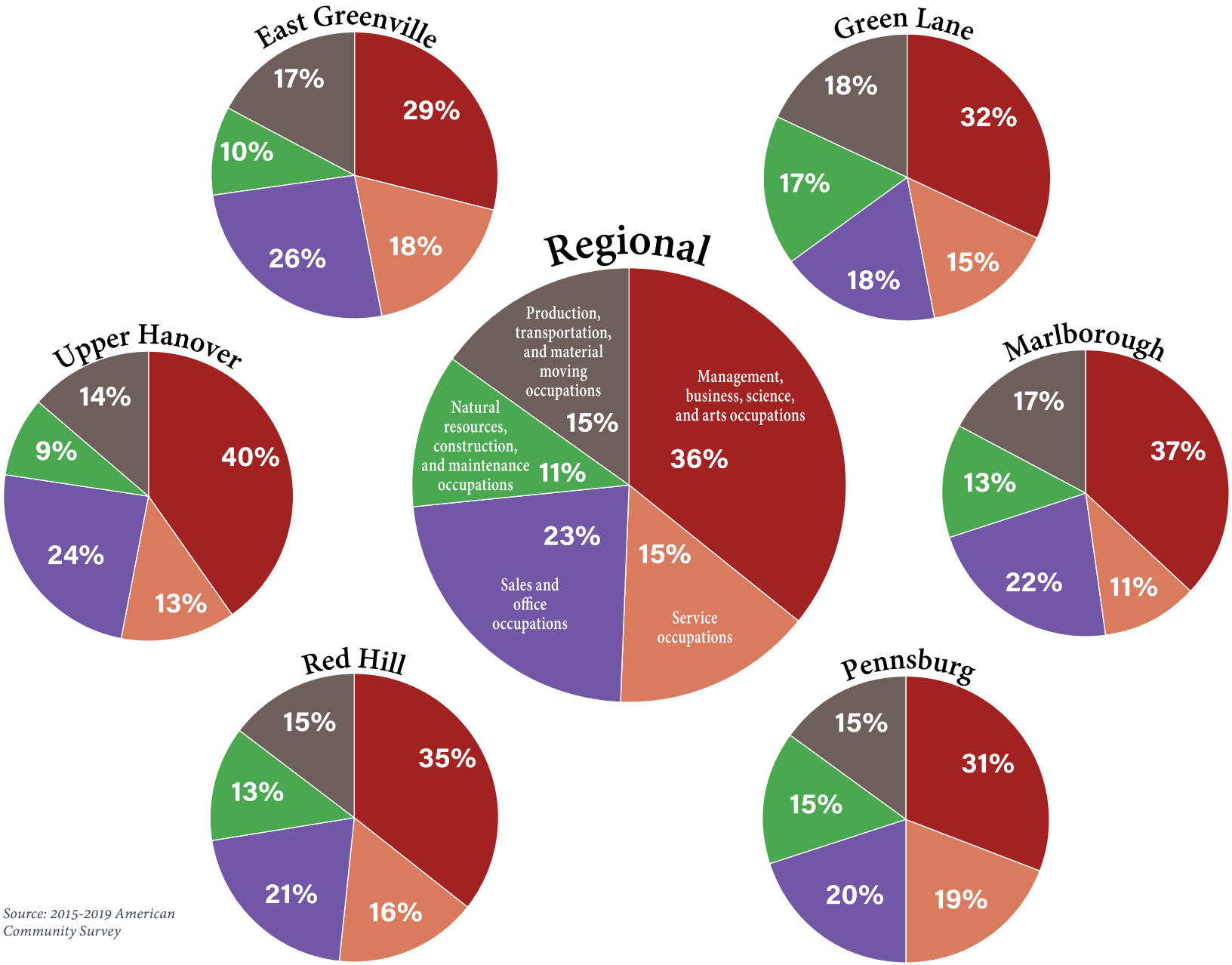
Employment by Industry and Occupation

When reviewing where residents work, it is important to understand both the workers' personal occupation and the industry within which they work. There is an obvious mismatch between the breakdown by industry and occupation, as seen in **Figures 58** and **59**, and these differences demonstrate why it is important to understand both sides: a person may work in the manufacturing industry, but their job could range from assembly line to CEO.

Looking at the occupations of the labor force, we see that nearly 36% of individuals have an occupation in the broad category of "management, business, science, and arts occupations," and another 23% are in "sales and office occupations." About 15% of the workforce is involved with "production, transportation, and material moving," and other 15% are in a "service occupation." Lastly, about 12% of individuals work in occupations related to, "natural resources, construction, and maintenance." The overall breakdown of occupations shows the manifold employment options available to a diverse workforce.

When it comes to industry, the highest percentage of the workforce, over 20%, is in "educational services, health care and social assistance." "Manufacturing" is next up, at 17%, then "professional, scientific, management, administrative, and waste management services" and "construction" which account for about 12.6% and 10.8% of the labor force, respectively. All other industries account for less than 10% of the workforce each.

Figure 58 | *Regional & Municipal Occupation Breakdown*



Source: 2015-2019 American Community Survey

Figure 59 | *Employment by Industry, Resident Labor Force Age 16+*

	REGIONAL TOTAL	REGIONAL %	EAST GREENVILLE	GREEN LANE	MARLBOROUGH	PENNSBURG	RED HILL	UPPER HANOVER
Agriculture, forestry, fishing and hunting, and mining	46	0.4%	19	0	25	0	2	0
Construction	1,173	10.8%	137	15	274	268	119	360
Manufacturing	1,833	16.9%	250	45	300	267	197	774
Wholesale trade	350	3.2%	70	2	74	42	24	138
Retail trade	1,038	9.5%	210	38	153	115	139	383
Transportation and warehousing, and utilities	552	5.1%	65	5	70	91	75	246
Information	220	2.0%	27	0	30	41	28	94
Finance and insurance, and real estate, and rental and leasing	553	5.1%	116	28	52	66	88	203
Professional, scientific, and management, and administrative, and waste management services	1,367	12.6%	152	35	208	225	197	550
Educational services, and health care and social assistance	2,321	21.3%	406	31	329	544	213	798
Arts, entertainment, and recreation, and accommodation and food services	682	6.3%	118	7	65	214	55	223
Other services, except public administration	549	5.0%	70	5	129	108	64	173
Public administration	192	1.8%	6	0	71	32	34	49
Total	10,876	100.0%	1,646	211	1,780	2,013	1,235	3,991

Source: American Community Survey, 2015-2019 .

Projected Employment (DVRPC)

The region can expect a continued increase in employment through 2040, as forecast by the Delaware Valley Regional Planning Commission (DVRPC). DVRPC anticipates a total of nearly 1,300 new jobs will be added, which accounts for a regional increase of over 18%. Looking at the municipal level, we see a low of an 11% increase in Pennsburg and a high of 25% in Red Hill, with all other municipalities falling in between.

Labor Force Participation and Unemployment

Unemployment rates across the region are fairly low, with most communities experiencing rates under 3%. The unemployment rate for Green Lane was significantly higher than the region, at 8.2%, however the relatively small population and above-average age of residents may explain

Figure 60 | DVPRC Employment Forecasts, 2020-2040

	2020	2025	2030	2035	2040	CHANGE '20 - '40	% CHANGE '20 - '40
East Greenville	599	648	672	699	708	109	18.20%
Green Lane	177	202	211	213	215	38	21.47%
Marlborough	1,015	1,112	1,142	1,159	1,187	172	16.95%
Pennsburg	1,409	1,494	1,521	1,538	1,565	156	11.07%
Red Hill	575	663	686	707	720	145	25.22%
Upper Hanover	3,064	3,481	3,584	3,625	3,698	634	20.69%
Regional Total	6,839	7,600	7,816	7,941	8,093	1,254	18.34%

Source: DVRPC.

Commercial and industrial businesses are scattered throughout the rural areas of the region

Some property owners operate businesses on the same lot as their homes

Figure 61 | Labor Force Participation and Unemployment Rates

	EAST GREENVILLE	GREEN LANE	MARLBOROUGH	PENNSBURG	RED HILL	UPPER HANOVER
Employed	73.6%	57.5%	68.4%	64.7%	59.5%	65.5%
Unemployed	2.4%	8.2%	2.8%	2.5%	2.2%	2.1%
Armed Forces	--	--	--	--	--	0.3%
Not in labor force	24.1%	34.3%	28.8%	32.8%	38.4%	32.1%

Source: American Community Survey, 2015-2019.

this outlier. As of March 2022, the preliminary unemployment rate nationally was 3.6%, the rate for Pennsylvania was 4.9%, and the rate for Montgomery County was 3.4%; all of these figures represent a continued decline. The fact that the region is, on the whole, beating the national, state, and county unemployment rate speaks well of the region and the access to employment centers for residents.

Commute & Commute Time

With no public transportation system in the region, it should be no surprise that the vast majority of workers must drive themselves to work. All told, over 86% of workers in the Upper Perkiomen Valley commute alone via a household vehicle; the percentage for the six municipalities of the region were all clustered between 84% and 91%. The next most prevalent method of commute involves no commute at all, with around

5% of workers working from home. Closely behind remote workers were carpoolers, at just under 5%. A mere 2.6% of workers walk to work, a figure that could perhaps get much higher if the sidewalk networks within the boroughs were expanded and enhanced. The last two categories of "other means" and public transportation total under 1% combined. When comparing the commuting habits of residents of the region to that of Montgomery County, a few striking differences immediately jump out. The main difference, which has ripples across the board, is the complete lack of public transportation in the region. Due to this, the county has an 8% lower rate of commuters driving alone and much of that void is filled via public transit (5.5%). The county also has slightly higher carpooling and working-from-home rates than the region, but the region has a narrow lead in walkers. When it comes to average commute time, residents of the region can expect an extra 18 seconds when compared to the county overall; commute times at the municipal level are all within about two minutes of the county average.

Figure 62 | *Commuting Method & Average Commute Time*

	EAST GREENVILLE	GREEN LANE	MARLBOROUGH	PENNSBURG	RED HILL	UPPER HANOVER	REGION	MONTGOMERY COUNTY
Drove Alone (Car, Truck, or Van)	85.6%	90.9%	86.5%	84.4%	84.8%	88.2%	86.5%	78.5%
Carpooled (Car, Truck, or Van)	6.5%	7.7%	3.7%	4.7%	5.5%	3.7%	4.6%	6.4%
Public Transportation (Excluding Taxicab)	0.9%	--	0.4%	0.5%	--	--	0.3%	5.3%
Walked	5.3%	--	0.6%	4.2%	3.7%	1.3%	2.6%	2.2%
Bicycle	0.4%	--	--	--	--	--	0.1%	0.2%
Other Means	0.4%	--	--	0.5%	0.5%	0.8%	0.5%	0.6%
Worked from Home	1.4%	1.4%	8.8%	5.7%	5.5%	5.9%	5.5%	6.8%
Average Commute Time (Minutes)	28.8	27.9	28.2	28.7	31.5	30.1	29.5	29.2

Source: 2015-2019 American Community Survey

Location of Employment

The region is a net exporter of workers, with a significant population commuting outside of the region for employment. According to the Census Bureau Center for Economic Studies, under 1,600 of the approximately 7,400 jobs in the region are filled by those who live within the region. These workers fill about 22% of all jobs in the region, with the remaining 78% (5,775) of workers commuting into the region from elsewhere.

Figure 63 | Inflow/Outflow of Jobs for the Region, 2019

Source: Source: 2015-2019 American Community Survey

Over 9,000 residents of the region commute out of the region for employment. More than half of workers are employed within Montgomery County, but nearly 20% work in nearby Bucks County. 8.5% of workers make the long commute down to Philadelphia, and another 4.2% commute down to Chester County. Lehigh County rounds out the top five counties of employment at an even 4%. The top five municipalities outside of the region where residents work are: Philadelphia, Lower Salford Township, Franconia Township, Milford Township (Bucks County), and Upper Gwynedd Township.

Figure 64 | Resident County of Employment (2019)

	PERCENT
Montgomery County	51.1%
Bucks County	18.1%
Philadelphia County	8.5%
Chester County	4.2%
Lehigh County	4.0%
Berks County	3.8%
Delaware County	2.1%
Northampton County	0.8%
Lancaster County	0.6%
Allegheny County	0.5%
All Other Locations	6.4%

Source: Source: 2015-2019 American Community Survey

Industry-Specific Trends

Whether at the local or global level, the economy is in a state of constant flux. Occasionally, there are worldwide events that have ripple effects across the economy at all levels, the most recent examples of which were the "Great Recession" of the late 2000s and the 2020 COVID-19 pandemic. There will always be disruptions that cause changes in consumer behavior that necessitate changes to how local businesses operate. Throughout this section, we'll review the existing conditions across several industries that call the region home, and we'll explore how local businesses can evolve to take advantage of ongoing trends.

Agriculture

Agriculture was once a much more dominant industry in the region than it is today, however agriculture is still very much alive in the Upper Perkiomen Valley thanks to decades of concerted conservation efforts. As noted in Chapter 1, over 22% of the region's gross acreage, about 5,000 acres, are devoted to agricultural use. Of those 5,000 acres, over 1,800 acres of agricultural land have been permanently preserved by agricultural conservation easements secured through the Montgomery County Farmland Preservation Program. Agricultural conservation easements have the effect of permanently preserving the land for agricultural uses, while allowing the property owner to retain ownership and control of the property. This program is only possible for participants in an Agricultural Security Area (ASA), which is yet another program with the goal of keeping agriculture a viable industry in the Commonwealth.

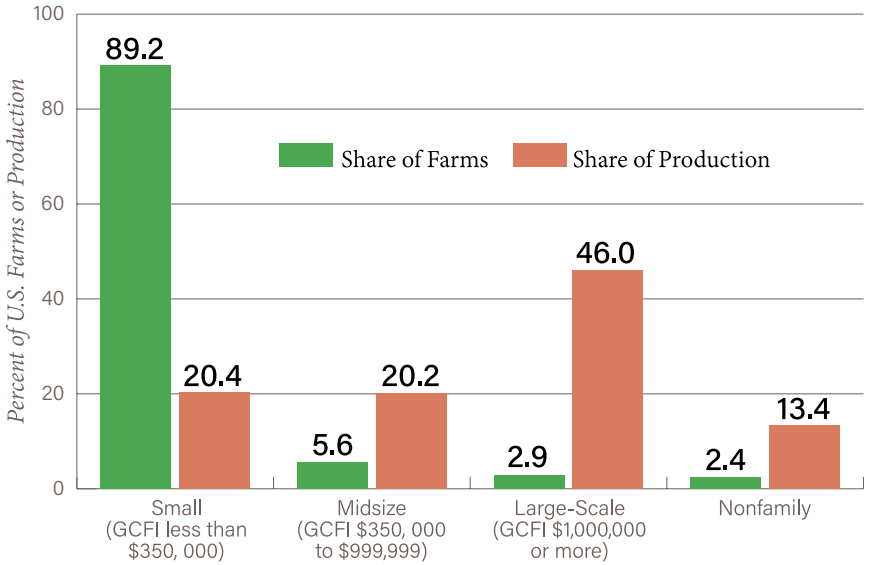
Key Ingredients for Success with Agritourism

- Evaluate your time and talents and those of family members who will help
- Make sure there is a point person to plan the enterprise
- Make sure there is an enthusiastic, energetic person involved that likes interacting with people
- Start with solid, well-thought-out ideas for activities you will offer
- Plan the activities thoroughly before opening
- Start small and get feedback
- Grow a little each year
- Know whom you want to attract and what they expect
- Tailor promotion to specific audiences
- Offer something to see, do, and buy
- Set goals for income so you can measure progress and track costs vs. returns
- Minimize all the potential risks, plan for emergencies
- Have fun!

Source: Getting Started in Agritourism, Cornell Cooperative Extension

The ASA program was established in Pennsylvania in 1981 as a way to protect working farms from local ordinances and nuisance lawsuits that could impact normal farming activities. In order to establish an ASA, a farmer or group of farmers with a total of 250 or more acres of working agricultural land must submit a petition to their township board of supervisors. Once approved, new farms may be added to the ASA annually and the ASAs may be reevaluated every 7 years. A prospective addition to an ASA need not be adjacent to the existing boundary so long as the farm is at least 10 acres in size or produces $2,000 annually from the sale of agricultural products.

Figure 65 | Farms and Their Value of Production by Farm Type, 2020



Note: GCFI = Annual gross cash farm income before expenses. Nonfamily farms are those where the principal operator and their relatives do not own a majority of the business. Components may not sum to 100 percent because of rounding.

Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of December 1, 2021.

Yet another available incentive for farmers comes in the form of a preferential assessment made possible by Act 319, the Pennsylvania Farmland and Forest Land Assessment Act of 1974 (Act 319). The act aims to protect farmland, open space, and forestland by permitting the subject property to be assessed at the current value in the given use, rather than the fair market value. Generally speaking, properties utilizing Act 319 pay about 50% less taxes than they would otherwise. And, turning from the metaphorical carrot to the stick, a participating landowner that chooses to develop their property for an incompatible use would owe roll back taxes (plus interest) for up to 7 years. This is a serious disincentive for developing an Act 319 property, though it does not always deter development, as it is another cost on the balance sheet that must be considered.

Agritourism

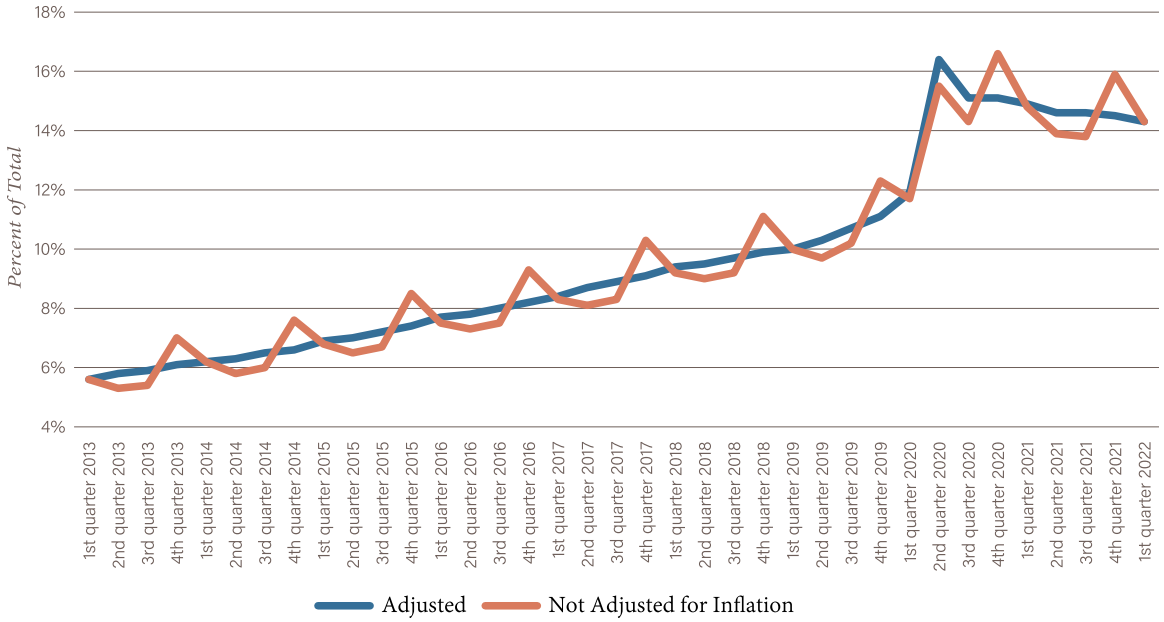
Over the last several decades there has been a trend of industrial-scale farms making up a larger and larger share of agricultural production. According to the US Department of Agriculture, in 2020 a mere 2.9% of all farms are large-scale and yet they account for nearly half of all value in production. And, since it is becoming increasingly difficult for small-scale farms to compete with large-scale farms when it comes to production, many family-owned farms are shifting their focus toward agritourism activities as a way to diversify their income.

Agritourism can take many forms, but the idea is simple: draw in customers by creating activities on the farm that people want to spend time and money on. Cornell Cooperative Extension's *Getting Started in Agritourism* offers a comprehensive guide on how farmers can dip their feet into agritourism. The guide offers key ingredients for success, one of which is offering, "something to see, do, and buy," and this summarizes the premise quite succinctly. Agritourism for families with young children may include U-pick orchards, pumpkin patches, Christmas tree farms, corn mazes, on-farm markets, equestrian rides, or even farm camps. For adults, farm breweries, wineries, farm-to-table dining, and bed-and-breakfasts in the farmhouse may be more appealing. There may already be a captive market for these types of activities, with 6.5% of community survey respondents citing farming or agricultural activities as one of the top reasons they chose to live within the Upper Perkiomen Valley. Agritourism activities could be a way to introduce visitors to the region, visitors who may choose to also visit local restaurants or catch a movie at the Grand Theater in East Greenville. Agriculture has long been integral to the economy of the Upper Perkiomen Valley and, so long as ongoing trends continue, will continue to be into the foreseeable future.

Commercial

Brick-and-mortar commercial business had until recently been subject to several decades of relative "boom," but over the last decade or so the trend has seemed to turn into the "bust" phase. This shift has been caused, in part, by the advent of online shopping and home delivery, which has taken up an increasingly large share of retail activity. As of the first quarter of 2022, the US Department of Commerce estimates that over 14% of all retail activity occurs as e-commerce; this number was closer to 5% a decade ago (see Figure 66, below). The customer of today is concerned about both convenience and price, and the convenience of perusing the internet for the best price seems to be an unbeatable option. This change in the way that consumers interact with retailers has caused many stores to shutter their doors, and has even left entire shopping malls devoid of tenants. Many retailers now offer something of a hybrid model by combining the convenience of online shopping with the instant gratification of in-store/

Figure 66 | Estimated Quarterly U.S. E-Commerce Sales as a Percent of Total Quarterly Retail Sales: 1st Quarter 2013 – 1st Quarter 2022



Over 20% of community survey respondents indicated that they shop online daily, and another 50% shop online weekly. A mere 1% of respondents stated that they ***never*** *shop online.*

Of those who indicated they shop online regularly, the most common products that purchased were household goods (84%) and clothing or shoes (79%).

That aside, 38% of respondents said that they would ***definitely*** *shop in-person if commercial options were available in the region; and another 41% said they would do so only if goods cost about the same as they do from online retailers.*

curbside pickup. Retailers that do not currently offer an online shopping experience will likely need to reconsider this prospect as this model becomes the norm. Municipal zoning ordinances should reflect ongoing trends in retail and commercial development, which may necessitate updating ordinances to require the provision of an on- or off-street "curbside" pick-up location.

Throughout the region we see a handful of commercial hubs, the most concentrated of which are the Pennsburg Square Shopping Center and the Shoppes at Upper Hanover. The shopping center in Pennsburg features a grocery store, a primary care physician's office, a hardware store, a wine and liquor store, a beer store, and a handful of restaurants. The main attraction at the shopping center in Upper Hanover is the Walmart that takes up much of the area, but there is also an auto parts store, a bank, a few small retail and service businesses, and a handful of restaurants.

Apart from these hubs of retail activity, commercial businesses are mostly located along Main Street in the four boroughs. The Main Street business districts involve a mix of uses rather than focusing on retail and therefore these areas will be categorized as culture and leisure destinations, to which we will turn our focus to next.

Culture & Leisure

As many former retail storefronts have become available, they have been occupied by a diverse mix of culture and leisure businesses. This category of business generally includes a mix of restaurants, breweries or brew pubs, recreational activities, personal service businesses, and niche retailers. This mix of businesses is more akin to traditional business districts where a visitor may spend an afternoon window shopping and sampling the local cuisine. We see this type of development beginning to blossom on Main Street in the boroughs of the region, but there is always room for new and diverse businesses and activities. In order to attract and retain these types of businesses and create a flourishing Main Street, there are several factors that need to be considered.

The Grand Theater in East Greenville is a cultural touchstone and integral part of Main Street

Mixed Uses

The first factor necessary for a successful Main Street is getting the right mix of uses, and that may include residences of varying layouts, sit-down and take-out food and beverage service, personal service businesses, recreation and entertainment businesses, and specialty retailers. Municipalities should review their zoning ordinances and ensure that the mixture of permitted uses is broad enough to allow new and innovative uses, while avoiding or encouraging incompatible uses. Mixed-use developments, where residential units are located above commercial storefronts, should be encouraged along Main Street. Mixing residential and commercial uses can make a development more economically viable as the property owner need not rely solely on commercial tenants, which can be more difficult to retain than residential renters. Across

the county we are seeing increased interest in putting a mix of uses within existing buildings in the form of adaptive reuse. Adaptive reuse involves taking an existing building, often with historical or architectural significance, and putting it to a new and potentially more productive use. As discussed in the previous chapter, Cultural Resources, a municipality can encourage the redevelopment of existing buildings along their Main Street by crafting zoning regulations that make adaptive reuse more attractive than starting new, potentially by permitting a broader mixture of uses or by reducing parking requirements for existing buildings. Mixed use also creates something of a "captive market" when new residents, often young professionals, are concentrated in these areas.

Streetscape & Pedestrian Safety

A downtown will only attract and retain customers if they feel safe and comfortable. The best way to improve safety is by providing a streetscape that is comfortable for users of all abilities. When discussing the streetscape, we are primarily referring to the many pieces that make up the pedestrian-only facilities abutting a roadway. The streetscape includes the sidewalks, street trees, planters, benches, signage, and streetlights among other things. Much of Main Street streetscape in East Greenville has been addressed comprehensively, and this has created a "brand" for their commercial district. The sidewalk is wide enough for two-way traffic (although wider is always better) and features a band of brick pavers, street trees, street lamps, trash receptacles, and wayfinding signage the likes of which you can find throughout the region.

Streetscapes offer attractive amenities, but the design is also important for pedestrian safety. Sidewalks should be of an adequate width, generally 8 feet in downtowns, so that two-way traffic can be accommodated. Sidewalks may be as narrow as five feet for small stretches where obstacles are present, such as utility poles, but this can become an issue for users in wheelchairs or pushing strollers. When considering new development or proposals that would take up space in the sidewalk, such as outdoor cafes, municipalities should ensure that adequate sidewalk width is available for passersby. Municipalities should take stock of the condition of sidewalks throughout their community while paying particular attention to high-traffic areas such as the commercial district. Crossings also require special attention: intersections should offer highly visible

DESIGN

Design means getting Main Street into top physical shape. Capitalizing on its best assets such as historic buildings and the traditional downtown layout is just part of the story. An inviting atmosphere can be created through window displays, parking areas, signs, sidewalks, street lights, and landscaping: good design conveys a visual message about what Main Street is and what it has to offer.

PENNSYLVANIA Downtown Center
• Since 1987 •

PROMOTION

Promotion means selling the image and promise of Main Street to all prospects. By marketing the district's unique characteristics through advertising, retail promotional activities, special events, and marketing campaigns an effective promotion strategy forges a positive image to shoppers, investors, mew businesses and visitors.

ORGANIZATION

Organization means getting everyone working towards common goals. The common-sense formula of a volunteer-driven program and an organizational structure of board and committees assisting professional management can ease the difficult work of building consensus and cooperation among the varied groups that have a stake in the district.

ECONOMIC VITALITY

Economic vitality means finding new or better purposes for Main Street enterprises. Helping existing downtown businesses expand and recruiting new ones, a successful Main Street converts unused space into productive property and sharpens the competitiveness of its businesses.

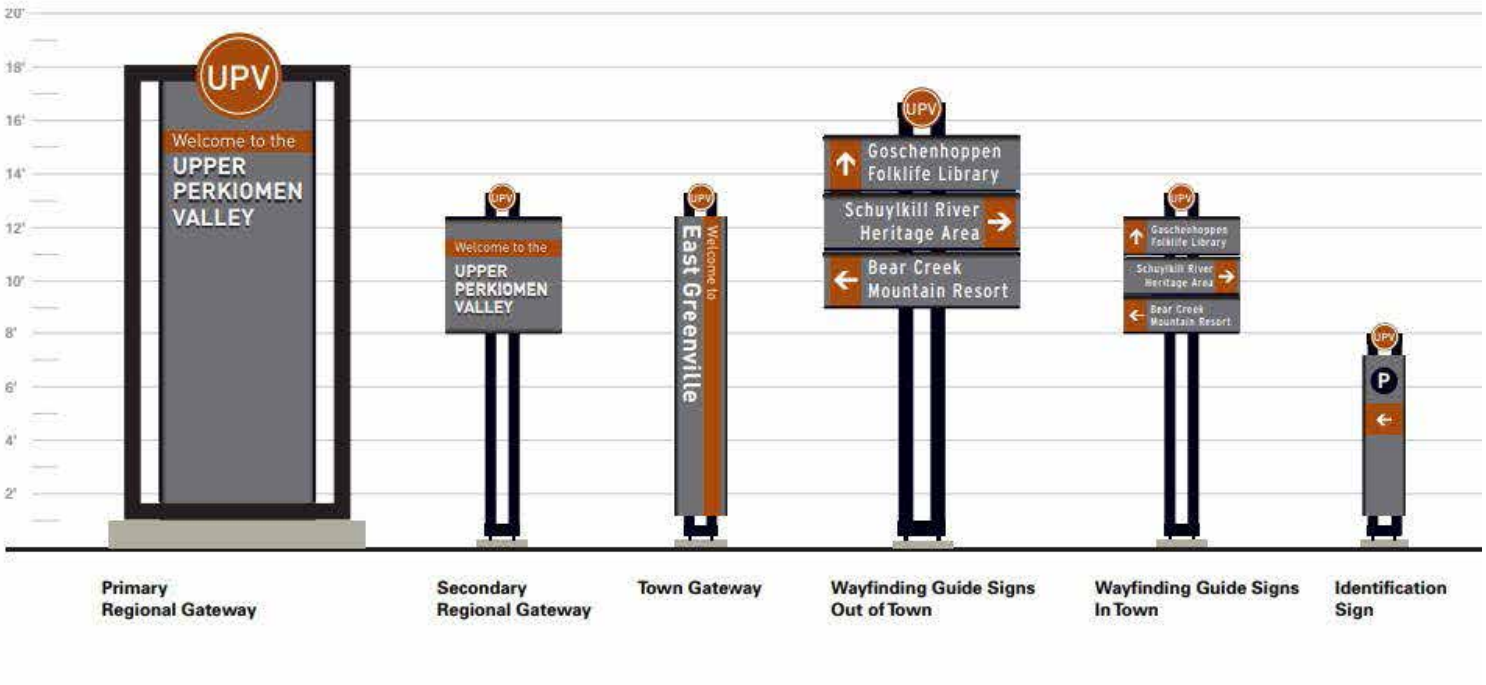
painted crosswalks, ADA curb ramps on all corners, and enhanced crossing features such as curb bumpouts or push-button signals may be warranted under certain circumstances.

Architecture

The most successful Main Streets feature cohesive architectural styles that create a sense of place and unique identity. Intact segments of historically significant architecture should be retained and enhanced, whether through local intervention (e.g., façade improvement grants) or private investment. The Grand Theater in East Greenville is a shining example of how a historically significant building can be renovated and rehabilitated while retaining its original character. New construction within an established area can also impact the sense of place, so municipalities should consider regulating the massing, materials, colors, and styles that would be appropriate within the target area. The Main Street areas of the region can also leverage the historically and culturally significant buildings for cultural tourism events and programming.

Signage

The Upper Perkiomen Valley Chamber of Commerce and the Regional Planning Commission coordinated a unified wayfinding signage program in 2012. Signs of various designs are now scattered throughout the region at significant locations. These signs are employed along Main Street in the boroughs to point toward points of interest, such as public parking and parks. Municipalities can use the design of these signs for inspiration as they craft updates to sign ordinances. Creating cohesive signage along a business district can create a sense of place and branding, which in turn can make it more attractive for visitors.



Recreation

The vast natural resources of the region can continue to be leveraged as a way to drive economic development. Although public open space is not generally too much of an income producer for a municipality, the associated impact of outdoor recreation on local economies is well documented. A 2011 study conducted by the Political Economy Research Institute at the University of Massachusetts, Amherst found that pedestrian-only infrastructure projects and multi-use trail projects generate around 10 jobs per $1 million invested, while bicycle infrastructure projects create over 11 jobs per $1 million invested (*Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts*, Garrett-Peltier, 2011). These figures are just the tip of the iceberg: recreational facility users can also have a drastic impact on the local economy by interacting with local businesses. A 2009 study on the economic impact of the Schuylkill River Trail found a direct impact of $7.3 million; if this study were undertaken today the impact is sure to be even greater with the many improvements that have occurred along the trail corridor in the years since.

The Perkiomen Trail and Green Lane Park are perhaps the most impactful recreational areas in the region. Green Lane Park covers over 3,400 acres and includes a wide range of recreational opportunities for locals and visitors alike. The Perkiomen Trail links Green Lane Park to Oaks 21 miles to the south, from which one can continue onto trails to Philadelphia to the southeast or Pottstown to the west. The Perkiomen Trail runs right through the Main Street in Green Lane, and the visitors thereto could likely support additional small businesses in the vicinity. The County is continually exploring more and better interconnections between Green Lane Park, the Perkiomen Trail, and the region's other parks and trails.

Source: Return on Environment: The Economic Impact of Protected Open Space in Montgomery County, Pennsylvania (2022)

More than one in five (21.5%) community survey respondents indicated that access to outdoor recreational opportunities was a top reason for choosing to live within the Upper Perkiomen Valley.

As discussed extensively in Chapter 4, Natural Resources, Parks, & Open Space, there are numerous municipally-owned community parks and greenways. These community parks are integrated into the community and are an important amenity for residents. Community parks are not only for day-to-day recreation, but they can also be important venues for community and private events. Municipalities should review their inventory of parks and amenities offered to gain an understanding of which targeted enhancements should be made and where.

Outside of public recreational opportunities, there are also several established private recreation businesses in the region. The region features two 18-hole golf courses at Macoby Run and Butter Valley, and one 9-hole course at Sweet Water in Marlborough. There is also a public shooting range that straddles Red Hill Borough and Upper Hanover Township. There are currently no public, fee-based campgrounds established within the region; however, this type of establishment could see success as tourists

The Western Montgomery Career and Technology Center (WMCTC)

WMCTC is a trade-oriented public high school that offers 19 trade-specific programs. Programs include:

- advanced manufacturing,
- automotive technology,
- biomedical science,
- carpentry,
- collision repair,
- commercial art,
- computer information systems,
- cosmetology,
- culinary arts,
- dental occupations,
- diesel technology,
- early childhood education,
- electrical occupations,
- health science technology,
- heating, ventilation, and air conditioning,
- introduction to medical careers,
- protection services,
- sports medicine, and
- welding technology.

Image Source: Gilbert Architects

from Philadelphia may wish to get away for a rustic weekend in the woods while staying close to home. And, relatedly, new hotels, motels, and bed-and-breakfasts could be necessary to accommodate an influx of visitors. The region will need to consider where new hotels may be most appropriate, likely within and surrounding the boroughs, and how to minimize impacts on the community by crafting zoning regulation.

Business and Professional Offices

LVHN Health Center in Pennsburg. Local medical offices are critical to a healthy community.

Office space is not in particularly high demand at this point in time due to many office workers continuing to work remotely, however the region has never relied heavily on offices. As of 2020, it was estimated that just 0.1% of the acreage of the region is taken up by purely office use. Mixed use, which may involve office space, takes up a larger but still small area of the region at 0.7%. Professional and business offices should be permitted within commercial zoning districts and encouraged as part of mixed use developments, however the market will dictate if and when new office space will be built. Given the small amount of office space in the region, allowing home-based business offices should be considered as a permitted (though regulated) use within residential zoning districts; this can make starting a small business much less of a burden for the self-employed. To that end, the Municipalities Planning Code requires that "no impact" home-based businesses be permitted in all residential districts throughout the Commonwealth, but this does not preclude municipal regulation of businesses that exceed the narrow definition provided in the MPC.

Industry and Manufacturing

The region has done an excellent job of keeping the manufacturing industry alive, a phenomenon that contrasts to the national trend observed over the last several decades, where manufacturers have left communities to relocate their operations overseas. There is a concentration of large industrial operations in Upper Hanover Township, near the Shoppes at Upper Hanover, where Blommer Chocolates, MillerKnoll Incorporated (a furniture manufacturer), and the East Greenville Business Center (featuring a handful of small-scale industrial tenants) are located. Outside of this cluster, there are many other smaller manufacturers established throughout the region. East Greenville Borough has quite a large industrial operation on State Street, perhaps the largest outside of the Upper Hanover cluster, as well as a handful of smaller manufacturers throughout the borough. There are a few well-established, local manufacturers located in Red Hill Borough near the border with Upper Hanover Township. And, lastly, there is an industrial/business park in Marlborough Township just north of Green Lane Borough which has several smaller manufacturers. Although not all manufacturers were noted by name herein, they are all integral to the local economy.

Retaining these industrial operations should remain a key priority in the region, as these companies provide many high-paying jobs. The municipalities of the region need to come to an agreement upon how much industrial-zoned land is necessary across the region, where it should be sited, and what intensity of development should be permitted. Through this conversation it may become apparent that some industrially-zoned land should be rezoned for other

purposes, and land that is not currently zoned for industrial use may be a more appropriate location for such.

Warehousing and Distribution

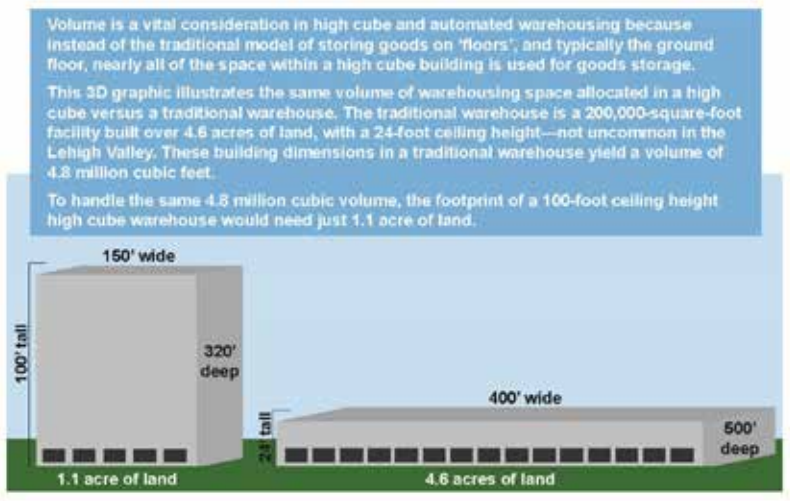
Warehouses and distribution centers have been an established industry in the region for decades and, as noted earlier in the chapter, around 5% of the region's workers are employed in the transportation and warehouse industry. New facilities are being proposed and constructed rapidly in the wake of the COVID-19 pandemic, with around a half million square feet of warehouse space proposed in Upper Hanover in 2021. Existing and proposed warehouse and distribution centers have been concentrated in the Route 663 corridor. Though warehouses and distribution centers generally create jobs, there is a new model for the warehouse and distribution system that may cause a radical shift in the industry: high cube and automated warehouses.

High Cube and Automated Warehouses

High cube and automated warehouses are a relatively new type of facility that are quickly gaining steam in the one-day and same-day delivery economy. These warehouses are almost fully automated, with the majority of space within the facility taken up by racks that both store products and which are integral to the structure of the building; these racks can exceed 100 feet in height. Specialized machines, known as Automated Storage and Retrieval Systems, run on tracks that allow them to move both up-down and left-right to access goods throughout the rack system.

This type of warehouse has not yet been proposed in Montgomery County as of the first quarter of 2022, but our neighbors in the Lehigh Valley happen to be on the cutting edge of the topic. In 2020, the Lehigh Valley Planning Commission (LVPC) published a community guide titled *High Cube and Automated Warehousing.* The Lehigh Valley has seen a few high cube warehouses proposed, so the intent of the guide is to educate the public and lay out the potential positive and negative impacts that these facilities bring. When thinking about high cube warehouses, there are two sides to every coin:

- High cube warehouses require less land area than traditional warehouses, potentially avoiding loss of greenfields, but they can be more physically imposing and obtrusive.
- High cube warehouses can be built on top of existing warehouses, keeping land use the same, but these facilities have the ability to increase vehicle trips drastically.
- High cube warehouses require less staff for daily operations (which may also be viewed as a detriment), but require increased freight traffic.
- High cube warehouses are more energy efficient than traditional warehouse, but increased truck traffic negatively impacts air quality.
- Customers receive goods more quickly, but increased truck traffic necessitates increased maintenance for roads and bridges.



Source: High Cube and Automated Warehousing, Lehigh Valley Planning Commission (2020)

Economic Development Programs

Upper Perkiomen Valley Chamber of Commerce

The region is lucky enough to have an extremely active economic development organization in the Upper Perkiomen Valley Chamber of Commerce. The Chamber has a full-time staff of five that serve their 300 or so members. In addition to staff, the chamber has an executive board of directors made up of seven members, and a board of directors made up of 11 members. The Chamber hosts monthly events for member networking and education, as well as a handful of larger events such as the annual golf outing. Membership has many benefits to businesses, including networking, education, and general assistance with business development and identifying potential funding opportunities. The Chamber also hosts an online job bank, which acts as a "one stop shop" for job seekers to review vacancies in participating local organizations.

The Upper Perkiomen Valley Chamber of Commerce resides prominently on Main Street in East Greenville

PerkUp

PerkUp is a signature initiative that the Chamber of Commerce initiated in 2008, in the early days of The Great Recession. Following extensive public outreach, business engagement, and conversation with local legislators and public administrators a plan dubbed *PerkUp* was published. The plan highlights the intersection of the region's natural resources, business community, and educational opportunities. *PerkUp* is now a separate 501(c)3 organization, but The Chamber of Commerce is still very much involved with its continued implementation.

One of PerkUp's ongoing signature initiatives is their "Pathways to Success" program, which connects local high school students with local businesses. In 2022, sophomores from the Upper Perkiomen School District were given a chance to tour 17 local business and learn about the organization, the career path, and the skills required for employment. Participating businesses include everything from manufacturing to healthcare and social services. It is important that young people begin to think about their future, and this opportunity enables them to gain an understanding of many diverse, local employment opportunities.

Potential Funding Mechanisms

Local Economic Revitalization Tax Assistance (LERTA)

The Local Economic Revitalization Tax Assistance (LERTA) program is intended for industrial and commercial business owners who are planning to construct expansions or additions, repair their buildings, or generally redevelop their property. By participating in the program, the assessed value associated with the improvements would be exempted from taxation for a certain number of years; thereby keeping the tax bill in-line with the assessment prior to any improvements. The property improvements and future revenue often makes sacrificing some potential revenue in the interim well worthwhile.

Redevelopment Assistance Capital Program (RACP)

The Redevelopment Assistance Capital Program (RACP) is a Commonwealth grant program administered by the Office of the Budget for the acquisition and construction of regional economic, cultural, civic, recreational, and historical improvement projects. RACP projects are authorized in the Redevelopment Assistance section of a Capital Budget Itemization Act, have a regional or multi-jurisdictional impact, and generate substantial increases or maintain current levels of employment, tax revenues, or other measures of economic activity. RACP projects are state-funded projects that cannot obtain primary funding under other state programs.

Keystone Communities

The Pennsylvania Downtown Center (PDC) is a Main Street America Coordinating Program that offers technical assistance and education to communities of the Commonwealth. The PDC coordinates with DCED to administer the Keystone Communities program, which includes four program designations that each have varying requirements for designation. The first is a Keystone Main Street, of which there are 10 designated to-date, and these include traditional core business districts. The next designation is that of Keystone Elm Street, which includes a mix of residential and commercial uses and of which there are only three designated to-date. The Keystone Enterprise Zone designation is designed to address deteriorated or blighted industrial/manufacturing areas, and there are currently none designated. And, lastly, the Keystone Community designation is something of a catch-all which can include aspects of the prior three designations. Participation in this program opens up grant funding for municipalities and low-interest loans for participating businesses.

Business Improvement District (BID)

A Business Improvement District (BID) is created when a group of property and business owners come together to form a centralized entity that manages many aspects of the targeted area. The establishment of BIDs is authorized by state law, which effectively allows BIDs to offer services in lieu of municipal intervention. BIDs become something of their own governing body with the ability to create unified branding and marketing programs, and they often fund their own streetscape improvements and maintenance programs.

Recommendations

Continue to support the redevelopment and enhancement of the Main Street corridor

- Continue to enhance the mix of uses along the Main Street corridor by ensuring that an appropriate mix of uses are permitted. Permit and possibly incentivize mixed-use development that offers upper-story apartments and street-level commercial space.
- Enhance the streetscape of Main Street by securing funding to install new benches, public trash cans, street trees, and street lamps.
- Maintain the historical architecture of the corridor by encouraging the adaptive reuse of existing building and by adopting design guidelines or standards. Explore the feasibility of an intermunicipal, corridor-wide design guidelines.
- Pursue funding for a facade improvement program along targeted blocks.
- Due to the lack of healthcare options in the corridor, consider outreach to local healthcare systems to determine if there are regulatory or structural barriers at play. Consider incentivizing the siting of small, satellite offices in areas accessible for residents.

Promote and enhance the agricultural, environmental/recreational, cultural, and historical tourism industries in the region

- Agritourism and outdoor recreational tourism could become an economic driver in the Townships of Marlborough and Upper Hanover, but there may currently be barriers to such at this time. Municipalities should take a hard look at their agricultural and open space focused zoning districts and consider permitting limited commercial expansions for such facilities. Associated or complementary uses, such as cafes and brew pubs on farms, should also be permitted on a limited basis on-site and nearby to recreation and agricultural uses.
- Perhaps no region of the country can boast such a long and storied history as the Greater Philadelphia area, and the Upper Perkiomen Valley should use this link as a springboard for a regional cultural and historical tourism program. The region should lean into the history and culture of early settlers of the region, which is well documented by local organizations who can be brought in as strategic partners in this process.

Ensure the continued viability of the region's commercial and industrial operations as employment centers and as community assets

- Consider undertaking a master planning process for the region's shopping centers.
- Plan for warehouses on Route 663 in a concerted way.
- In order to accommodate the constant changes in the industrial sector, ensure that zoning ordinances are adequately flexible in allowing new or innovative uses while considering the impacts on the community.
- Consider the long-term viability of the region's industrial zoning districts. Examine updating zoning district boundaries to reflect where industrial development is currently occurring, and study rezoning industrial districts that have not seen interest in recent years.

Chapter Nine: **HOUSING**

Goals

Provide a variety of housing types in appropriate areas throughout the region in order to address the current and future needs of households of all types, ages, and incomes

Introduction

The Municipalities Planning Code offers a thorough definition of the housing plan as, "a plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels." In order to meet the demands of present and future residents, it is important that the current conditions are examined and fully understood. For that reason, we'll explore data from the U.S. Census Bureau, DVRPC, MCPC, and the comprehensive plan community survey to gain a deeper understanding of existing conditions and plan for the future. The data indicates that housing in the region is generally affordable for the average family, and the community survey results further prove this. Through this chapter we will explore how housing affordability for all residents and prospective residents can continue into the future through effective planning and targeted development.

Housing Forms

Low-Density

When discussing low-density housing, we are generally referring to densities of about one dwelling unit per one or more acres of land. Areas suitable for this density of development fall within the conservation and rural resource areas of the future land use plan, where public water or sewer

Environmental Adjustment Factors

For more than a decade, Marlborough Township has been utilizing a comprehensive system of environmental adjustment factors to determine the "developable" portion of a subject property. The system applies to all zoning districts and is used to determine the lot area and maximum number of dwelling units that could be permitted on the lot(s). To get those figures, one must remove a set percentage of land area that is limited by steep slopes, made up of diabase, has soils featuring high water tables or low depths to bedrock, and is covered by wetlands, waterbodies, watercourses, or floodplain. As a result of these calculations, a total lot area of 10 acres may be required to create two acres of developable land. This system preserves the invaluable, irreplaceable natural features, while still permitting development on suitable land.

service is not present or planned for. The zoning district regulations for these areas generally only permit single-family detached homes, require large lots with deep setbacks, allow for low building coverage and impervious surface coverage, and may require the preservation of natural features. Due to these land use controls, this density of development is well-suited for agricultural and environmentally sensitive areas.

In addition to zoning controls listed above, there are several other regulatory tools that municipalities can implement to keep residential density low. A traditional zoning method, which we see in Marlborough Township, is the creation of an open space or conservation district that limits intense development and encourages open space, recreation, and agricultural uses. Subdivision design options, such as cluster or conservation subdivisions, can be written into a municipal SALDO as a way to ensure that the tract as a whole retains natural features to the greatest extent possible while still allowing for appropriate density. There are a wide array of other regulatory options that have been successfully instituted throughout the region, which have been effective in retaining the region's rural character thus far and will continue to do so into the future.

Medium-Density

Medium-density housing generally includes densities between one and three dwelling units per acre. The types of housing within this category lean towards single-family detached, however the development of twins or even townhomes could fit within the aforementioned density given the proper layout. With much of the region either developed at higher density (boroughs) or suited for lower-density development (townships), medium-density development is less likely than either low- or high-density housing forms. These developments should be located within the growth boundary, as this scale of development should be connected to public water and sewer, and specifically we can expect to see this density surrounding the boroughs.

Northgate includes dwellings of varying types and layouts

High-Density

High-density housing occurs where density meets or exceeds four dwelling units per acre. This density of development is generally found in the boroughs, which were historically developed at higher densities to allow for workers to live close to their employment in the commercial core of the region. High-density

housing can vary in form from small-lot detached homes, twins, duplexes, townhomes, apartments, and mobile homes. High-density housing should always be connected to public water and sewer, and therefore the region should continue to encourage this type of housing only within the growth area. Throughout the region, townhomes are by far the most common high-density housing type (31% of all units). Due to the fact that much of the borough's land area has already been developed, infill development will be most common. When considering high-density housing as infill development, it is important to consider the existing architecture of the area and ensure that new development will enhance the area rather than detract from it.

Mobile Home Parks

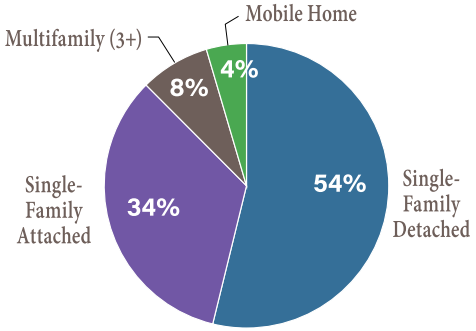
Pennsylvania Act 247 of 1968, the Municipalities Planning Code, specifically requires that mobile home parks be provided for in all municipalities. However, with regional planning it is only required that the region overall provide for the siting of mobile home parks. Thanks to this benefit of regional planning, the requirement is fulfilled by existing zoning districts that allow for mobile home park development.

Existing Housing Characteristics

Housing Unit Types

The greatest share of residential housing units across the region come in the form of single-family detached dwellings, which account for over 54% of the dwelling units in the region. Next up are single-family attached dwelling units, such as twins and townhomes, which account for over 34% of dwelling units. The smallest share of dwellings are multifamily and mobile homes at just 8% and 4%, respectively.

Figure 67 | Housing Unit Breakdown



Source: US Census Bureau, MCPC

Nearly all dwelling units in the two townships are made up of single-family housing. About 98% of all dwelling units in Upper Hanover Township are either single-family detached, at 68.6%, or single-family attached, at 29.6%. The remaining 2% or so is made up of a fairly even mix of multifamily dwellings and mobile homes. Marlborough Township also has a high amount of single-family dwellings, at about 85% of their total dwelling units, but only 8.1% of the units are attached; mobile homes and multifamily units are next up at about 10% and 5%, respectively. As discussed in previous chapters of this plan, the geology and soil characteristics determine if a well and septic system can be installed in a given location. Due to those inhibiting factors, residential development is necessarily less dense in the townships. Large lots for single-family homes are the norm in much of Marlborough and Upper Hanover.

The housing stock in the boroughs varies significantly from the townships. Single-family attached dwellings make up the majority of East Greenville Borough's dwelling units at 66%, which far exceeds that of single-family detached homes which comprise just 21% of all dwellings. The remaining dwelling units include multifamily dwellings of various sizes at under 13% of all units. Single-family attached dwellings are also the most prevalent housing type in Red Hill Borough where they narrowly edge out single-family detached dwellings, but both constitute about 33-36% of dwelling units. Of the remaining housing, 17% of dwellings are considered mobile homes and about 15% of units are multifamily.

Pennsburg Borough is very closely split between single-family attached and detached dwellings, which total 44% and 42% respectively; lastly, multifamily dwellings make up about 14% of all dwellings. Green Lane, the smallest borough in the region, is about 60% single-family detached dwellings, 23% multifamily, 16% single-family attached, and has very few mobile homes.

Figure 68 | Housing Unit Breakdown Across the Region & Montgomery County (2020 Decennial Census)

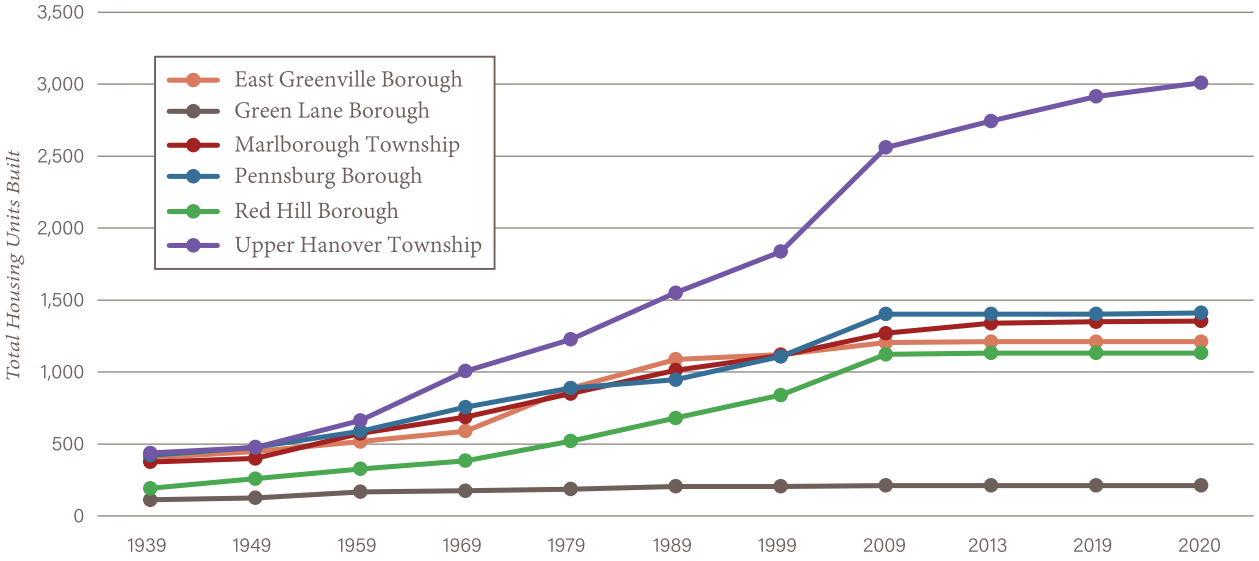
	SINGLE-FAMILY DETACHED	SINGLE-FAMILY ATTACHED	DUPLEX	MULTIFAMILY (3+ UNITS)	MOBILE HOMES	TOTAL HOUSING UNITS
East Greenville Borough	259	665	132	154		1,210
	21.40%	55.00%	10.90%	12.70%		100%
Green Lane Borough	127	26	7	49	2	211
	60.20%	12.30%	3.30%	23.20%	0.90%	100%
Marlborough Township	1,088	79	36	72	74	1,349
	80.70%	5.90%	2.70%	5.30%	5.50%	100%
Pennsburg Borough	615	584	8	195		1,402
	43.90%	41.70%	0.60%	13.90%		100%
Red Hill Borough	409	410	25	180	108	1,132
	36.10%	36.20%	2.20%	15.90%	9.50%	100%
Upper Hanover Township	2,024	815	22	23	30	2,914
	69.50%	28.00%	0.80%	0.80%	1.00%	100%
Upper Perkiomen Valley	4,522	2,579	230	673	214	8,218
	55.00%	31.40%	2.80%	8.20%	2.60%	100%
Montgomery County	180,510	69,226	9,712	72,101	2,838	334,387
	54.00%	20.70%	2.90%	21.60%	0.80%	100%

Source: 2015-2019 American Community Survey 5-Year Estimates, US Census Bureau

Age of Housing

The Upper Perkiomen Valley has been populated for hundreds of years, so it should be no surprise that a lot of older units are still occupied: about 24% of existing dwelling units were built before 1939 and 44% were built before 1970. A remarkable 83% of dwelling units in Green Lane Borough were built prior to 1970, which is the highest percentage in the region by far (175 out 211 dwelling units). Both Marlborough Township and East Greenville Borough are just about evenly split between pre- and post-1970 housing. Lastly, pre-1970 dwelling units make up under 40% of the housing units in Upper Hanover Township, Pennsburg Borough, and Red Hill Borough. While there are no structural impediments to keeping housing built before 1970 in operation, there are certain building materials that were utilized at the time of construction that are now

Figure 69 | Housing Units Built Over Time



Source: MCPC 2020 Median Home Sale Price Report

known to have adverse health impacts (such as lead-based paint and asbestos). Often times older housing stock requires more maintenance to remain viable, but with proper care these units can stay in productive use well into the future.

The population of the valley has nearly doubled since 1970 and, throughout that timeframe, the number of housing units increased by about 75%. This apparent mismatch between new units built and population increase is due to the ever-shifting average household size, which has generally been on the decline over the past few decades. This trend has created a need for more dwelling units that are occupied by less people on average than they were in the past.

Red Hill Borough saw the greatest percent increase during this period, when the number of housing units increased by roughly 120%. East Greenville Borough and Upper Hanover Township saw slightly lower percentage gains, at 90% and 82%, respectively; however Upper Hanover has the greatest number of housing units in the region by far, so this 82% increase represents about 3,000 new units which is more than the gains seen in all other municipalizes combined during the same time period. Marlborough Township also saw significant gains, with an over 60% increase in housing units. Lastly, Pennsburg and Green Lane Boroughs both saw under a 50% increase in housing units between 1970 and 2000.

Since the turn of the century, there has been a 32% increase in new housing units built throughout the region. East Greenville and Green Lane Boroughs saw very small increases, under 10%, and Marlborough Township and Pennsburg Borough increased their housing stock by 20-30%. Red Hill Borough saw the greatest growth of any borough at 35%, but this is eclipsed by the 59% increase in Upper Hanover Township. Upper Hanover has seen the greatest growth over the last 50 years, adding nearly 5,000 units during this span.

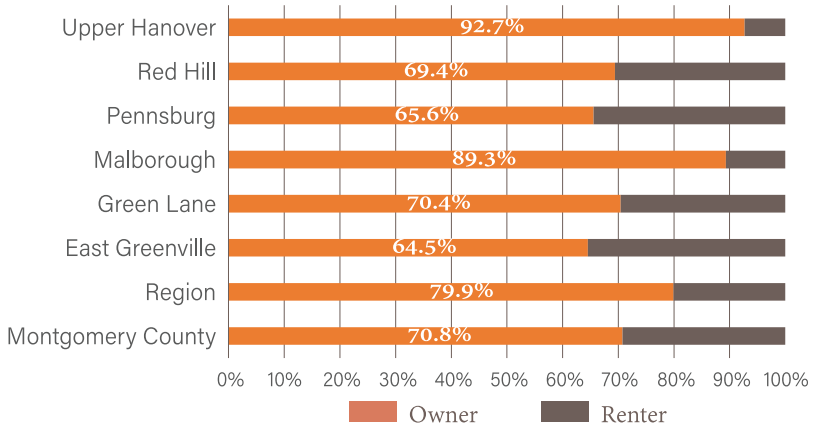
Vacancy

The region has quite a low housing unit vacancy rate with an estimated 4.5% of dwelling units unoccupied at the time of the 2020 Decennial Census. The region's vacancy rate is a good deal lower than the Montgomery County which has a vacancy rate of 5.2%, although both figures are far lower than the state vacancy rate of 9.3%.

When zooming in on the municipal-level, there is a wider variation than one might expect. East Greenville Borough has the highest vacancy rate in the region by far at over 9%, but neighboring Pennsburg Borough has a rate of just 4.7% and Upper Hanover Township sits right around 2.5% vacancy. Green Lane Borough and Marlborough Township also feature vacancy rates higher than the county average at 5.6% and 5.3%, respectively. Red Hill Borough has the lowest vacancy rate for a borough in the region at a mere 3.3%.

The relatively high vacancy rates within East Greenville may be due to vacant apartments that have recently been built, but were yet to be occupied at the time of the Census. In addition to this, as demonstrated above, the vast majority of housing in the boroughs are over 50 years old (and often much older); some percentage of unoccupied housing may be undergoing renovations or need renovations, and it may be difficult to find renters for older apartments if newer options are available nearby and at a similar price-point.

Figure 70 | Owner Occupancy Across the Region and Montgomery County



Source: 2020 Dicennial Census

Owner Occupancy

Across the county, about 77% of dwelling units are owner-occupied; when looking at the Upper Perkiomen Valley Region alone, owner-occupancy jumps 5% to 82%. The rate of owner occupancy is basically mirrored in Marlborough Township, but increases to nearly 94% in Upper Hanover Township. Renter occupancy is much more prevalent in the boroughs. East Greenville, Green Lane, and Red Hill all have renter occupancy rates over 30%; Pennsburg is the only borough of the region with an under 20% renter-occupancy rate. The ratio of renter- to owner-occupied dwelling units can be something of a proxy for housing affordability. The high levels of owner-occupancy of throughout the region signals that the price of housing may not be as much of a barrier in the region as it is at the county level.

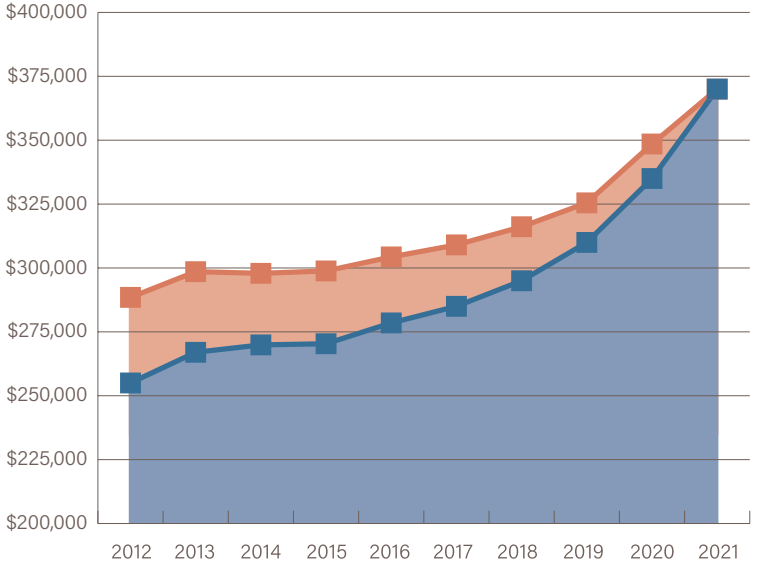
Housing Sales and Sale Price

Median sale prices for homes have been increasing across the county over the last decade. The 2018 to 2019 and then 2019 to 2020 jumps in median sales price, as displayed in **Figure 71**, seems to indicate the continuation and perhaps intensification of this trend. Throughout the course of the COVID-19 pandemic there has been a notable shift in where people choose to live, which is in large part thanks to the

increasing prevalence of remote work for many employees. During the beginning of the pandemic, when many people were fleeing cities for suburbs, home prices increased and many prospective buyers opted to skip common steps, such as home inspections, during the home buying process. Despite this national trend, it appears that Montgomery County was already on track for increasing home values: the median sales price increased 5.4% from 2018 to 2019 and increased over 9.5% from 2019 to 2020. This trend will only continue and perhaps become more severe as there continues to be a disconnect between supply and demand; supply, in this case, not only refers to the total number of available housing units but also the type of housing unit that fits the buyer's needs.

In 2020, the Upper Perkiomen Valley saw a total of 375 home sales at an average price of $242,860. Of the 375 home sales, about 54% were single-family attached homes, there was one sale of a multifamily dwelling, and the remainder were single-family detached homes. A breakdown of home sales during 2020 can be found in **Figure 72** and the full report, *2020 Median Prices for Housing*, is available at Montgomery County Planning Commission's website.

Figure 71 | Countywide Median Home Sale Price, 2012 to 2021



Values in the chart, represented by the orange line above, have been adjusted to 2020 dollars by using the consumer price index for the Philadelphia MSA as obtained from the Bureau of Labor Statistics.

Figure 72 | 2020 Median Sale Prices for Housing in the Upper Perkiomen Valley

MUNICIPALITY	ALL UNITS MEDIAN VALUE	TOTAL # SALES	SFD MEDIAN PRICE	TOTAL # SALES SFD	SFA MEDIAN PRICE	TOTAL # SALES SFA
East Greenville Borough	$175,250	40	*	4	$171,500	36
Green Lane Borough	$230,000	9	$259,900	7	*	2
Marlborough Township	$312,500	38	$315,000	37	*	1
Pennsburg Borough	$228,500	50	$248,000	22	$205,250	28
Red Hill Borough	$228,750	38	$254,500	14	$220,500	24
Upper Hanover Township	$250,000	200	$370,295	86	$235,000	113
Upper Perkiomen	$242,860	375	$327,341	170	$187,035	204
Montgomery County	$335,000	11,819	$390,000	7,171	$263,700	3,936

SFD = Single-family detached dwellings
SFA = Single-family attached (twins and townhomes)
* Less than 5 sales during 2020

Source: 2020 Median Home Price Report, Montgomery County Planning Commission

Housing Affordability

Housing affordability has become part of the national conversation as the preexisting housing supply deficit was exposed throughout the course of the COVID-19 pandemic, when many people chose to relocate as the disease struck large cities particularly hard and as remote work became more prevalent. The comprehensive plan community survey provided a lot of valuable insight as to how residents perceive housing issues. More than two in three survey respondents agreed with the statement that, "housing in the region is generally affordable for the average person/family." This is a remarkably high degree of agreement, and perhaps an even more remarkable phenomenon if true. In order to determine if the perception is reality, it becomes necessary to analyze housing affordability with hard data.

When looking at housing affordability, the most common practice is to determine if a household devotes more or less than 30% of their gross income to housing expenses. If a household spends over 30% of their gross income on housing, they are considered to be cost-burdened. The 30% rule is perhaps overly simple, but it gives us a solid baseline for what would be considered affordable for the average household. We have carried out this calculation based on 2020 median household income in **Figure 73**. If the "affordable home price with X% down" exceeds that of the average home sale price, then it is fair to say that affordable housing options exist within the subject community. There were only two cases where the average home sale price exceeded the affordable home price, which are in red text, and those instances occurred in Green Lane and Red Hill Boroughs with a 10% down payment; the lesser down payment necessarily increases the monthly payment, which is why the 30% rule was exceeded. With only two situations when the 30% rule was exceeded, we can say with a high degree of confidence that housing is generally affordable in the region for the average household and that the perception is reality.

Figure 73 | *Estimated Affordable Housing Options*

	Median household income (2020)	Average Home Sale price (2020)	Max. Monthly Payment @ 30% of Gross Income	20% down Payment	Affordable home price with 20% down	10% down payment	Affordable home price with 10% down
East Greenville	$63,017	$175,250	$1,575	$57,000	$285,000	$21,500	$215,000
Green Lane	$58,417	$230,000	$1,460	$51,500	$257,500	$19,500	**$195,000**
Marlborough	$88,589	$312,500	$2,215	$87,000	$435,000	$33,000	$330,000
Pennsburg	$74,688	$228,500	$1,867	$70,000	$350,000	$26,400	$264,000
Red Hill	$62,500	$228,750	$1,563	$56,500	$282,500	$21,500	**$215,000**
Upper Hanover	$102,849	$250,000	$2,571	$103,000	$515,000	$39,000	$390,000

This estimate was calculated using Freddie Mac's Housing Affordability Calculator and assumes a 30-year mortgage at 5% APR, $1,000 annual homeowners' insurance premium, and $3,250 in annual property taxes. It is important to note that mortgage rates are in constant flux, and annual homeowner's insurance and property tax bills vary year-to-year

Housing Needs

Forecasting Future Housing Demand

The development of Northgate added 245 dwelling units to the region's housing stock

In order to forecast the future housing needs of the region, several factors must be taken into account. For the sake of this calculation, we will be examining the 2040 housing needs while starting with 2020 data. The first and perhaps most important factor to take into account is the population that DVRPC has forecasted for 2040. Then, the group quarters population is subtracted from the 2040 population in order to estimate the household-only population. The household population is then divided by the average household size, which was projected based on the 10-year observed trend (American Community Survey 5-Year Estimates). Due to the small population, low number of dwelling units, and year-to-year fluctuation in average household size, the statistically projected average household size for Green Lane did not seem accurate and therefore the 2020 average household size was utilized. In addition to one dwelling unit per household, it is necessary to account for a 5.4% vacancy rate, which is the county average, in order to estimate the total number of housing units needed in 2040. Lastly, in order to estimate the number of new units needed in 2040, the 2020 total existing units are subtracted from the anticipated number of dwelling units needed for 2040. The full calculation is captured in **Figure 74**, and shows that a total of 812 new dwelling units will be necessary by 2040. With regional planning, it is important to keep in mind that housing demand is not limited to a municipal boundary and, ideally, the future housing demand will be dispersed among the six communities of the region.

Since we are looking back to 2020 as the starting point for this calculation, we

Figure 74 | *2040 Projected New Dwelling Units Needed*

	REGION
2040 Population DVRPC forecast	22,284
2040 Group Quarters Population MCPC estimate based on 2020 share of the total population	530
2040 Household Population Forecasted 2040 population, minus 2040 estimated group quarters population	21,754
2040 Average Household Size MCPC projection based on the 10-year trend	Varies by municipality
2040 Number of Households 2040 household population, divided by the projected average household size	8,670
Estimated Total Number of Housing Units Needed by 2040 2040 households, plus 5.4% vacancy (county average)	9,138
2020 Total Units US Census & MCPC	8,326
Estimated Number of Housng Units Remaining to be Built by 2040 to Meet Projected Demand	812

Sources: US Census Bureau, DVRPC, & MCPC

can gain insight into how the market has been working to meet the housing needs of the region. In 2020, 141 new units were proposed and 108 new units were built in the region. These two numbers are exclusive of one another, meaning that a proposed unit is converted to be built upon completion. With the currently approved but unbuilt units alone, the region could meet over 25% of anticipated 2040 housing needs.

Accommodation of New Housing Units

With over 800 new housing units needed over the next 20 years, it is necessary to determine where they will likely be located. As demonstrated in **Figure 76**, below, the region has adequate vacant land available to accommodate all of the new units that are anticipated to be needed by 2040. However, the reality is that the majority of new housing units built across the county, 58% or so, are being built on developed land in developed areas; when looking at the region alone, this number jumps to over 90%.

The calculation in **Figure 75** summarizes the potential siting of new housing units built between 2020 and 2040. After accounting for potential infill and redevelopment (at the county rate of 58%) and after subtracting the approved but unbuilt units, there is a total deficit of 528 housing units. There is ample vacant and undeveloped land throughout the region that could be developed to meet this demand.

Figure 75 | Accommodation of 2040 Housing Demand

	TOTAL UNITS	LOW DENSITY	HIGH DENSITY
2040 Projected Housing Demand Total units based on the calculation from Figure 74, with the ratio of high to low-density housing based on the current ratio as shown in Figure 76.	812	447	365
Potential Infill and Redevelopment This figure assumes that 58% (the 5-year county average) of the projected demand will be met through infill and redevelopment.	341	259	212
Remaining Projected Demand	471	188	153
Units Approved But Not Constructed	141	47	94
Remaining Projected Demand	330	141	59
Buildout of Vacant, Developable Land This includes full buildout of vacant but fully developable land (does NOT include buildout on current agricultural land or additional infill).	513	361	152
Remaining Projected Demand (potential excess units)	(183)	(220)	(93)

Residential "Fair Share"

Another important aspect of housing in Pennsylvania is the provision of "fair share" housing types within a municipality and the relationship that this has to regional planning. When discussing "fair share" housing types, we are referring to twins, duplexes, townhomes, multifamily units, and mobile homes in mobile home parks at densities of at least four dwelling units per acre. The Commonwealth Courts have indicated time and again that these types of housing are generally more affordable, and therefore must be zoned for at adequate rates in every municipality

or region. Court cases involving Warwick Township, Marshall Township, and Upper Southhampton Township have demonstrated that zoning for "fair share" housing at rates of 2.9%, 2.7%, and 3.5%, respectively, were adequate. The "fair share" requirement was codified in 1988 with an amendment to the Municipalities Planning Code requiring the provision of, "... residential housing of various dwelling types encompassing all basic forms of housing, including single family and two family dwellings, and a reasonable range of multiple family dwellings in various arrangements," (§ 604-4).

In order to comply with the "fair share" requirement and avoid zoning challenges, it is important to figure out just how much "fair share" land is available. An important benefit of regional planning is that municipalities no longer need to provide their portion of "fair share" housing types within their municipal boundaries, so long as the region overall provides enough area for those types of housing. The courts have applied two tests in determining whether a municipality (or region) meets their "fair share" requirements.

The first test involves calculating the gross area of all zoning districts that allow "fair share" or "high density" housing types, and the second involves calculating the ratio of single-family detached housing or "low density" housing" to "fair share" housing at what may be considered full buildout. Full buildout, in this case, involved calculating the acreage of vacant but developable land by removing land area within the 100-year and 500-year floodplains, removing land area featuring slopes exceeding 25%, and subtracting another 15-20% on top of that for land area taken up by infrastructure and other incidental losses during development. The region has more than enough gross acreage zoned for "fair share" housing, at 7.2% of the region, and the ratio at full buildout is also consistent with the current ratio with 56% single-family detached and 44% "fair share" at buildout. It is important to note that this figure is likely a low estimate for a few main reasons. First, land utilized for agricultural purposes is considered to be unavailable for development in accordance with applicable case law (**In re Petition of Dolington Land Group, 576 Pa. 519, 839 A.2d 1021 [Pa. 2003]**). If unpreserved agricultural land and open space were to be considered as part of the calculation, a grand total of 1,229 single-family detached and 284 high density dwellings could be built, an astounding difference. And, secondly, the calculation in **Figure 77** specifically does not take into account potential redevelopment, infill development, and

Figure 76 | "Fair Share" Zoning (gross acreage)

	LOW DENSITY RESIDENTIAL	HIGH DENSITY RESIDENTIAL	TOTAL RESIDENTIAL	NONRESIDENTIAL	REGION TOTALS
Number of Acres	19,244	1,610	20,854	1,542	22,396
Percent of Regional Gross Area	85.9%	7.2%	93.1%	6.9%	100.0%
Percent of Total Residential Area	92.3%	7.7%	100.0%	NA	NA

*Regional gross area omits the surface area of the Green Lane Reservoir.
Source: Municipal Zoning Ordinances, MCPC.

Figure 77 | Fair Share Housing with Buildout of Developable, Vacant Land (given current zoning regulations)

HOUSING TYPE	2020 HOUSING UNITS	PERCENTAGE OF TOTAL UNITS	HOUSING UNITS AT BUILDOUT	PERCENTAGE OF TOTAL UNITS AT BUILDOUT
Single-family detached	4,573	54.9%	4,934	55.8%
Fair Share	3,753	45.1%	3,905	44.2%
TOTAL	8,326	100.0%	8,839	100.0%

*This figure only takes into account land that is currently vacant and undeveloped. We did not consider potential redevelopment, infill development, subdivision of oversized lots for development, or conversion of agricultural land to residential use.
Source: US Census Bureau, MCPC.

adaptive reuse which were accounted for in **Figure 75** in determining how the 2040 housing demand would be met. With over 90% of new housing units being built on developed land over the last five years, it would be safe to assume that the "full buildout" scenario where all vacant land is utilized for residential purposes is very unlikely to come to fruition anytime soon.

Missing Middle Housing

There has been an observed, ongoing trend in residential development where a large number of single-family detached homes and mid- and high-rise apartments are being built, but there are relatively few housing types in-between that are being built. "Missing Middle" housing types include those that fall between the two ends of the spectrum, and may include dwelling types such as: townhomes, live-work spaces, duplexes, triplexes, and other multiplexes of varying sizes and layouts. Missing middle housing could be within a transitional zone between low- and high-density areas, or these housing types can be integrated into existing neighborhoods as infill development. One of the benefits of these housing types is that they can be designed to fit into the existing community: a duplex or triplex could easily be designed to look like a single-family detached home from the street. These missing middle housing types could be inherently more affordable than single-family detached homes, and they are better suited to address the needs of people of varying ages, incomes, and backgrounds. Although the national housing stock shortage is well-documented and a common story in the media, there is a lesser-known disconnect between the type of housing desired and the availability thereof.

With all that said, the region has a very good ratio of single-family detached homes to other, higher density housing types as demonstrated at the beginning of the chapter. Over one in three community survey respondents agreed with the statement that, "there are enough apartments in the region," but nearly 50% of respondents were "neutral or don't know." This ratio of agreement to neutrality was mirrored when survey respondents were asked if, "there are enough low/moderate income housing options in the region." This degree of disagreement, or perhaps lack of consensus, demonstrates that there may be a missing middle housing void in the region. Missing middle housing types would generally be more affordable for a low- or moderate-income individual or household, so improving the prevalence of these housing types should be a priority in targeted areas of the region. The boroughs in particular could benefit from increasing diversity and density of available housing.

Source: Opticos Design

Accessory Dwelling Units

Accessory dwelling units (ADUs), sometimes known as "in-law suites," are yet another way to increase residential density and create affordable housing options. ADUs are separate from and secondary to the primary residence and they may either be attached or detached from the home. It is fairly common for in-law suites to be located in the basement of single-family home, and ADUs in general are quite common in or above garages or carriage houses. Municipalities wishing to allow for ADUs can design their regulations to meet their community goals: ADUs could be limited to only immediate family members of the principal dwelling, have maximum areas, require meeting certain design standards, or could be permitted more broadly and with less stringent regulations to encourage their proliferation. ADUs can be an important way to allow for limited increases in residential density in built-out communities.

ADUs can be designed to blend into the existing community

Aging-in-Place & Aging-in-Community

Aging-in-place is a concept that has been gaining traction for several years. The Centers for Disease Control and Prevention defines "aging-in-place" as "the ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income, or ability level." This definition focuses on keeping aging residents within their homes, which would generally require retrofitting the home.

Another concept that the planning community has begun promoting recently is the broader concept of "aging-in-community" that focuses on making the community more accessible and safe (i.e., ADA-compliant) for seniors. Along with focusing on the infrastructure and the built environment, the concept of aging-in-community also promotes providing a wide array of housing layouts, types, and sizes so that there are manifold options to meet the needs of prospective residents. The region is more suited to promote and address aging-in-community than aging-in-place, given the prevalence of older dwelling units and the fact that older units were not generally designed with accessibility in mind.

The comprehensive plan community survey showed that 40% of respondents have lived in the region for over 15 years, and another 38% have lived in the region between 5 and 14 years. The community survey also showed that 14% of

Figure 78 | Age-Restricted Developments in the Region

MUNICIPALITY	DEVELOPMENT	YEAR BUILT	TOTAL UNITS
Pennsburg	Still Waters Community	2014	48
Red Hill	Red Hill Estates	1995	150
Red Hill	Upper Perkiomen Manor*	1987	100
Red Hill	Villas at Red Hill*	2003	68
Upper Hanover	The Vineyards	2004	204

*Income restricted
Source: MCPC

respondents had persons over 65 in their homes. Combine this with the fact that population skews older, as seen in Chapter 1, and we get an impending and presumably worsening mismatch between supply of senior-friendly housing and demand for it by long-term residents.

The region currently has a five age-restricted developments, which offer a total of 582 units. Many of these units are single-family attached homes, which account for 268 units. Next up are mobile homes, of which there are 210 in Red Hill. Lastly, 148 units are within multifamily developments (apartments) and five units are single-family detached. Despite these developments, only 34% of survey respondents felt that there is enough housing for seniors, such as retirement communities or assisted living facilities. This signals that it is apparent to the general public that there are not enough housing options for those wishing to stay in the community as they age, an issue which will only get worse as older generations begin to downsize.

In order to address both aging-in-place and aging-in-community, municipalities can promote a greater mix of housing types within their traditional zoning districts. In addition to this, age-restricted or age-targeted development overlay districts can be created to incentivize the provision of new development that addresses aging-in-community concerns. And, when looking at aging-in-community, municipalities should consider complete streets policies and enhancing recreation opportunities at municipal parks and recreation facilities. The American Association of Retired People (AARP) has an "Age-Friendly Community" program that allows communities to submit for certification if they meet certain criteria. A community can gauge their level of age-friendliness by looking to the designation requirements, and can pursue certification if the outcome is positive.

Recommendations

Provide a variety of housing types in appropriate areas throughout the region in order to address the current and future needs of households of all types, ages, and incomes.

- Direct residential development to appropriate areas throughout the region, as determined by the future land use map. All municipal zoning ordinances must reflect the future land use goals of the regional comprehensive plan, so it is imperative that municipalities carefully consider where they will permit certain housing types. Medium and high-density residential development should only be permitted in areas where existing public water and sewer is available or planned for, which would generally be within and around the boroughs.
- Continue to provide the region's "fair share" of high-density and multifamily residential housing within and surrounding the boroughs, where such housing types are prevalent and warranted.
- Encourage "missing middle" housing types as infill development and as part of large-scale residential development. Update the SALDO and Zoning Ordinances at the municipal level to calibrate how different housing types could be integrated into the existing community to "blend in." When it comes to large-scale development, municipalities should consider requiring a certain level of diversity in dwelling unit type and layout. For example, a municipality may require that no more than 25% of proposed units have the same number of bedrooms.
- Identify areas of the region, such as specific municipal zoning districts, where age-restricted development could be provided for. Age-restricted development should be provided in a variety of styles and layouts including condominiums, apartments, assisted living facilities, and nursing homes.
- In areas of low owner-occupancy, examine the contributing factors and potential roadblocks. Consider options that would increase homeownership rates, such as education and low-interest loans or grants assisting with closing costs.

Chapter Ten: **FUTURE LAND USE**

Introduction

The Future Land Use Map represents the culmination and graphic representation of the many land use objectives outlined throughout the Upper Perkiomen Valley Regional Comprehensive Plan. The Future Land Use Map was created with an understanding of many discrete but interrelated parts: current population, projected future population, existing land use patterns, the transportation system, the location of population and employment centers, the natural and cultural resources of the valley, the environmental processes and ecosystems present in the valley, and the existing and future utility service areas (i.e., sewer and water service).

The Future Land Use Map defines the boundary between the areas where conservation of natural resources takes primacy, known as the rural resource area, and developed or developable areas, known as the growth area. The rural resource area includes preserved farmland and agricultural operations, conserved open space, and the areas where development should be limited to low density residential uses, agriculture, recreation, and complementary uses. The growth area includes developed land, such as the boroughs, but also areas where new residential and nonresidential development should occur where sewer service is provided or is planned for in the future. The growth area includes several subcategories that outline the most appropriate type of development and mixture of land uses.

The Future Land Use Map sets the broad land use strategy for the Upper Perkiomen Valley region; however, individual and collective efforts of the six participating municipalities will be necessary to implement the plan. Specifically, it is the responsibility of the municipalities to implement the land use policies through local land use planning, particularly through their zoning ordinances and subdivision and land development ordinances. Furthermore, the land use designations list the general categories of uses that may be appropriate and it is not intended that all listed uses are permitted in every zoning district or municipality. By working together, the communities of the valley can direct development where they agree it makes sense in the near and long-term.

Relationship to Existing and Proposed Sewage Service Areas

A fundamental policy goal of the Upper Perkiomen Valley Regional Comprehensive Plan is to direct new residential and nonresidential development to appropriate areas while protecting the region's natural features and rural character. This will be achieved by steering new development to those areas that are either already served by public sewer or where future sewer service expansion is planned, as determined by the best available information: municipal sewage facilities plans. A municipality revises its sewage facilities plan or "Act 537 Plan" proactively as they analyze the capacity of their facilities, but also new development seeks to tie into the system. The growth area for the Upper Perkiomen Valley relies upon the premise that municipalities and their sewage treatment providers are judiciously planning for the future.

The region will continue to see population growth in the future, as demonstrated by the observed and projected demographic trends discussed in **Chapter 1, Background and Demographics**. The population is projected to grow by 1,811 or 8.6% between 2020 and 2040, which will require the construction of an estimated 812 new dwelling units as detailed in **Chapter 9, Housing**. Throughout the county, nearly 60% of new units are built in developed areas as redevelopment or infill; however, this number has been closer to 90% in the region in recent years. The propensity for new development to occur within the growth area is a testament to the effectiveness of the existing land use framework, as conveyed by the future land use map of the 2011 regional comprehensive plan and of municipal zoning designations.

The growth area of the Future Land Use Map is a reflection of existing and future sewer service areas as planned by the municipalities and their service providers, including:

Macoby Creek Sewer Service Area

The Macoby Creek Service Area is located on the northeast side of Pennsburg and Red Hill Boroughs and along the "lower" section of the Macoby Creek drainage basin within Upper Hanover Township. Due the area's vehicular access to Routes 663 and 29, and Geryville Pike, it has been identified as a preferred area for new development. Public water is readily available and could be extended relatively easily throughout the entire area. The defined sewer service area reflects the sewer growth policies of Upper Hanover Township and the location of the sewer treatment plant allows much of the area to be served by gravity flow.

Perkiomen Creek Sewer Service Area

Several land use planning factors also support designating a portion of the Perkiomen Creek main stem drainage basin in Upper Hanover Township for future sewer service. This portion of the sewer service area contains several large industrial uses currently served by privately owned industrial sewage treatment plants. These industries and new industries can be served by a municipal central sewer system intended to serve this expansion area. Additional, this sewer service area is intended to alleviate on-lot sewage problems in and around the Village of Palm.

Green Lane/Sumneytown Sewer Service Area

Green Lane and Sumneytown have long been the primary development centers in this part of the valley. Maintaining existing development and providing opportunities for new development along this main street corridor is a key goal for this portion of the region. The intersection of Route 29 and Route 63 in Green Lane provides this service area with good transportation access. Also, by concentrating future growth adjacent

to Green Lane and Sumneytown, new development can connect to existing infrastructure where possible. However, water and sewer availability are major challenges for any future development within this portion of the Upper Perkiomen Valley, due to the age and condition of existing infrastructure as well as the area's diabase geology and other environmental constraints.

Special Purpose Overlays

The special purpose overlays depicted on the Future Land Use Map should be considered as both existing and future land use designations for the purposes of the comprehensive plan. Preserved agriculture and conserved open space are protected in perpetuity through deed restrictions and are therefore both a current and future land use designation. Municipally owned open space and park properties are not necessarily protected in perpetuity; however, it would be safe to assume that these properties will remain under municipal control into the future and will remain as open space. The institutional category is the most difficult to plan around, so the land currently utilized or otherwise owned by these entities falls under this designation, but the underlying future land use designation (separate from the overlay) may come into play for these properties. For example, an institutional property within the Borough Mixed Use area would be consistent with the intent of the comprehensive plan if it were to change use to any use that is appropriate within the Borough Mixed Use designation.

Preserved Agriculture

Preservation of active farmland is a priority for municipalities in the Upper Perkiomen Valley, especially in Upper Hanover Township. This category consists of the over 1,700 acres of farmland in Upper Hanover Township and the 65 acres of farmland in Marlborough Township that have been permanently protected through the county's Farmland Preservation Program. It is anticipated that eligible property owners will continue to seek inclusion in the Upper Hanover Township agricultural security area (ASA) and look to participate in the Farmland Preservation Program. All properties within this category will remain in agricultural use in perpetuity, as the development rights have been sold and permanent easements have been applied to the properties' deeds.

Open Space

Open space and nature-based recreation are integral to the identity of the Upper Perkiomen Valley. The open space category includes land that has either been permanently preserved by a private conservation organization or is otherwise owned or operated by a municipality for open space or recreational purposes. In addition to municipal parks and open space, Montgomery County's 3,400-acre Green Lane Park is included within this designation. Privately owned but permanently conserved open space is another key piece of this land use designation, with the 1,600-acre Musser Scout Reservation in Marlborough Township being emblematic of this. Natural Lands, a regional conservation nonprofit organization, holds a conservation easement on the Boy Scout camp as well as many other privately held parcels in the region. The properties within this designation are vital to maintaining the rural character of the region.

Institutional

Due to the nature of institutional land uses, it is not feasible to designate mapped areas for institutional use prior to impending proposals by institutional organizations. Because of this, the only lands designated on the Future Land Use Map as institutional are either fully or partly developed by an existing institutional organization. Identified institutional uses include places of worship, cemeteries, schools, municipal buildings, and other properties owned by a nonprofit organization.

Cemeteries are an important cultural resource

The Upper Perkiomen Valley YMCA

The Perkiomen School occupies nearly 200 acres throughout the region

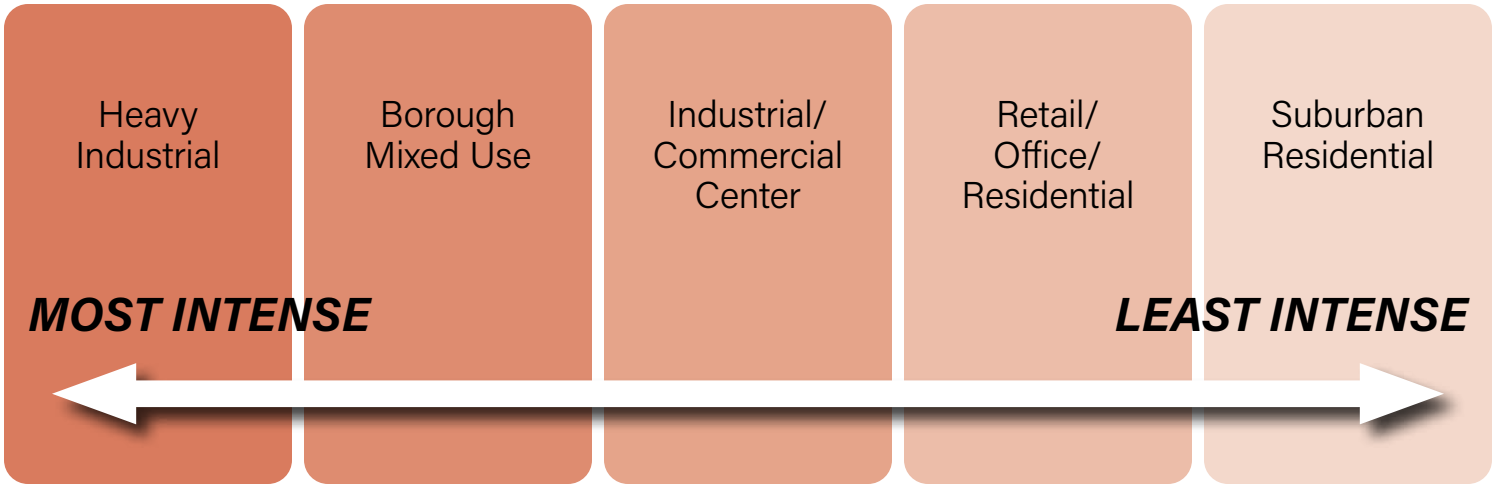
Rural Resource Area

The rural resource area encompasses vast areas of Marlborough and Upper Hanover Townships, where the rural nature of the region has remained intact. The primary goals of this land use category are directly related to farmland preservation and the conservation of natural resources, while allowing for low-density, rural style residential development. Residential development in this category will predominantly be single-family detached residential dwellings at an anticipated density lower than one dwelling unit per acre of land. Conservation and cluster residential subdivisions are the most appropriate layouts for the rural resource area; however, residential development will not be uniform in density or design. The rural resource area also includes vast areas covered by the special purpose overlays previously discussed. All preserved agricultural land is located within the rural resource area as is the majority of the open space category, with the exception of public parks within the growth area.

Winding country roads, trails, open space, and agriculture are vital aspects of the rural resource area

Growth Area

The growth area is rooted in and bound by the provision of public water and sewer service. The growth area includes the older mixed-use town centers throughout the boroughs and villages of the region as well as those areas abutting these population centers. The growth area includes employment centers in the form of industrial, commercial, retail, and service businesses as well as professional and medical offices that support the residents of the region. There are a handful of designations within the growth area that vary in intensity of use, but it should be understood that any less intensive use than the current designation would also be appropriate. For example, a suburban residential development may be appropriate within the Commercial/Industrial Center area even though nonresidential uses would also be permitted. For sake of clarity, the following growth area categories are listed from most intense to least intense; so, it should be understood that the designations listed later may also be appropriate within preceding designations.



Heavy Industrial

Heavy industrial uses are those that involve the basic processing and manufacturing of materials or natural resources, predominantly from extracted or raw materials. Uses considered heavy industrial are junkyards, quarries, and outdoor storage of bulk items.

Borough Mixed Use

The region's four boroughs, consisting of East Greenville, Pennsburg, Red Hill and Green Lane, currently contain most of the regions' high-density residential housing, including apartments, townhouses, twins and small lot single-family detached units. The boroughs also contain a mix of commercial and light industrial uses that contribute to their unique historic character. Given the complexity of dealing with such a concentrated mix of uses, the Borough Mixed Use category is intended to provide flexibility when regulating the variety of residential, commercial, and light industrial uses found within the boroughs.

In terms of residential uses, the four boroughs are primarily developed and only a few large tracts of undeveloped land remain available for residential development. Therefore, it is anticipated that most future residential development will occur as infill. Local zoning ordinances should encourage adaptive reuse and redevelopment of the existing housing stock, as well as the conversion of obsolete or underutilized nonresidential buildings to quality residential options. Future development should also be compatible with the existing character and heritage of the boroughs.

Commercial development should 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 Mixed Use category will be determined by the individual municipalities through their zoning ordinances. The boroughs should consider establishing flexible standards that encourage new and innovative nonresidential uses. Future development should apply appropriate design, dimensional, and development concepts that complement and enhance the existing development patterns of the boroughs.

Perkiomenville Quarry, NearMap (above) is a heavy industrial land use
Main Street in East Greenville (below) epitomizes borough mixed use

Future industrial development within the Borough Mixed Use category will continue to provide for a variety of small-scale uses that coordinate with the existing infrastructure. In an effort to encourage economic development and strengthen the region's tax base, maximum intensity limits for industrial development will be established by the individual municipalities. Local ordinances, however, should promote the adaptive reuse of vacant industrial facilities that is consistent with the surrounding character. New industrial development shall adhere to strict performance standards.

Commercial/Industrial Center

The Commercial/Industrial Center designation includes those areas that cater to regional demand, rather than local or neighborhood-level demand. The dominant uses within these areas are and should continue to be a mix of shopping centers and strip-style development, office parks, and light industrial operations, including manufacturing, processing, warehousing and distribution, and research and development.

Although they bear similarities, the Pennsburg Square shopping center (above) is within the Borough Mixed Use area while the Shoppes at Upper Hanover (below) is within the Industrial/Commercial Center. The Borough Mixed Use area will include aspects of many different future land use categories.

Sumneytown is a Retail/Office/Residential Area (above)
Northgate is a Suburban Residential development (below)

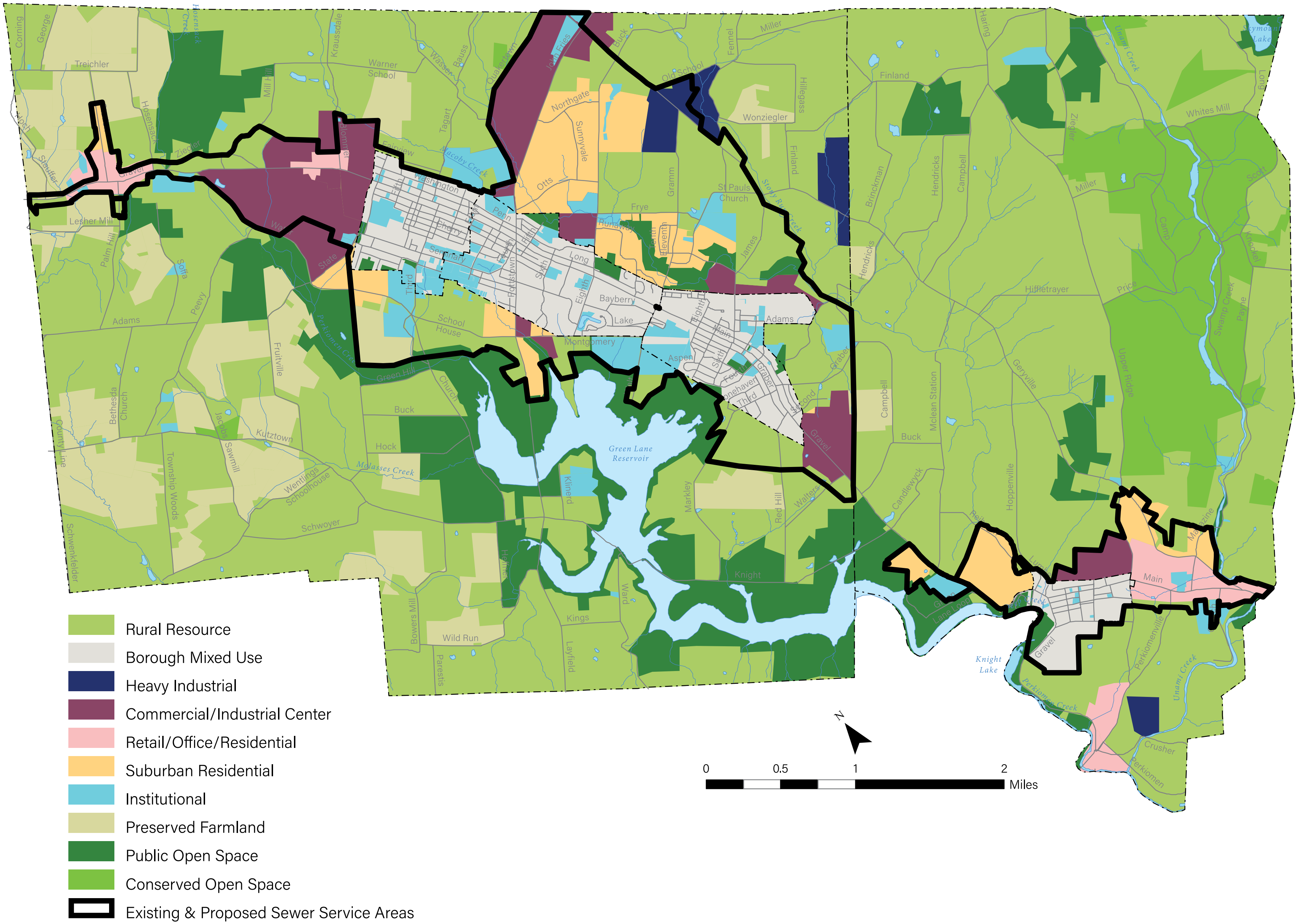
Retail/Office/Residential

The Retail/Office/Residential category is intended to include a unique mix of residential and commercial uses, which create or enhance an historic "Main Street" character. This category is appropriate for the region's village centers or as a "Main Street" extension out of a borough's downtown. Land uses permitted in these areas should be retail, office, and residential uses that complement the design and operation of the existing small-scale shops, offices, historic houses, factories, and schools.

Suburban Residential

The Suburban Residential designation specifies those areas where single-family neighborhood-style developments are most appropriate. The anticipated density of development for these areas is between 1-4 dwelling units per acre, allowing for a variety of layouts. With few exceptions, these low to medium-density residential areas are located within the sewer service areas and are meant to complement the existing character of existing, adjacent villages and boroughs.

Figure 79 | Future Land Use



Implementation

The Intergovernmental Cooperative Implementation Agreement adopted by each of the six participating municipalities guides implementation of the Upper Perkiomen Valley Regional Comprehensive Plan. The Implementation Agreement recognizes the goals and objectives of the Regional Comprehensive Plan, and establishes processes for reviewing subdivisions and land developments of regional significance, comprehensive plan amendments, and local zoning changes. Most significant for future land use policy, the agreement requires all zoning amendments involving a change in use or density to be reviewed for general consistency by the regional planning commission. Proposals not consistent with the Future Land Use plan will require an amendment to the Comprehensive Plan.

Appendix A: COMMUNITY SURVEY & SUMMARY OF SURVEY RESPONSES

Community Survey

Welcome and thank you for taking this survey!

The survey should take around 10 minutes if you answer all questions. At certain points throughout the survey you will have the option to skip over sections or submit the survey. We appreciate any and all input!

1. What is your age?

- ◯ Under 18
- ◯ 18-24
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65+

2. Do any of the following live in your household?

- ☐ Children age 12 and under
- ☐ Teenagers age 13 to 18
- ☐ Young adults age 19-26
- ☐ Adults age 65 or older
- ☐ Anyone with a long term disability

3. Which Upper Perkiomen Valley community do you live in

- ◯ East Greenville Borough
- ◯ Green Lane Borough
- ◯ Marlborough Township
- ◯ Pennsburg Borough
- ◯ Red Hill Borough
- ◯ Upper Hanover Township
- ◯ I live outside of the region, but I work in or own a business in one of the above communities
- ◯ I live outside of the region, but I visit the region

Resident-only Questions

4. How long have you lived in the Upper Perkiomen Valley?

- ◯ 0-4 years
- ◯ 5-9 years
- ◯ 10-14 years
- ◯ 15+ years

5. What factors helped you decide to live in or relocate to the Upper Perkiomen Valley? (select all that apply)

- ☐ Born or raised in the area
- ☐ Close to friends or family
- ☐ Close to work
- ☐ Desirable schools/school district
- ☐ Outdoor recreation opportunities
- ☐ Other (please specify)

- ☐ Farming or agricultural activities
- ☐ Housing affordability
- ☐ Small town setting
- ☐ Rural setting

6. What type of housing do you live in?

- ◯ Single family detached
- ◯ Twin (single family attached)
- ◯ Townhouse/rowhome
- ◯ Other (please specify)

- ◯ Apartment
- ◯ Mobile Home

7. Do you rent or own your residence?

- ◯ Rent
- ◯ Owned by you or someone in your household (either with a mortgage or free and clear)

8. How satisfied are you with the following public services?

	Dissatisfied	Somewhat dissatisfied	Neutral	Somewhat satisfied	Satisfied
Police	○	○	○	○	○
Fire	○	○	○	○	○
Schools (Upper Perkiomen School District)	○	○	○	○	○
LIbraries	○	○	○	○	○
Sewer	○	○	○	○	○
Water	○	○	○	○	○
Snow Removal	○	○	○	○	○
Road Maintenance	○	○	○	○	○
Trash/Recycling Pick-up	○	○	○	○	○
Accessibility of Township or Borough Officials	○	○	○	○	○

9. Please indicate your preferences towards solar and wind energy

	I currently use this power source	I source my power from this source (via utility provider)	I'd like to access this power source	I'd like to see small-scale community generation facilities in the region	I'd like to see large-scale generation facilities in the region	Not interested
Solar power	☐	☐	☐	☐	☐	☐
Wind power	☐	☐	☐	☐	☐	☐

Regional Overview

10. What three words would you use to describe the Upper Perkiomen Valley to someone looking to relocate to the region?

1

2

3

11. Please select the top 5 issues that the Upper Perkiomen Valley should focus on improving over the next 5-10 years:

- [ ] Expand employment opportunities
- [ ] Natural resource preservation
- [ ] Agricultural preservation
- [ ] Historic preservation
- [ ] Expand or attract retail/commercial businesses to the region
- [ ] Road conditions or traffic concerns
- [ ] Improve existing recreation areas/parks
- [ ] Create new recreation areas/parks
- [ ] Improve the availability of affordable housing
- [ ] Improve resiliency from future impacts of climate change
- [ ] Increase availability/affordability of renewable energy sources (i.e., solar and wind)
- [ ] Encouraging new development/redevelopment to incorporate sustainable practices (e.g. energy efficient, renewable energy, LEED certified)

Other (please specify)

12. Please indicate your agreement/disagreement with the statements:

	Disagree	Somewhat Disagree	Neutral or Don't Know	Somewhat Agree	Agree
Housing in the region is generally affordable for the average person/family	○	○	○	○	○
There is a good variety of housing types offered for sale/lease in the region	○	○	○	○	○
There are enough apartments in the region	○	○	○	○	○
There are enough low/moderate income housing options in the region	○	○	○	○	○
There are enough housing options for seniors (retirement communities or assisted living)	○	○	○	○	○

13. What natural hazards are you concerned about at present or in the future?

- ☐ Extreme heat
- ☐ Winter storms
- ☐ Drought
- ☐ River/stream flooding
- ☐ Street flooding
- ☐ Hurricanes or extreme storms
- ☐ Other (please specify)

  [ ]

- ☐ None of the above
- ☐ Severe wind
- ☐ Invasive species
- ☐ Health impacts
- ☐ Social equity issues

14. Would you like to proceed to the next section or skip ahead?

- ◯ Continue to the next section, recreation
- ◯ Continue to transportation section (skip recreation section)
- ◯ Continue to economic development section (skip recreation and transportation sections)
- ◯ End survey (submit now)

Recreation

15. Please indicate your agreement/disagreement with the following:

	Agree	Somehat agree	Neutral/Current level is adequate	Somewhat disagree	Disagree
More recreation opportunities for preschool children are needed	◯	◯	◯	◯	◯
More recreation opportunities for elementary children are needed	◯	◯	◯	◯	◯
More recreation opportunities for teens are needed	◯	◯	◯	◯	◯
More recreation opportunities for adults are needed	◯	◯	◯	◯	◯
More recreation opportunities for seniors are needed	◯	◯	◯	◯	◯

16. We need more _____ in the region

- [ ] Sports fields (soccer, baseball, etc.)
- [ ] Sports courts (basketball, tennis, etc.)
- [ ] Public swimming areas
- [ ] Cultural arts center
- [ ] Picnic areas
- [ ] Hiking trails
- [ ] Biking trails
- [ ] Horse riding trails
- [ ] Multi-use trails (accommodating both pedestrians and bicyclists)
- [ ] Camping areas
- [ ] Fishing areas
- [ ] Hunting areas
- [ ] Playgrounds
- [ ] Dog parks
- [ ] Birding or wildlife observation areas
- [ ] Frisbee golf courses
- [ ] None of the above

17. How often do you visit parks in the region?

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Yearly
- ◯ Never

18. Which Public parks do you generally visit? (select as many as you wish)

- [ ] Green Lane Park (county)
- [ ] Mill Hill Preservation Area (Upper Hanover)
- [ ] Camelot Park (Upper Hanover)
- [ ] Macoby Run Park (Upper Hanover)
- [ ] Nature Meadow (East Greenville)
- [ ] Action Park (East Greenville)
- [ ] Frederick J. Bieler Park (East Greenville)
- [ ] Pennsburg Nature Preserve (Pennsburg)
- [ ] Pennsburg Community Park (Pennsburg)
- [ ] Red Hill Park (Red Hill)
- [ ] Centennial Park (Red Hill)
- [ ] Lake Skymount (Marlborough)
- [ ] Swamp Creek Park (Marlborough)
- [ ] Unami Creek park (Marlborough)
- [ ] Finland Road Park (Marlborough)
- [ ] Ziegler Nature Preserve (Marlborough)
- [ ] Isaac Smith Park (Green Lane)

19. Would you like to proceed to the next section or skip ahead?

- ◯ Continue to the next section, transportation
- ◯ Continue to economic development section (skip transportation section)
- ◯ End survey (submit now)

Transportation

20. What do you see as a priority for roadway improvements?

	Not needed	Low Priority	Medium Priority	High Priority
Maintaining roads in good condition	○	○	○	○
Maintaining bridges	○	○	○	○
Adding sidewalks and/or bike lanes along roadways	○	○	○	○
Widening existing roads	○	○	○	○
Improving signal timing	○	○	○	○
Decreasing traffic speed	○	○	○	○
Adding street lighting	○	○	○	○

21. Please describe any specific locations/issues related to roadway improvements that you see as a priority:

22. What do you see as a priority for pedestrian and bicycle improvements?

	Not needed	Low Priority	Medium Priority	High Priority
Adding bike lanes	◯	◯	◯	◯
Connecting trails, sidewalks, and bike lanes	◯	◯	◯	◯
Fixing broken/crumbling sidewalks	◯	◯	◯	◯
Increasing visibility of pedestrian crosswalks	◯	◯	◯	◯
Adding features that provide increased separation between pedestrians and moving vehicles (e.g., landscaping, on-street parking, physical barriers)	◯	◯	◯	◯
Installing ADA ramps at intersections	◯	◯	◯	◯

23. Please note any specific locations/issues related to pedestrian/bicycle improvements that you see as a priority:

24. Would you like to continue to the economic development section or submit the survey now?

- ◯ Continue to next section, economic development
- ◯ End survey (submit now)

Economic Development

25. How often do you visit the following businesses in the region?

	Daily	Weekly	Monthly	Yearly	Never
Restaurant or tavern	○	○	○	○	○
Personal care/service, such as salon or barber	○	○	○	○	○
Retail-- clothing, shoes, or boutique	○	○	○	○	○
Grocery store or specialty food/beverage store	○	○	○	○	○
Other service business, such as tax services	○	○	○	○	○
Medical care (including dental)	○	○	○	○	○
Cultural facilities, such as museums, theaters, etc.	○	○	○	○	○
Professional offices, such as attorneys	○	○	○	○	○
Shipping/receiving retail locations (USPS, UPS, FedEx, etc.)	○	○	○	○	○

26. Are there enough _____ in the region?

	We need more	We have enough	We have too many
Restaurant or tavern	○	○	○
Personal care/service, such as salon or barber	○	○	○
Retail-- clothing, shoes, or boutique	○	○	○
Grocery store or specialty food/beverage store	○	○	○
Other service business, such as tax services	○	○	○
Medical care (including dental)	○	○	○
Cultural facilities, such as museums, theaters, etc.	○	○	○
Professional offices, such as attorneys	○	○	○
Shipping/receiving retail locations (USPS, UPS, FedEx, etc.)	○	○	○

27. Are there enough...

	We need more	We have enough	We have too much
retail and service options in East Greenville	○	○	○
retail and service options in Pennsburg	○	○	○
Retail and service options in Red Hill	○	○	○
Retail and service options in Green Lane	○	○	○
Retail and service options in Marlborough	○	○	○
Retail and service options in Upper Hanover	○	○	○
Retail and service options in the region overall	○	○	○

28. Are there any particular retail or service options you'd like to see more of in the region or in a specific location?

29. How often do you shop online? *(please do not include online/mobile takeout food)*

- ○ Daily
- ○ Weekly
- ○ Monthly
- ○ Yearly
- ○ Never

30. What goods do you generally purchase online (select all that apply)

- [ ] Clothing or shoes
- [ ] Household goods/products
- [ ] Pet food, pet medicine, or other pet supplies
- [ ] Other (please specify)
- [ ] Prescriptions from an online pharmacy
- [ ] Subscription to a grocery or meal planning service (for example, HelloFresh, Misfits, etc.)

31. If there were more commercial options in the region, do you think you would do less shopping online?

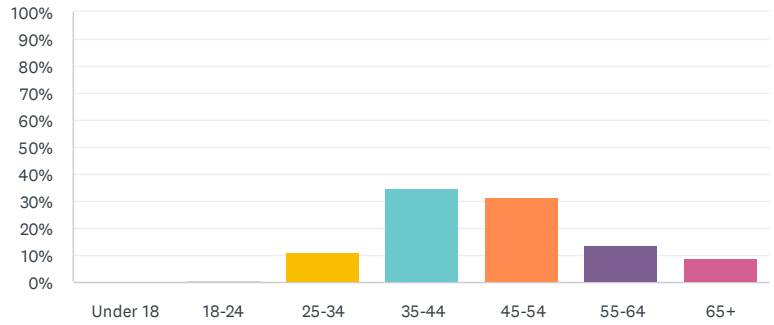
- ◯ Definitely!
- ◯ Yes, if goods cost about the same
- ◯ No, not if goods cost more
- ◯ No
- ◯ Unsure

Summary of Survey Responses

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q1 What is your age?

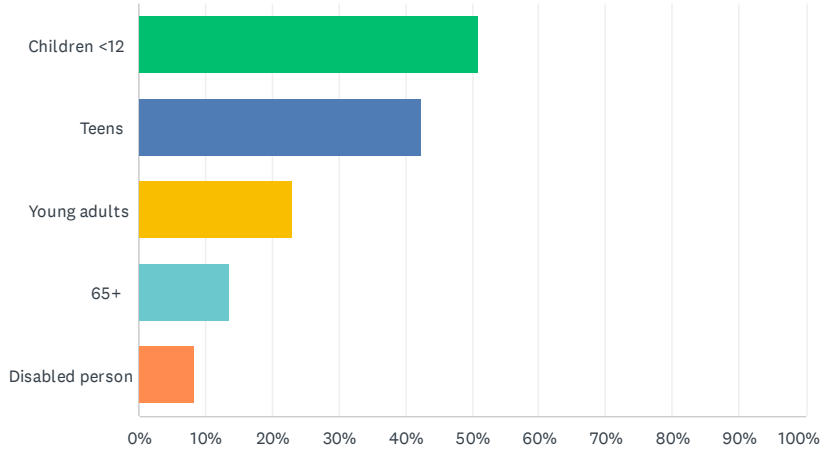
Answered: 274 Skipped: 1



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18-24	0.36%	1
25-34	11.31%	31
35-44	34.67%	95
45-54	31.39%	86
55-64	13.50%	37
65+	8.76%	24
TOTAL		274

Q2 Do any of the following live in your household?

Answered: 226 Skipped: 49

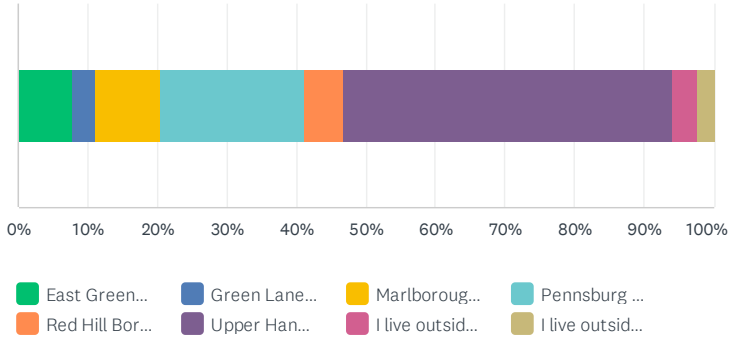


ANSWER CHOICES	RESPONSES	
Children <12	50.88%	115
Teens	42.48%	96
Young adults	23.01%	52
65+	13.72%	31
Disabled person	8.41%	19
Total Respondents: 226		

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q3 Which Upper Perkiomen Valley community do you live in

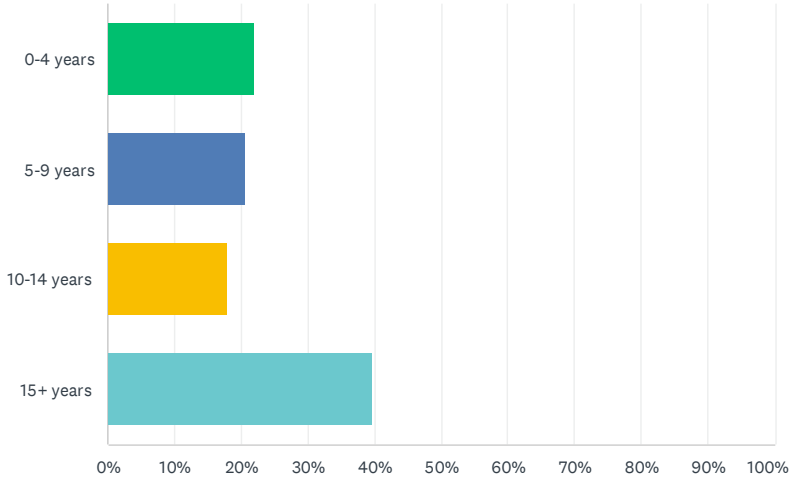
Answered: 273 Skipped: 2



ANSWER CHOICES	RESPONSES	
East Greenville Borough	7.69%	21
Green Lane Borough	3.30%	9
Marlborough Township	9.52%	26
Pennsburg Borough	20.51%	56
Red Hill Borough	5.86%	16
Upper Hanover Township	47.25%	129
I live outside of the region, but I work in or own a business in one of the above communities	3.66%	10
I live outside of the region, but I visit the region	2.20%	6
TOTAL		273

Q4 How long have you lived in the Upper Perkiomen Valley?

Answered: 247 Skipped: 28

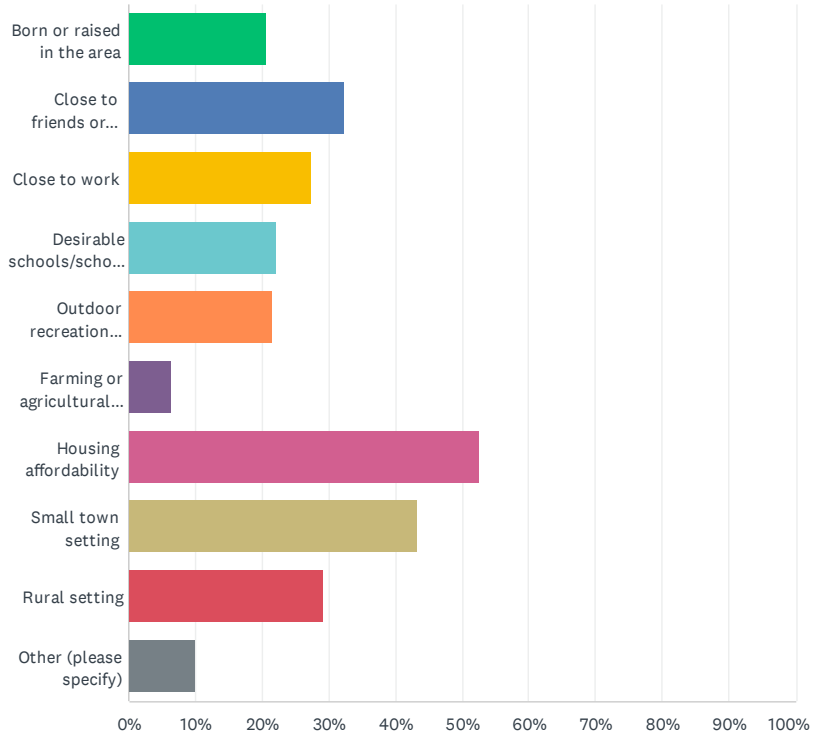


ANSWER CHOICES	RESPONSES	
0-4 years	21.86%	54
5-9 years	20.65%	51
10-14 years	17.81%	44
15+ years	39.68%	98
TOTAL		247

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q5 What factors helped you decide to live in or relocate to the Upper Perkiomen Valley? (select all that apply)

Answered: 247 Skipped: 28

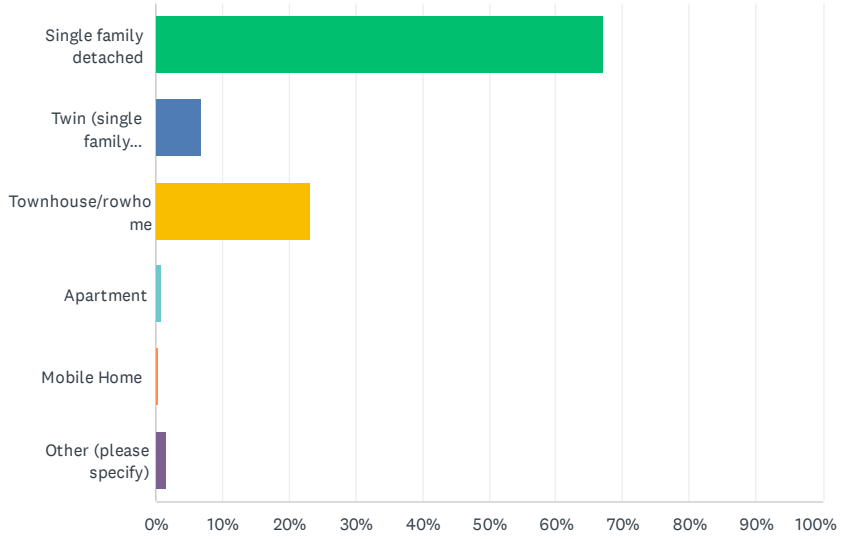


ANSWER CHOICES	RESPONSES	
Born or raised in the area	20.65%	51
Close to friends or family	32.39%	80
Close to work	27.53%	68
Desirable schools/school district	22.27%	55
Outdoor recreation opportunities	21.46%	53
Farming or agricultural activities	6.48%	16
Housing affordability	52.63%	130
Small town setting	43.32%	107
Rural setting	29.15%	72
Other (please specify)	10.12%	25
Total Respondents: 247		

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q6 What type of housing do you live in?

Answered: 246 Skipped: 29

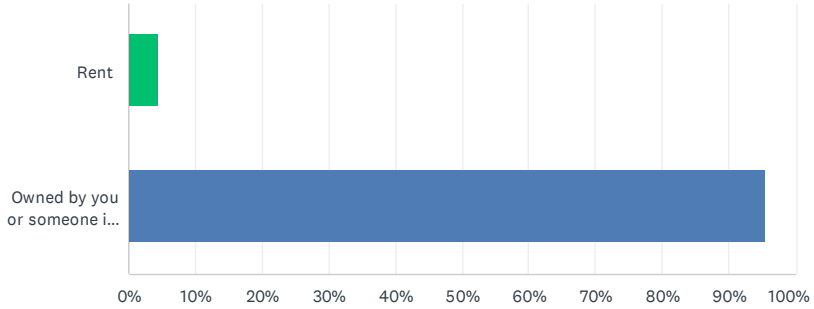


ANSWER CHOICES	RESPONSES	
Single family detached	67.07%	165
Twin (single family attached)	6.91%	17
Townhouse/rowhome	23.17%	57
Apartment	0.81%	2
Mobile Home	0.41%	1
Other (please specify)	1.63%	4
TOTAL		246

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q7 Do you rent or own your residence?

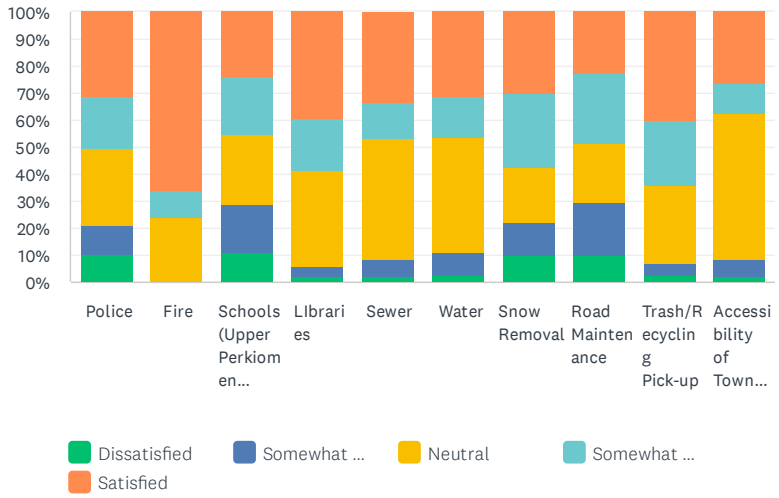
Answered: 244 Skipped: 31



ANSWER CHOICES	RESPONSES	
Rent	4.51%	11
Owned by you or someone in your household (either with a mortgage or free and clear)	95.49%	233
TOTAL		244

Q8 How satisfied are you with the following public services?

Answered: 246 Skipped: 29

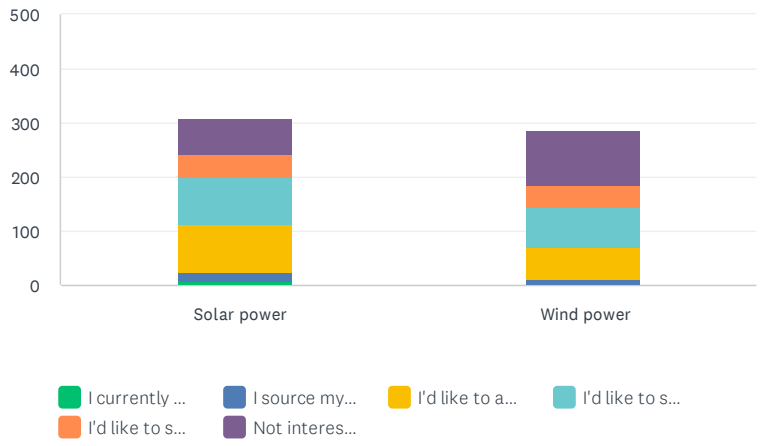


Upper Perkiomen Valley Comprehensive Plan Community Survey

	DISSATISFIED	SOMEWHAT DISSATISFIED	NEUTRAL	SOMEWHAT SATISFIED	SATISFIED	TOTAL
Police	10.57% 26	10.57% 26	28.46% 70	19.11% 47	31.30% 77	246
Fire	0.00% 0	0.00% 0	24.18% 59	10.25% 25	65.57% 160	244
Schools (Upper Perkiomen School District)	11.02% 27	17.96% 44	25.71% 63	21.63% 53	23.67% 58	245
LIbraries	2.05% 5	3.69% 9	35.66% 87	19.26% 47	39.34% 96	244
Sewer	2.08% 5	6.25% 15	44.58% 107	14.17% 34	32.92% 79	240
Water	2.50% 6	8.33% 20	42.92% 103	15.00% 36	31.25% 75	240
Snow Removal	9.76% 24	12.60% 31	20.33% 50	27.24% 67	30.08% 74	246
Road Maintenance	9.80% 24	19.59% 48	22.04% 54	26.12% 64	22.45% 55	245
Trash/Recycling Pick-up	2.87% 7	4.10% 10	28.69% 70	24.18% 59	40.16% 98	244
Accessibility of Township or Borough Officials	2.04% 5	6.53% 16	53.88% 132	11.43% 28	26.12% 64	245

Q9 Please indicate your preferences towards solar and wind energy

Answered: 242 Skipped: 33



	I CURRENTLY USE THIS POWER SOURCE	I SOURCE MY POWER FROM THIS SOURCE (VIA UTILITY PROVIDER)	I'D LIKE TO ACCESS THIS POWER SOURCE	I'D LIKE TO SEE SMALL-SCALE COMMUNITY GENERATION FACILITIES IN THE REGION	I'D LIKE TO SEE LARGE-SCALE GENERATION FACILITIES IN THE REGION	NOT INTERESTED	TOTAL RESPONDENTS
Solar power	3.31% 8	6.61% 16	36.36% 88	35.95% 87	17.77% 43	27.69% 67	242
Wind power	0.42% 1	3.81% 9	26.27% 62	30.93% 73	16.53% 39	43.22% 102	236

Upper Perkiomen Valley Comprehensive Plan Community Survey

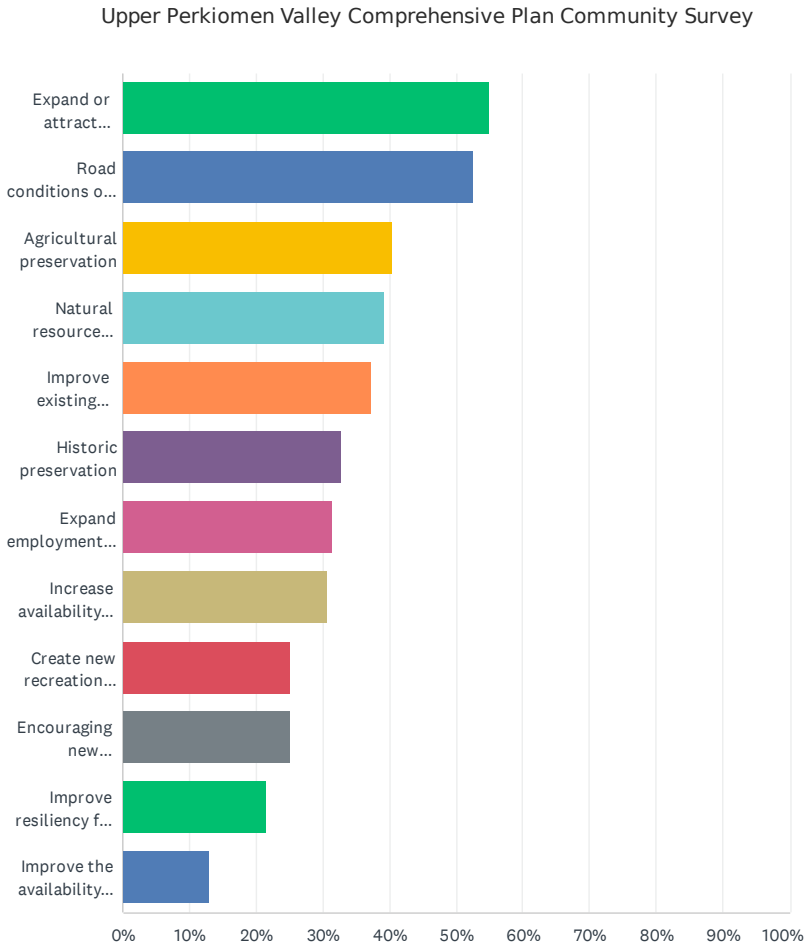
Q10 What three words would you use to describe the Upper Perkiomen Valley to someone looking to relocate to the region?

Answered: 198 Skipped: 77

ANSWER CHOICES	RESPONSES	
1	100.00%	198
2	93.94%	186
3	88.89%	176

Q11 Please select the top 5 issues that the Upper Perkiomen Valley should focus on improving over the next 5-10 years:

Answered: 222 Skipped: 53

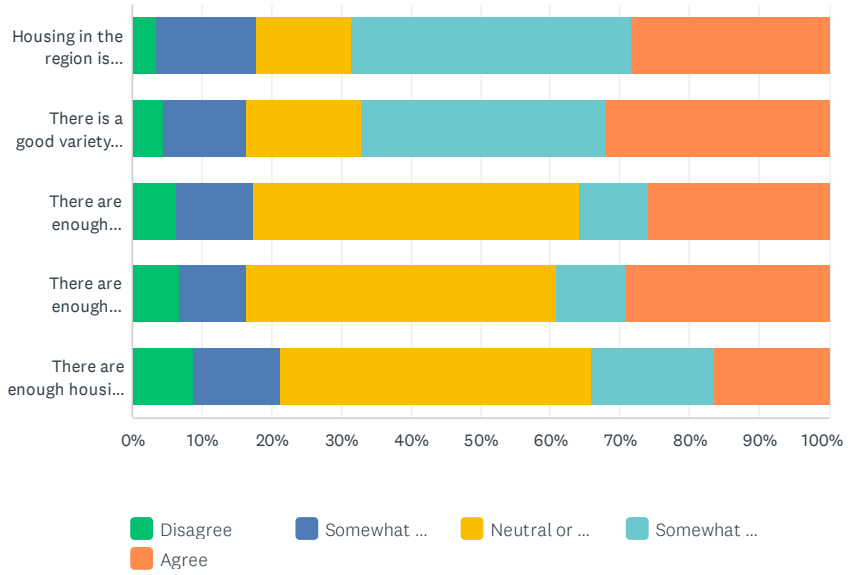

Upper Perkiomen Valley Comprehensive Plan Community Survey
Expand or attract...
Road conditions o...
Agricultural preservation
Natural resource...
Improve existing...
Historic preservation
Expand employment...
Increase availability...
Create new recreation...
Encouraging new...
Improve resiliency f...
Improve the availability...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
Expand or attract retail/commercial businesses to the region	54.95%	122
Road conditions or traffic concerns	52.70%	117
Agricultural preservation	40.54%	90
Natural resource preservation	39.19%	87
Improve existing recreation areas/parks	37.39%	83
Historic preservation	32.88%	73
Expand employment opportunities	31.53%	70
Increase availability/affordability of renewable energy sources (i.e., solar and wind)	30.63%	68
Create new recreation areas/parks	25.23%	56
Encouraging new development/redevelopment to incorporate sustainable practices (e.g. energy efficient, renewable energy, LEED certified)	25.23%	56
Improve resiliency from future impacts of climate change	21.62%	48
Improve the availability of affordable housing	13.06%	29
Total Respondents: 222		

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q12 Please indicate your agreement/disagreement with the statements:

Answered: 225 Skipped: 50

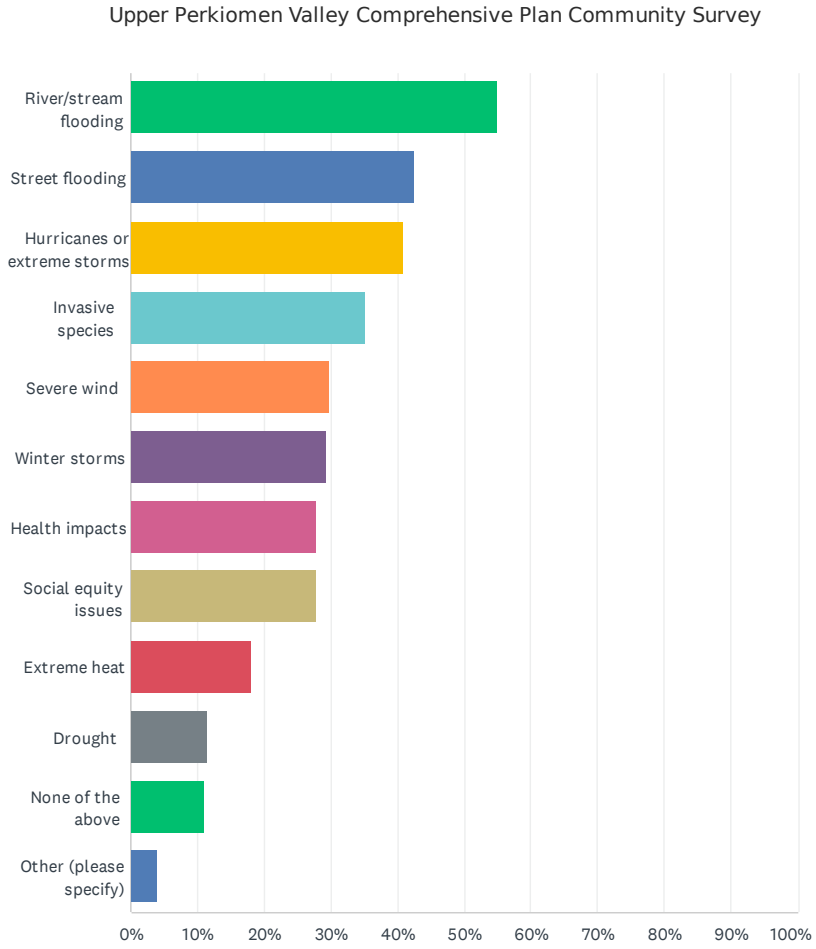


	DISAGREE	SOMEWHAT DISAGREE	NEUTRAL OR DON'T KNOW	SOMEWHAT AGREE	AGREE	TOTAL
Housing in the region is generally affordable for the average person/family	3.56% 8	14.22% 32	13.78% 31	40.00% 90	28.44% 64	225
There is a good variety of housing types offered for sale/lease in the region	4.44% 10	12.00% 27	16.44% 37	35.11% 79	32.00% 72	225
There are enough apartments in the region	6.25% 14	11.16% 25	46.88% 105	9.82% 22	25.89% 58	224
There are enough low/moderate income housing options in the region	6.67% 15	9.78% 22	44.44% 100	9.78% 22	29.33% 66	225
There are enough housing options for seniors (retirement communities or assisted living)	8.89% 20	12.44% 28	44.44% 100	17.78% 40	16.44% 37	225

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q13 What natural hazards are you concerned about at present or in the future?

Answered: 225 Skipped: 50

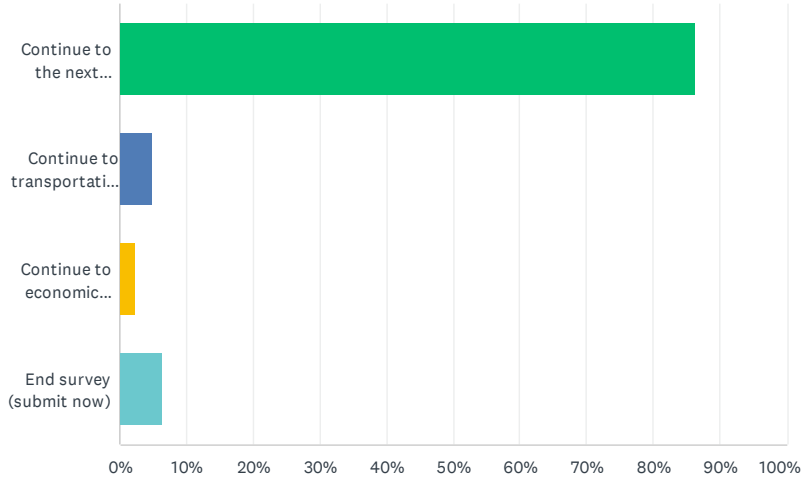

Upper Perkiomen Valley Comprehensive Plan Community Survey
River/stream flooding
Street flooding
Hurricanes or extreme storms
Invasive species
Severe wind
Winter storms
Health impacts
Social equity issues
Extreme heat
Drought
None of the above
Other (please specify)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Upper Perkiomen Valley Comprehensive Plan Community Survey

ANSWER CHOICES	RESPONSES	
River/stream flooding	55.11%	124
Street flooding	42.67%	96
Hurricanes or extreme storms	40.89%	92
Invasive species	35.11%	79
Severe wind	29.78%	67
Winter storms	29.33%	66
Health impacts	28.00%	63
Social equity issues	28.00%	63
Extreme heat	18.22%	41
Drought	11.56%	26
None of the above	11.11%	25
Other (please specify)	4.00%	9
Total Respondents: 225		

Q14 Would you like to proceed to the next section or skip ahead?

Answered: 220 Skipped: 55

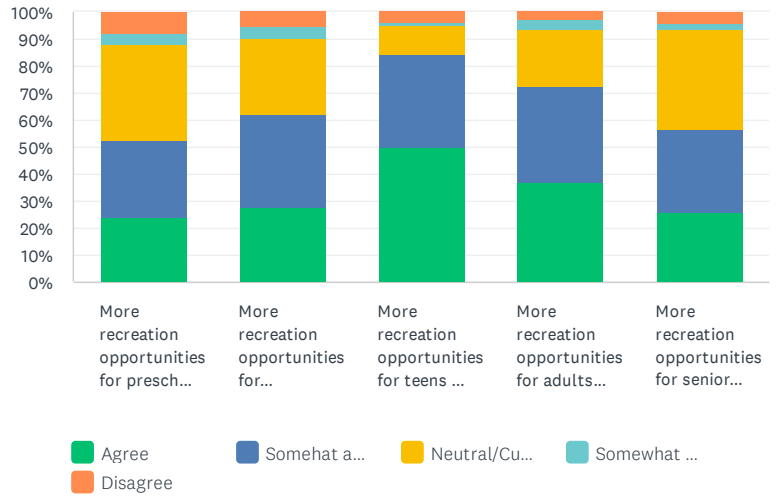


ANSWER CHOICES	RESPONSES	
Continue to the next section, recreation	86.36%	190
Continue to transportation section (skip recreation section)	5.00%	11
Continue to economic development section (skip recreation and transportation sections)	2.27%	5
End survey (submit now)	6.36%	14
TOTAL		220

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q15 Please indicate your agreement/disagreement with the following:

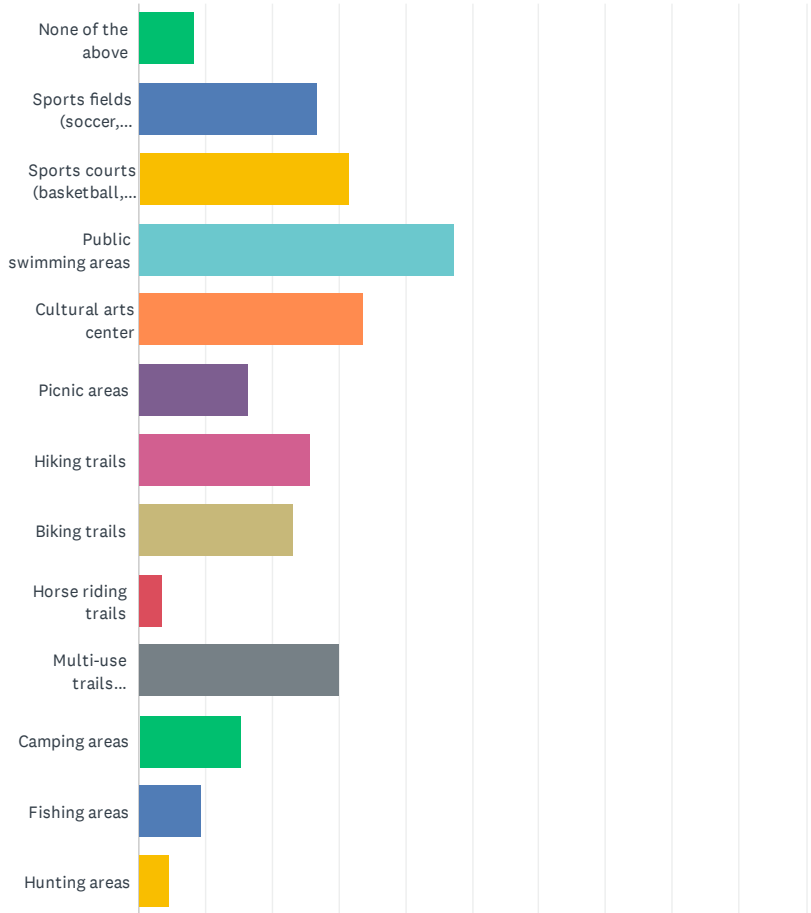
Answered: 188 Skipped: 87

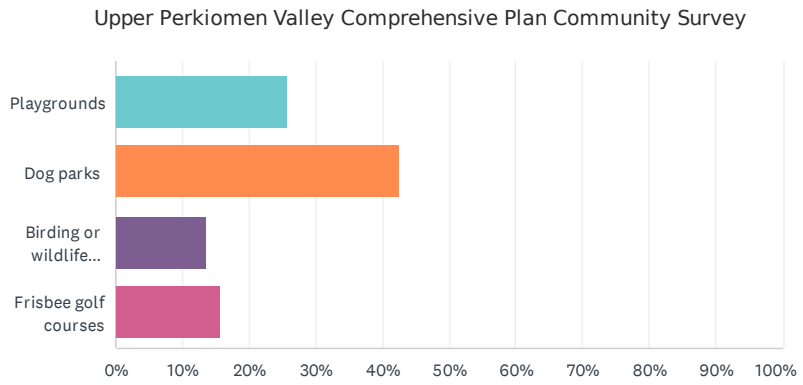


	AGREE	SOMEHAT AGREE	NEUTRAL/CURRENT LEVEL IS ADEQUATE	SOMEWHAT DISAGREE	DISAGREE	TOTAL
More recreation opportunities for preschool children are needed	24.32% 45	28.11% 52	35.68% 66	3.78% 7	8.11% 15	185
More recreation opportunities for elementary children are needed	28.11% 52	34.05% 63	28.11% 52	4.32% 8	5.41% 10	185
More recreation opportunities for teens are needed	50.00% 92	34.24% 63	10.87% 20	1.09% 2	3.80% 7	184
More recreation opportunities for adults are needed	36.76% 68	35.68% 66	21.08% 39	3.78% 7	2.70% 5	185
More recreation opportunities for seniors are needed	25.68% 47	31.15% 57	36.61% 67	2.19% 4	4.37% 8	183

Q16 We need more _____ in the region

Answered: 190 Skipped: 85



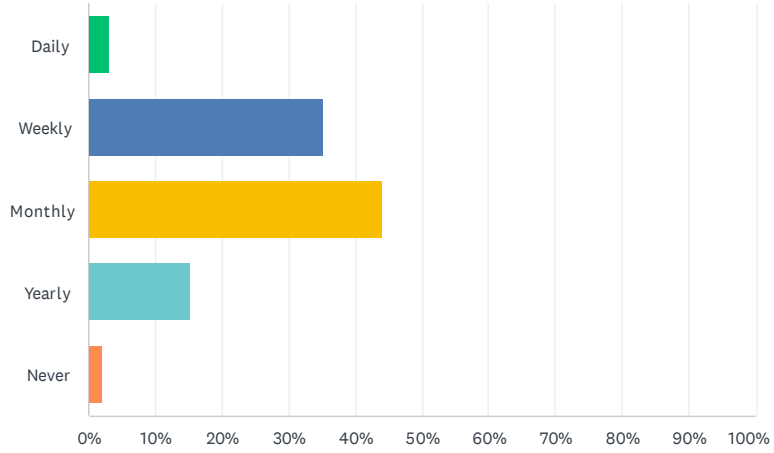

Upper Perkiomen Valley Comprehensive Plan Community Survey
Playgrounds
Dog parks
Birding or wildlife...
Frisbee golf courses
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
None of the above	8.42%	16
Sports fields (soccer, baseball, etc.)	26.84%	51
Sports courts (basketball, tennis, etc.)	31.58%	60
Public swimming areas	47.37%	90
Cultural arts center	33.68%	64
Picnic areas	16.32%	31
Hiking trails	25.79%	49
Biking trails	23.16%	44
Horse riding trails	3.68%	7
Multi-use trails (accommodating both pedestrians and bicyclists)	30.00%	57
Camping areas	15.26%	29
Fishing areas	9.47%	18
Hunting areas	4.74%	9
Playgrounds	25.79%	49
Dog parks	42.63%	81
Birding or wildlife observation areas	13.68%	26
Frisbee golf courses	15.79%	30
Total Respondents: 190		

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q17 How often do you visit parks in the region?

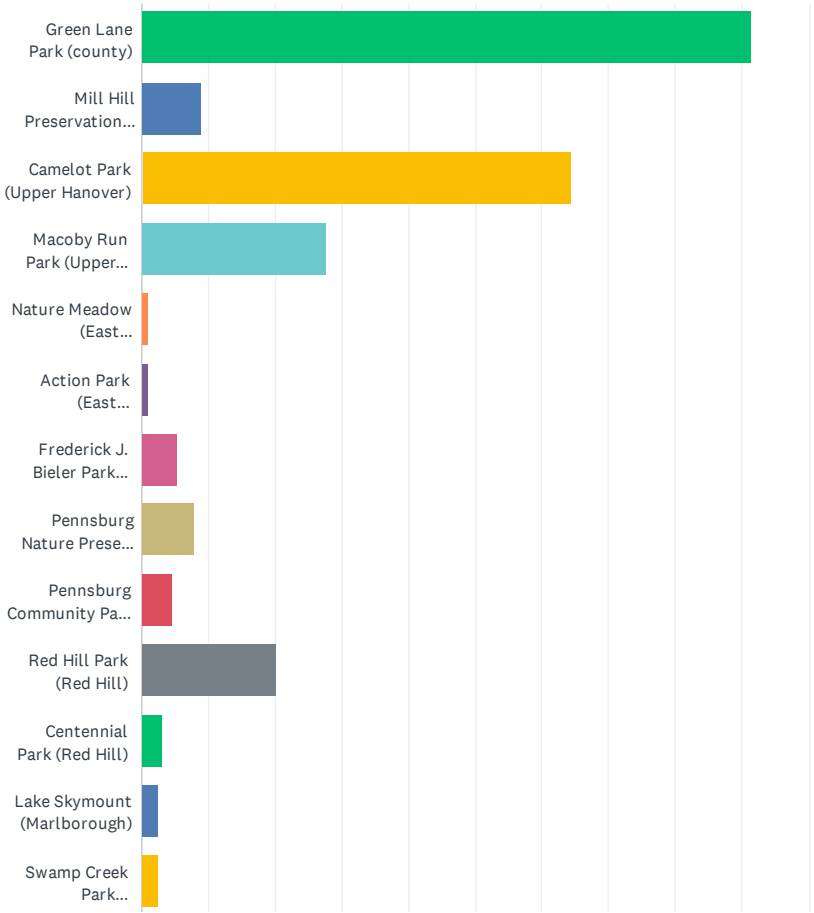
Answered: 190 Skipped: 85

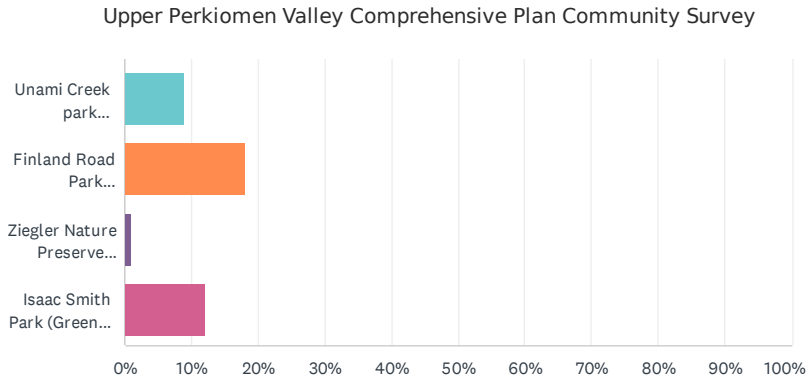


ANSWER CHOICES	RESPONSES	
Daily	3.16%	6
Weekly	35.26%	67
Monthly	44.21%	84
Yearly	15.26%	29
Never	2.11%	4
TOTAL		190

Q18 Which Public parks do you generally visit? (select as many as you wish)

Answered: 188 Skipped: 87



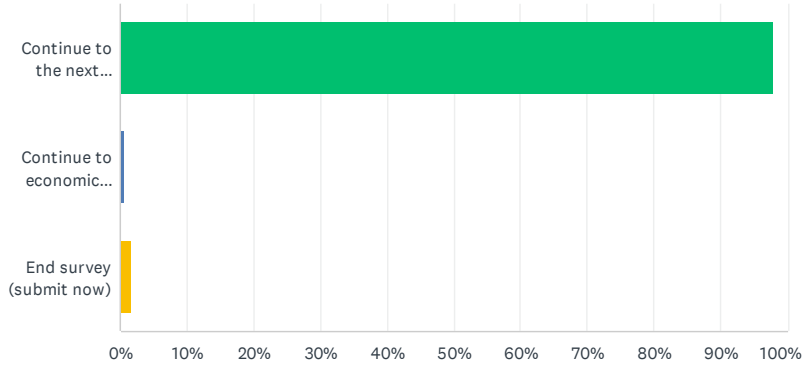

Upper Perkiomen Valley Comprehensive Plan Community Survey
Unami Creek park...
Finland Road Park...
Ziegler Nature Preserve...
Isaac Smith Park (Green...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

ANSWER CHOICES	RESPONSES	
Green Lane Park (county)	91.49%	172
Mill Hill Preservation Area (Upper Hanover)	9.04%	17
Camelot Park (Upper Hanover)	64.36%	121
Macoby Run Park (Upper Hanover)	27.66%	52
Nature Meadow (East Greenville)	1.06%	2
Action Park (East Greenville)	1.06%	2
Frederick J. Bieler Park (East Greenville)	5.32%	10
Pennsburg Nature Preserve (Pennsburg)	7.98%	15
Pennsburg Community Park (Pennsburg)	4.79%	9
Red Hill Park (Red Hill)	20.21%	38
Centennial Park (Red Hill)	3.19%	6
Lake Skymount (Marlborough)	2.66%	5
Swamp Creek Park (Marlborough)	2.66%	5
Unami Creek park (Marlborough)	9.04%	17
Finland Road Park (Marlborough)	18.09%	34
Ziegler Nature Preserve (Marlborough)	1.06%	2
Isaac Smith Park (Green Lane)	12.23%	23
Total Respondents: 188		

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q19 Would you like to proceed to the next section or skip ahead?

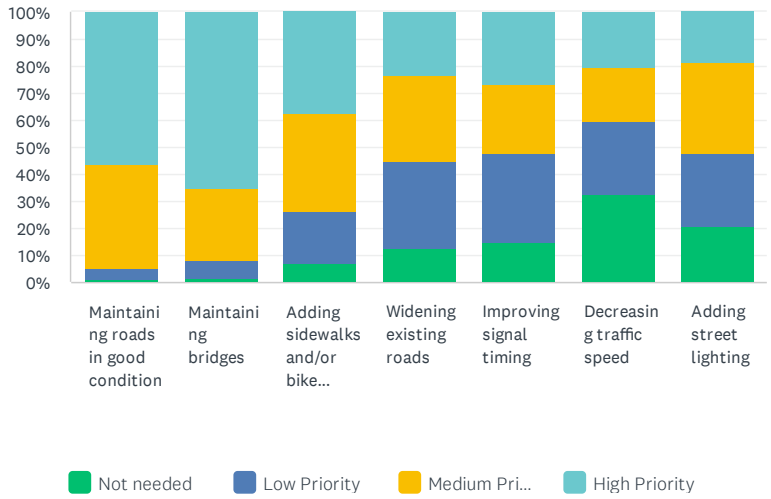
Answered: 184 Skipped: 91



ANSWER CHOICES	RESPONSES	
Continue to the next section, transportation	97.83%	180
Continue to economic development section (skip transportation section)	0.54%	1
End survey (submit now)	1.63%	3
TOTAL		184

Q20 What do you see as a priority for roadway improvements?

Answered: 195 Skipped: 80



Upper Perkiomen Valley Comprehensive Plan Community Survey

	NOT NEEDED	LOW PRIORITY	MEDIUM PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Maintaining roads in good condition	1.03% 2	4.12% 8	38.66% 75	56.19% 109	194	2.50
Maintaining bridges	1.55% 3	6.22% 12	26.94% 52	65.28% 126	193	2.56
Adding sidewalks and/or bike lanes along roadways	6.70% 13	19.59% 38	36.08% 70	37.63% 73	194	2.05
Widening existing roads	12.57% 24	31.94% 61	32.46% 62	23.04% 44	191	1.66
Improving signal timing	14.58% 28	33.33% 64	25.00% 48	27.08% 52	192	1.65
Decreasing traffic speed	32.46% 62	27.23% 52	19.90% 38	20.42% 39	191	1.28
Adding street lighting	20.42% 39	27.23% 52	34.03% 65	18.32% 35	191	1.50

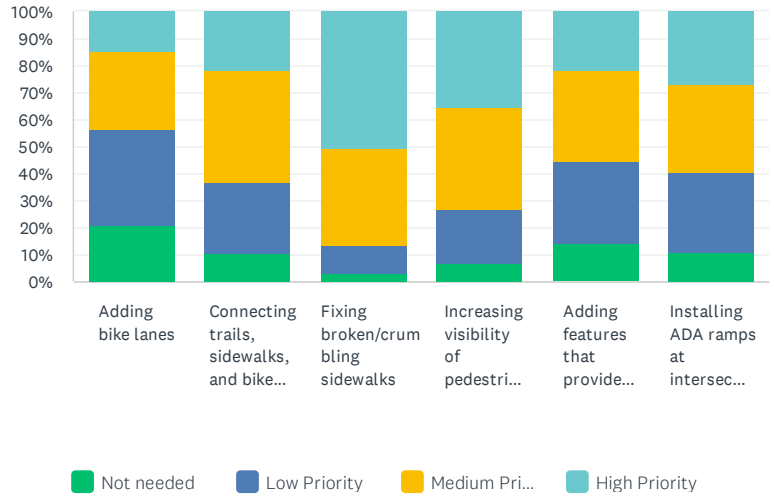
Q21 Please describe any specific locations/issues related to roadway improvements that you see as a priority:

Answered: 124 Skipped: 151

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q22 What do you see as a priority for pedestrian and bicycle improvements?

Answered: 193 Skipped: 82



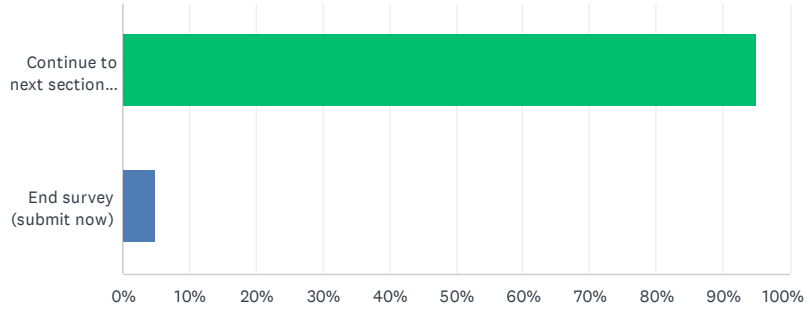
	NOT NEEDED	LOW PRIORITY	MEDIUM PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Adding bike lanes	20.94% 40	35.60% 68	28.80% 55	14.66% 28	191	1.37
Connecting trails, sidewalks, and bike lanes	10.42% 20	26.56% 51	41.67% 80	21.35% 41	192	1.74
Fixing broken/crumbling sidewalks	3.14% 6	10.47% 20	35.60% 68	50.79% 97	191	2.34
Increasing visibility of pedestrian crosswalks	6.77% 13	20.31% 39	37.50% 72	35.42% 68	192	2.02
Adding features that provide increased separation between pedestrians and moving vehicles (e.g., landscaping, on-street parking, physical barriers)	14.06% 27	30.73% 59	33.85% 65	21.35% 41	192	1.63
Installing ADA ramps at intersections	10.99% 21	29.32% 56	32.98% 63	26.70% 51	191	1.75

Q23 Please note any specific locations/issues related to pedestrian/bicycle improvements that you see as a priority:

Answered: 67 Skipped: 208

Q24 Would you like to continue to the economic development section or submit the survey now?

Answered: 183 Skipped: 92

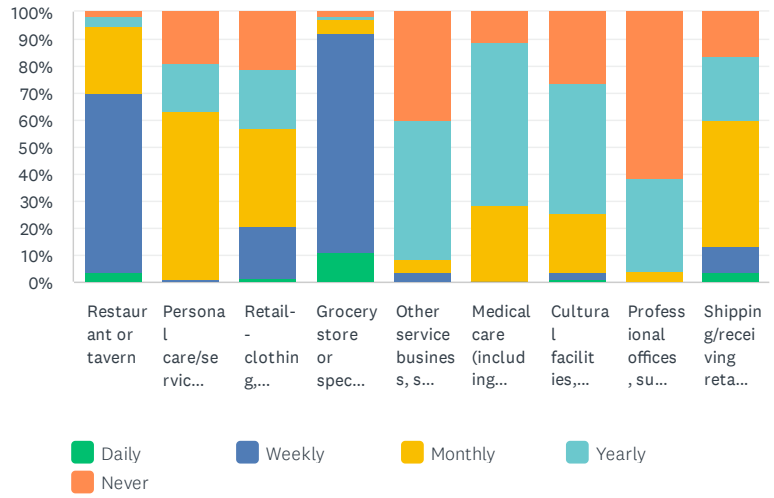


ANSWER CHOICES	RESPONSES	
Continue to next section, economic development	95.08%	174
End survey (submit now)	4.92%	9
TOTAL		183

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q25 How often do you visit the following businesses in the region?

Answered: 189 Skipped: 86

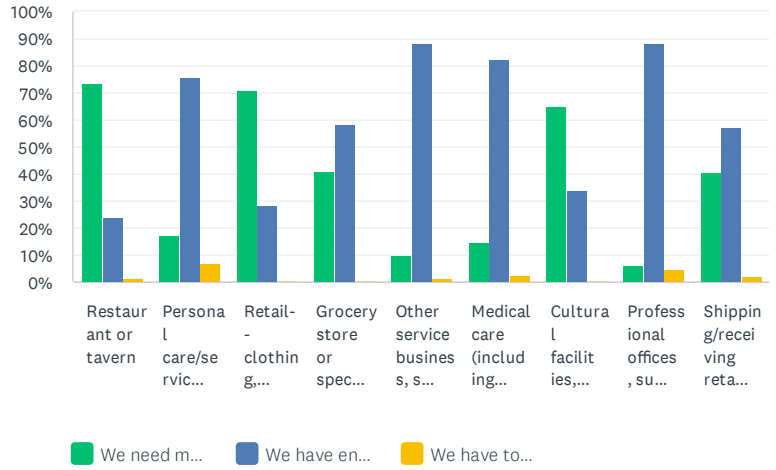


	DAILY	WEEKLY	MONTHLY	YEARLY	NEVER	TOTAL
Restaurant or tavern	3.72% 7	66.49% 125	24.47% 46	3.72% 7	1.60% 3	188
Personal care/service, such as salon or barber	0.00% 0	1.06% 2	61.90% 117	17.99% 34	19.05% 36	189
Retail-- clothing, shoes, or boutique	1.59% 3	19.05% 36	35.98% 68	22.22% 42	21.16% 40	189
Grocery store or specialty food/beverage store	11.17% 21	80.85% 152	5.32% 10	1.06% 2	1.60% 3	188
Other service business, such as tax services	0.00% 0	3.72% 7	4.79% 9	51.60% 97	39.89% 75	188
Medical care (including dental)	0.00% 0	0.53% 1	27.66% 52	60.64% 114	11.17% 21	188
Cultural facilities, such as museums, theaters, etc.	1.06% 2	2.65% 5	21.69% 41	48.15% 91	26.46% 50	189
Professional offices, such as attorneys	0.00% 0	0.00% 0	4.23% 8	34.39% 65	61.38% 116	189
Shipping/receiving retail locations (USPS, UPS, FedEx, etc.)	3.70% 7	9.52% 18	46.56% 88	23.81% 45	16.40% 31	189

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q26 Are there enough _____ in the region?

Answered: 189 Skipped: 86

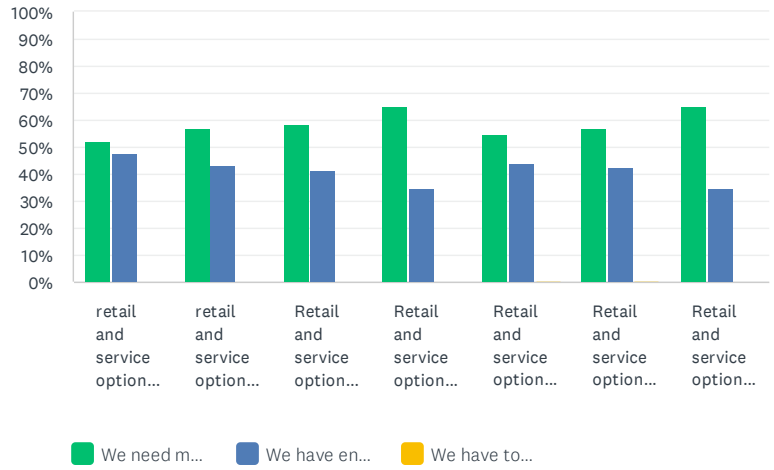


	WE NEED MORE	WE HAVE ENOUGH	WE HAVE TOO MANY	TOTAL
Restaurant or tavern	73.94% 139	24.47% 46	1.60% 3	188
Personal care/service, such as salon or barber	17.20% 32	75.81% 141	6.99% 13	186
Retail-- clothing, shoes, or boutique	71.28% 134	28.19% 53	0.53% 1	188
Grocery store or specialty food/beverage store	41.27% 78	58.20% 110	0.53% 1	189
Other service business, such as tax services	9.94% 18	88.40% 160	1.66% 3	181
Medical care (including dental)	14.67% 27	82.61% 152	2.72% 5	184
Cultural facilities, such as museums, theaters, etc.	65.05% 121	34.41% 64	0.54% 1	186
Professional offices, such as attorneys	6.56% 12	88.52% 162	4.92% 9	183
Shipping/receiving retail locations (USPS, UPS, FedEx, etc.)	40.64% 76	57.22% 107	2.14% 4	187

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q27 Are there enough...

Answered: 188 Skipped: 87



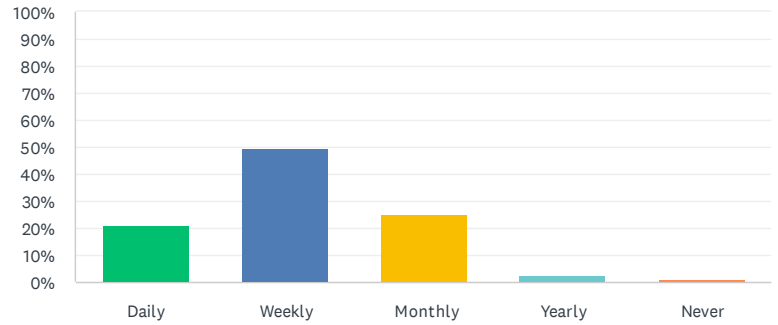
	WE NEED MORE	WE HAVE ENOUGH	WE HAVE TOO MUCH	TOTAL
retail and service options in East Greenville	51.98% 92	48.02% 85	0.00% 0	177
retail and service options in Pennsburg	56.98% 102	43.02% 77	0.00% 0	179
Retail and service options in Red Hill	58.62% 102	41.38% 72	0.00% 0	174
Retail and service options in Green Lane	65.52% 114	34.48% 60	0.00% 0	174
Retail and service options in Marlborough	54.97% 94	44.44% 76	0.58% 1	171
Retail and service options in Upper Hanover	56.90% 99	42.53% 74	0.57% 1	174
Retail and service options in the region overall	65.19% 118	34.81% 63	0.00% 0	181

Q28 Are there any particular retail or service options you'd like to see more of in the region or in a specific location?

Answered: 102 Skipped: 173

Q29 How often do you shop online? (please do not include online/mobile takeout food)

Answered: 189 Skipped: 86

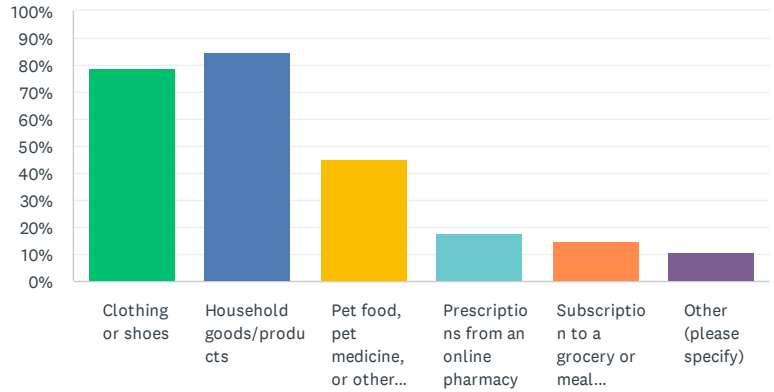


ANSWER CHOICES	RESPONSES	
Daily	21.16%	40
Weekly	49.74%	94
Monthly	25.40%	48
Yearly	2.65%	5
Never	1.06%	2
TOTAL		189

Upper Perkiomen Valley Comprehensive Plan Community Survey

Q30 What goods do you generally purchase online (select all that apply)

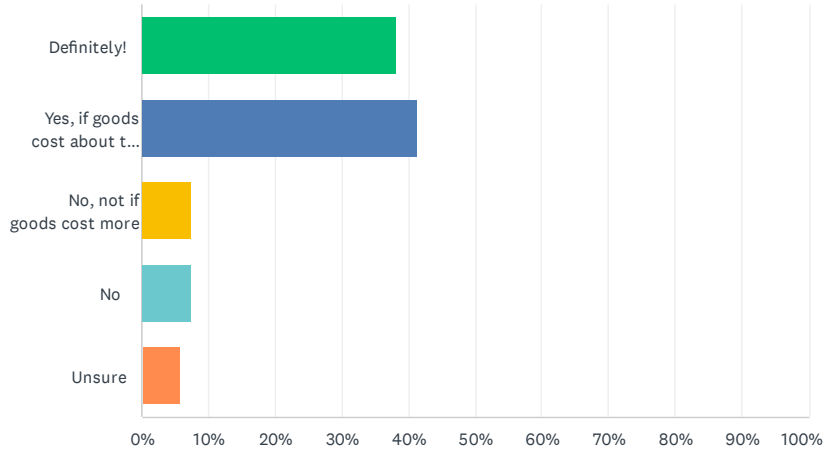
Answered: 187 Skipped: 88



ANSWER CHOICES	RESPONSES	
Clothing or shoes	79.14%	148
Household goods/products	84.49%	158
Pet food, pet medicine, or other pet supplies	45.45%	85
Prescriptions from an online pharmacy	17.65%	33
Subscription to a grocery or meal planning service (for example, HelloFresh, Misfits, etc.)	14.97%	28
Other (please specify)	10.70%	20
Total Respondents: 187		

Q31 If there were more commercial options in the region, do you think you would do less shopping online?

Answered: 189 Skipped: 86



ANSWER CHOICES	RESPONSES	
Definitely!	38.10%	72
Yes, if goods cost about the same	41.27%	78
No, not if goods cost more	7.41%	14
No	7.41%	14
Unsure	5.82%	11
TOTAL		189

Appendix B: MUNICIPAL ADOPTION RESOLUTIONS

BOROUGH OF EAST GREENVILLE
COUNTY OF MONTGOMERY

RESOLUTION 2024-09

A RESOLUTION OF THE BOROUGH OF EAST GREENVILLE, MONTGOMERY COUNTY, PENNSYLVANIA AMENDING THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN PURSUANT TO ARTICLE III, SECTIONS 302(a), (b), and (c) OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247; REPEALING PRIOR INCONSISTENT RESOLUTIONS OR PARTS OF RESOLUTIONS; AND CONTAINING A SAVINGS CLAUSE AND AN EFFECTIVE DATE.

WHEREAS, the Borough of East Greenville has adopted the Upper Perkiomen Valley Regional Comprehensive Plan in accordance with Articles III and XI of the Pennsylvania Municipalities Planning Code, Act 247; and

WHEREAS, the Borough of East Greenville is a member of the Upper Perkiomen Valley Regional Planning Commission ("Commission"); and

WHEREAS, the current plan was adopted in 2011 and the Municipalities Planning Code requires a ten (10) year review and update to the Upper Perkiomen Valley Regional Comprehensive Plan ("Plan"); and

WHEREAS, the revised Plan was prepared and released for public comment on November 1, 2023, and the forty-five (45) day period for review and comment has been met; and

WHEREAS, the Commission, having approved the revised Plan, now forwards the revised Plan and recommendation and any and all submitted review comments to the member municipalities for consideration and adoption, as required.

NOW *THEREFORE*, BE IT RESOLVED by the Borough Council of the Borough of East Greenville as follows:

Section 1. Adoption of Comprehensive Plan.

The Borough Council of the Borough of East Greenville hereby approves the Upper Perkiomen Valley Regional Comprehensive Plan - 2023 Update.

Section 2. Repealer.

Any and all prior inconsistent Resolutions or parts of Resolutions are hereby repealed by adoption of this Resolution.

Section 3. Severability Clause.

If any portion, part or provision of this Resolution should be declared by a court of competent jurisdiction to be invalid, unconstitutional, illegal or unenforceable, the Borough Council of the Borough of East Greenville hereby declares its intent that this Resolution shall have been adopted without regard to such unconstitutional, illegal, invalid or unenforceable portion thereof.

Section 4. Effective Date.

This resolution shall become effective at the earliest time permitted by law.

ADOPTED and APPROVED, this 6th day of May, 2024 in Council Chambers.

BOROUGH OF EAST GREENVILLE:

Douglas Criddle

DOUGLAS CRIDDLE, COUNCIL PRESIDENT

ATTEST:

Sharon Kachmar

SHARON KACHMAR, BOROUGH SECRETARY

Approved this 13th day of May, 2024

Stephen Wescott

STEPHEN WESCOTT, MAYOR

BOROUGH OF GREEN LANE
MONTGOMERY COUNTY, PA
RESOLUTION NO. 2024-05

A RESOLUTION TO AMEND THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN PURSUANT TO ARTICLE III, SECTIONS 302(a), (b), AND (c) OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247.

WHEREAS, the Borough of Green Lane has adopted the Upper Perkiomen Valley Regional Comprehensive Plan in accordance with Articles Ill and XI of the Pennsylvania Municipalities Planning Code, Act 247; and

WHEREAS, the Borough of Green Lane is a member of the Upper Perkiomen Valley Regional Planning Commission ("Commission"); and

WHEREAS, the current plan was adopted in 2011 and the Municipalities Planning Code requires a ten (10) year review and update to the Upper Perkiomen Valley Regional Comprehensive Plan ("Plan"); and

WHEREAS, the revised Plan was prepared and released for public comment on November 1, 2023, and the forty-five (45) day period for review and comment has been met; and

WHEREAS, the Commission, having approved the revised Plan, now forwards the revised Plan and recommendation and any and all submitted review comments to the member municipalities for consideration and adoption, as required.

NOW THEREFORE, be it resolved that Green Lane Borough Council hereby approves the Upper Perkiomen Valley Regional Comprehensive Plan - 2023 Update.

DULY ADOPTED, by the Borough Council of the Borough of Green Lane, this 9th day of May, 2024.

By: _____
Brian Carpenter, Borough Council President

By: _____
Lynn Bergey, Borough Mayor

ATTEST:

_____
Mary T. Garber, Secretary/Treasurer

RESOLUTION 2024-09

MARLBOROUGH TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

A RESOLUTION TO AMEND THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN PURSUANT TO ARTICLE III, SECTIONS 302(a), (b), AND (c) OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247.

WHEREAS, the Township of Marlborough has adopted the Upper Perkiomen Valley Regional Comprehensive Plan in accordance with Articles III and XI of the Pennsylvania Municipalities Planning Code, Act 247; and

WHEREAS, the Township of Marlborough is a member of the Upper Perkiomen Valley Regional Planning Commission ("Commission"); and

WHEREAS, the current plan was adopted in 2011 and the Municipalities Planning Code requires a ten (10) year review and update to the Upper Perkiomen Valley Regional Comprehensive Plan ("Plan"); and

WHEREAS, the revised Plan was prepared and released for public comment on November 1, 2023, and the forty-five (45) day period for review and comment has been met; and

WHEREAS, the Commission, having approved the revised Plan, now forwards the revised Plan and recommendation and any and all submitted review comments to the member municipalities for consideration and adoption, as required.

NOW THEREFORE, be it resolved that Marlborough Township Supervisors hereby approves the Upper Perkiomen Valley Regional Comprehensive Plan - 2023 Update.

ENACTED AND RESOLVED following public hearing of Township of Marlborough this 10th day of April, 2024

TOWNSHIP OF MARLBOROUGH

BY: _____

William Hurst, Chairman

ATTEST: _____

Marybeth Cody, Secretary

RESOLUTION NO. 7-2024

A RESOLUTION TO AMEND THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN PURSUANT TO ARTICLE III, SECTIONS 302(a), (b), AND (c) OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247.

WHEREAS, the Borough of Pennsburg has adopted the Upper Perkiomen Valley Regional Comprehensive Plan in accordance with Articles III and XI of the Pennsylvania Municipalities Planning Code, Act 247; and

WHEREAS, the Borough of Pennsburg is a member of the Upper Perkiomen Valley Regional Planning Commission ("Commission"); and

WHEREAS, the current plan was adopted in 2011 and the Municipalities Planning Code requires a ten (10) year review and update to the Upper Perkiomen Valley Regional Comprehensive Plan ("Plan"); and

WHEREAS, the revised Plan was prepared and released for public comment on November 1, 2023, and the forty-five (45) day period for review and comment has been met; and

WHEREAS, the Commission, having approved the revised Plan, now forwards the revised Plan and recommendation and any and all submitted review comments to the member municipalities for consideration and adoption, as required.

NOW THEREFORE, be it resolved that Pennsburg Borough Council hereby approves the Upper Perkiomen Valley Regional Comprehensive Plan – 2023 Update.

ENACTED AND RESOLVED following public hearing of Pennsburg Borough Council this 13th day of February, 2024.

BOROUGH OF PENNSBURG

BY: _____
Patrick Suter, Council President

ATTEST: _____
Secretary

RED HILL BOROUGH COUNCIL

MONTGOMERY COUNTY, PENNSYLVANIA
RESOLUTION NO. 2024-06

A RESOLUTION TO AMEND THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN PURSUANT TO ARTICLE III, SECTIONS 302(a), (b), AND (c) OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247.

WHEREAS, the Borough of Red Hill has adopted the Upper Perkiomen Valley Regional Comprehensive Plan in accordance with Articles Ill and XI of the Pennsylvania Municipalities Planning Code, Act 247; and

WHEREAS, the Borough of Red Hill is a member of the Upper Perkiomen Valley Regional Planning Commission ("Commission"); and

WHEREAS, the current plan was adopted in 2011 and the Municipalities Planning Code requires a ten (10) year review and update to the Upper Perkiomen Valley Regional Comprehensive Plan ("Plan"); and

WHEREAS, the revised Plan was prepared and released for public comment on November 1, 2023, and the forty-five (45) day period for review and comment has been met; and

WHEREAS, the Commission, having approved the revised Plan, now forwards the revised Plan and recommendation and any and all submitted review comments to the member municipalities for consideration and adoption, as required.

NOW THEREFORE, be it resolved that Red Hill Borough Council hereby approves the Upper Perkiomen Valley Regional Comprehensive Plan - 2023 Update.

DULY ADOPTED in the public meeting of the Red Hill Borough Council held on March 13, 2024.

RED HILL BOROUGH COUNCIL

By: _____
Doris Decker, President

Attest: _____
Elizabeth DeJesus, Borough Secretary

UPPER HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA
RESOLUTION NO. 2024 -22

A RESOLUTION ADOPTING THE UPPER PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN OF 2023.

WHEREAS, the Pennsylvania Municipalities Planning Code (hereinafter, the "MPC"), 53 P.S. § 10101, *et. seq*., provides that the governing body of a municipality may adopt and amend a comprehensive plan in whole or in part; and

WHEREAS, in order to preserve the region's rural character and quality of life while recognizing that current zoning requirements mandate that each municipality provide for a full range of land uses, the municipalities of Upper Hanover Township, Marlborough Township, Pennsburg Borough, East Greenville Borough, Red Hill Borough and Green Lane Borough joined together to establish the Upper Perkiomen Valley Regional Planning Commission, in accordance with the provisions of the MPC; and

WHEREAS, the Upper Perkiomen Regional Planning Commission was directed to prepare an amendment to its comprehensive plan by its constituent municipalities; and

WHEREAS, the Upper Perkiomen Regional Planning Commission discussed the components, contents and priorities of a comprehensive plan amendment, reviewed drafts thereof, made revisions thereto, and provided the public with an opportunity to offer comments and ask questions; and

WHEREAS, the result of these discussions and reviews is a document prepared by the Township Planning Commission entitled "Upper Perkiomen Valley Regional Comprehensive Plan," which bears a publication date of October 2023 (hereinafter referred to as the "Comprehensive Plan Update"); and

WHEREAS, The Comprehensive Plan Update includes and encompasses all of the maps, charts, plans, figures, tables, appendices and text that are physically a part thereof, as well as any documents, maps, charts, studies, plans, analyses and other items that are explicitly made a part thereof by reference, even though not physically attached or affixed thereto; and

WHEREAS, in accordance with MPC, the Upper Hanover Township Planning Commission conducted a public meeting on March 4, 2024 at which meeting it discussed and reviewed the provisions of the Comprehensive Plan Update, presented the Comprehensive Plan Update to the public and provided the public with an opportunity to offer comments and asks questions; and

WHEREAS, at its March 4, 2024 meeting, the Township Planning Commission formally recommended that the Board of Supervisors adopt the Comprehensive Plan Update; and

WHEREAS, in accordance with MPC, the Upper Hanover Township Board of Supervisors conducted a public hearing on March 12, 2024 to discuss, review and receive testimony with respect to the Comprehensive Plan Update.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Upper Hanover Township hereby adopts the Comprehensive Plan Update as the comprehensive plan of Upper Hanover Township and the Upper Perkiomen Valley Regional Planning Commission, based upon the Township Planning Commission's recommendation and the testimony presented at the aforementioned public hearing. A copy of the Comprehensive Plan Update is hereby incorporated herein by reference as if attached hereto.

RESOLVED THIS 12th DAY OF MARCH, A.D. 2024.

UPPER HANOVER TOWNSHIP

Steven Rothenberger, Chairperson

Attest:

Anne W. Klepfer, Township Secretary

East Greenville Borough ▪ 206 Main Street, East Greenville, PA 18041 ▪ www.egreenville.org ▪ 215.679.5194

Green Lane Borough ▪ 214 Main Street, PO Box 514, Green Lane, PA 18054 ▪ www.greenlaneborough.org ▪ 215.234.8633

Marlborough Township ▪ 6040 Upper Ridge Road, Green Lane, PA 18054 ▪ www.marlboroughpa.org ▪ 215.234.9300

Pennsburg Borough ▪ 76 W. 6th Street, Pennsburg, PA 18073 ▪ www.pennsburg.us ▪ 215.679.4546

Red Hill Borough ▪ 56 W. Fourth Street, Red Hill, PA 18076 ▪ www.redhillborough.org ▪ 215.679.2040

Upper Hanover Township ▪ 1704 Pillsbury Road, PO Box 27, East Greenville, PA 18041 ▪ www.upperhanovertownship.org ▪ 215.679.4401